

**Strategy, solvency and the state:
the development of the railway system of
northern Scotland, 1844-74**

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Abstract

This thesis investigates the factors that stimulated and sustained the development of a railway system in northern Scotland in 1844-74 and draws contrasts with earlier railway development in Scotland and England. No continuous railway routes ran north of the Glasgow-Aberdeen axis in 1844, but, by 1874, a railway system extended to the far north of the highlands despite the absence of substantial population or raw material sources.

The state, strongly influenced by the ideology of free market capitalism, was reluctant to become involved in the planning or management of railways in Britain with the result that the railway system evolved in an unplanned way, promoted and managed by private enterprise and financed increasingly from a national capital market. This thesis contends that railway development in northern Scotland does not reflect this pattern. It questions whether the state perpetuated its detached stance towards railway development in northern Scotland, to what extent this northern railway system was planned, and how these relatively small railway companies were able to obtain sufficient capital and avoid insolvency given the unpromising economic conditions of the region. The thesis examines a coherent plan devised and authorised by the state that set out the framework of a Scottish railway network. It demonstrates that the remote northern railway system was founded upon the cogent strategic planning of regional interests based in Aberdeen and Inverness. It illustrates the substantial economies achieved in the costs of establishing northern railways compared to earlier railway development to the south, and the significance of local investment within them, increasingly made for the future indirect returns anticipated from national trade and improved land values. The critical importance of temporary credit in the financing of northern railways is highlighted and, in particular, the major role played by the banking sector.

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Acknowledgements

The genesis of this study stretches back many years to the time when I first encountered the railways of the west and northern highlands of Scotland, crossing such rugged and stunning landscapes, and wondered why these remote lines were built, who conceived them and provided their funds, and how the routes had managed to survive economically in such sparsely populated areas. The opportunity to delve into their economic history occurred much later in life at a point when, coincidentally, the Institute of Railway Studies and Transport History had become well-established through the partnership between the University of York and the National Railway Museum. The staff and facilities of both institutions have been of great assistance in this exploratory journey, and, in particular, the supervisory advice of Professor Colin Divall, head of the Institute, has guided this study to its fruition. Without the exemplary service given to me by the staff in the West Search Room of the National Archives of Scotland in Edinburgh, however, the realisation of the thesis within the required timescale would have been impossible.

Author's declaration

This thesis was written by the author in fulfilment of the requirements of the degree of PhD and has not been accepted in any previous application for a higher degree. It is based on individual research, which is represented by the information specifically acknowledged by means of a footnote.

Chapter 1: Unpromising territory

Was Scotland different?

In his major study of the Scottish nation, Professor Devine argues that from the 1760s 'Scotland began to experience a social and economic transformation unparalleled among European societies of the time in its speed, scale and intensity'.¹ He advances the thesis that the view of English modernization as a 'cumulative, protracted and evolutionary' process does not match the Scottish experience, citing as a comparative example the 'explosive' growth of urban development in Scotland in 1750-1850. This disparity exemplifies earlier concerns expressed by some historians that regional differences have not received due attention in the historiography of British economic and social development.² Devine identifies, however, an expansion in Scottish research over the last three decades with 'entirely new fields of investigation opened up which were uncharted in the older historiography'.³

Although there is general agreement that the new industrialisation and economic growth of nineteenth century Britain was underpinned by improved systems of transport that facilitated labour mobility, access to raw material sources, and outlets to countrywide and overseas markets,⁴ recent studies of transport development in

¹ TM Devine, *The Scottish Nation 1700-2007* (London 1999, new edition, London, 2006), p.107-108 and pp.152-54.

² CA Whatley, *The Industrial Revolution in Scotland*, (Cambridge, 1997), p.1; CW Munn, 'The emergence of joint stock banking in the British Isles: a comparative approach', *Business History*, XXX, No.1 (1988), p.69; CJA Robertson, *The Origins of the Scottish Railway System 1722-1844* (Edinburgh, 1983), p.(v); D Turnock, *An Historical Geography of Railways in Great Britain and Ireland* (Aldershot, 1998), p.15.

³ TM Devine, *The Scottish Nation 1700-2007*, p.(ix).

⁴ TM Devine, *The Scottish Nation 1700-2007*, p.259; GR Hawke, *Railways and Economic Growth in England and Wales, 1840-1870* (Oxford, 1970), p.366, p.392 and p.402; BR Mitchell, 'The coming of the railway and United Kingdom economic growth', *Journal of Economic History*, 1st series, 24 (1964), p.315; W Vamplew, 'Railways and the transformation of the Scottish economy', *Economic History Review*, 2nd series, 24 (1971), p.47 and p.54.

nineteenth century Scotland as part of this new historiography remain rare.⁵ Yet the contrast drawn by Devine between the Scottish and English experience of economic and social change raises the question of whether differences can also be detected in the evolution of their systems of transport, and, more specifically, in the development of their railway networks that provided new routes of trade and communication. CJA Robertson maintained that 'Scottish nineteenth century railways have suffered from a degree of neglect by economic historians',⁶ drawing attention to the absence of Scottish studies that might parallel the work of Professor Simmons and others that concentrate principally on events south of the border.⁷ The degree of neglect that Robertson perceived in 1983 has persisted since. The study of the promotion of the Caledonian Railway by J Butt and JT Ward, the work of Wray Vamplew on early Scottish railways and their finance, and the debate between Vamplew and TR Gourvish and MC Reed concerning finance as a determinant of the nature and timing of Scottish railway construction all date from the early 1970s.⁸ Just four doctoral theses investigate aspects of nineteenth century Scottish railway history, but only one was completed during the last two decades.⁹ Since Robertson's authoritative examination of the origins of the Scottish railway system between 1722

⁵ A recent example of a study related to northern Scotland is JAR Smith, 'From Isolation to Integration: the development of roads in the northern Highlands of Scotland, 1800-1850' (unpublished PhD thesis, Aberdeen University, 2001).

⁶ CJA Robertson, *The Origins of the Scottish Railway System 1722-1844*, p.(v).

⁷ In particular, Robertson cites GR Hawke, *Railways and Economic Growth in England and Wales, 1840-1870* (Oxford, 1970) and TR Gourvish, *Mark Huish and the London and North Western Railway: a study of management* (Leicester, 1972) in addition to J Simmons, *The Railway in England and Wales, 1830-1914*, vol.1 (Leicester, 1978).

⁸ J Butt and JT Ward, 'The promotion of the Caledonian Railway Company', *Transport History*, 3, No.2 (July 1970), 164-92, and 3, No.3 (November, 1970), 225-57; W Vamplew, 'Sources of Scottish railway share capital before 1860', *Scottish Journal of Political Economy*, 17 (1970), 425-40; TR Gourvish and MC Reed, 'The financing of Scottish railways before 1860 – a comment', *Scottish Journal of Political Economy*, 18 (1971), 209-19; W Vamplew, 'The financing of Scottish railways before 1860 – a reply', *Scottish Journal of Political Economy*, 18 (1971), 221-23.

⁹ The four theses are: JA McGregor, 'The West Highland Railway, the politics of railway promotion in late nineteenth century Scotland' (unpublished PhD thesis, Open University, 1998); CJA Robertson, 'The development of the Scottish railway system to 1844' (unpublished PhD thesis, University of St Andrews, 1982); G Channon, 'Pooling agreements between railway companies involved in the Anglo-Scottish trade, 1851-67' (unpublished PhD thesis, London University, 1975); W Vamplew, 'Railways and the transformation of the Scottish economy' (unpublished PhD thesis, Edinburgh University, 1969): all four studies have resulted in some subsequent publication in book or journal article form.

and 1844, academic research into the development of the Scottish railway system is sparse. There are many popular histories of individual Scottish railways, but analytical studies that transcend the boundaries of single companies are uncommon.¹⁰

Simmons maintained that knowledge of the development of a railway system was the prerequisite to an understanding of its impact.¹¹ In judging that an investigation of the consequences and impact of railways in the United Kingdom was too large, he surmised that any similar investigations of the railways of Scotland and Ireland would be 'markedly different' from his formative study of England and Wales. A question of the significance of regional differences in railway development therefore arises, symbolised by Simmons's observation that 'railways might be said to have erected a new version of Hadrian's Wall between England and Scotland' because the Anglo-Scottish border formed 'an important barrier in the development of the British railway system'.¹²

These dissimilarities perceived by Devine and Simmons suggest an initial hypothesis that the development of the Scottish railway system might exhibit different characteristics to those that shaped the growth of railways in England. However, the problem of scale identified by Simmons in determining the parameters for his research and the subsequent caution issued to business historians by Professor Channon on the 'grind' of collecting evidence, which he advises 'may mean a limitation in chronology or comprehensiveness ...',¹³ justify a revision to this hypothesis to focus on a specific area of Scotland and within a defined period. This thesis therefore investigates the development of railways in northern Scotland

¹⁰ J McGregor, *The West Highland Railway: Plans, Politics and People* (Edinburgh, 2005) is an example of a recent study that combines academic and popular interest and presents referenced research beyond that for a single railway company. Examples of more recent company histories of northern railways include: PF Marshall, *The Scottish Central Railway* (Witney, 1998); NT Sinclair, *The Highland Main Line* (Penryn, 1998); N Ferguson, *The Arbroath and Forfar Railway* (Usk, 2000); D Ross, *The Highland Railway* (Stroud, 2005).

¹¹ J Simmons, *The Railway in England and Wales, 1830-1914*, p.15.

¹² J Simmons, *The Railway in England and Wales, 1830-1914*, p.16 and p.67.

¹³ G Channon, *Railways in Britain and the United States, 1830-1940* (Aldershot, 2001), p.299.

between 1844 and 1874 because this region offers a particular advantage for comparative research over these three decades. Northern Scotland, delineated within this study as the substantial area to the north of a north-easterly geographical line drawn between Glasgow in the west and Aberdeen on the north-east coast,¹⁴ was almost devoid of railways in 1844 when new trunk routes were being planned. It therefore provides auspicious conditions for an examination of the evolution of its railway system in comparison with similar development in both Scotland and England that pre-dated it.

Existing Scottish railways in 1844 were largely confined to the central Forth-Clyde valley where sources of coal and iron-ore, the majority of the population and expanding manufacturing industries were concentrated. This pattern mirrored the development of the contemporary railway network in England similarly stimulated by industrialisation. Other than the short, isolated and non-standard gauge local lines feeding the north-eastern ports of Dundee and Arbroath, there were no railways to the north of Scotland's central valley, although this area comprises the majority of the country's land mass.¹⁵ Dundee and the well-established mercantile centre of Aberdeen further north remained heavily reliant on sea transport. Yet, by 1874, an extensive railway network stretched beyond Aberdeen to Inverness and the furthestmost northern settlements of Thurso and Wick. Many of its lines, however, crossed large tracts of country where raw materials were largely absent, population was sparse, agriculture and fishing provided the principal means of livelihood and, particularly in the far north and west, the semi-feudal nature of the highland clan structure survived. CA Whatley identifies a 'dual economy' in Scotland in the 1840s in which increasing industrialisation in the central valley contrasted with an 'increasingly wretched and poverty-stricken population' in the highlands;¹⁶ Devine

¹⁴ See map 1, chapter 2.

¹⁵ The Dundee and Arbroath Railway (1836), Arbroath and Forfar Railway (1836), and the three linked railways of the Newtyle system serving Dundee (1826 and 1835) are detailed in table 4 of chapter 2. There were, in addition, two waggonways in the Alloa area and three in the Dunfermline area of the county of Fife for the transport of coal from inland collieries to the Firth of Forth for onward water transport to Leith; CJA Robertson, *The Origins of the Scottish Railway System 1722-1844*, pp.26-30 and maps 2 and 3, p.20.

¹⁶ CA Whatley, *The Industrial Revolution*, p.1; CA Whatley, *Scottish Society 1707-1830* (Manchester, 2000), p.253.

describes the northern counties as 'a peasant society' as late as 1846.¹⁷ Given these highly unpromising characteristics, this study examines how a railway system was able to be developed successfully in northern Scotland between 1844 and 1874 and, more particularly, to what extent the factors that stimulated and sustained this growth of railways in a region with no apparent economic advantages might differ from those at similar stages of railway evolution to the south in both Scotland and England.

The historiography of railway development in nineteenth century Britain suggests that the state largely adopted a detached and reactive stance to railway development because of a powerful belief in the ideology of free-market capitalism with the result that the railway system evolved in an unplanned way, promoted and managed by private enterprise and financed increasingly from a national capital market. Three broad questions therefore arise for this study. First, did the state perpetuate this detached stance towards the development of railways in northern Scotland? Second, was the railway system of northern Scotland also unplanned? Third, how did these remote northern railways obtain their capital and remain solvent given the unpromising economic conditions of the region? This thesis contends that railway development in northern Scotland does not conform to the general pattern observed elsewhere in Britain. It shows that a coherent plan devised and authorised by the state set out the framework of a Scottish railway network. It argues that the establishment of a railway system in the north of Scotland was not only strongly influenced by this plan, but that its realisation within three decades was the result of cogent strategic planning and strict economy, directed by regional interests and increasingly financed locally as the network spread northwards.

This thesis contributes to the new Scottish historiography by extending the examination of Scottish railway development beyond 1844, the concluding point of Robertson's seminal study. Through its analysis of the strategic and financial governance of the twenty-five railway companies that formed this new northern transport system between 1844 and 1874, the study also has significance for

¹⁷ TM Devine. *Exploring the Scottish Past – themes in the history of Scottish society* (East Linton, 1998), p.172.

business historians interested in the wider study of Scotland's economic development.

Strategy, solvency and the state

The three questions posed above generate the themes of the thesis. This section explores the roles of the state, strategic planning, and finance in railway development in Britain within the historiography and identifies the more specific issues to be pursued. Subsequent sections outline the sources and financial methodology used in the research, concluding with an outline of the thesis. Much of the existing literature covers the period 1825-54 and concentrates upon the English experience because the Scottish system was much slower in evolution.¹⁸

First, the role of the state in company formation and its policy towards competition is examined because railway companies and other allied enterprises were bound by national legislation. The second part considers the nature and extent of strategic planning applied by private enterprise to railway development in the absence of state direction. The final part investigates the sources and management of railway finance, given the difficulties experienced by many companies in raising sufficient capital for construction of their lines and in generating adequate revenue to meet liabilities and provide investment returns to shareholders.

- the state and railway development

During the nineteenth century, British political and economic governance was dominated by the principle of *laissez-faire*, which emanated from contemporary theories of classical economics and championed economic individualism and free markets against collectivism and the intervention of the state. Although G Alderman

¹⁸ BR Mitchell, 'The coming of the railway and United Kingdom economic growth', in MC Reed (ed.), *Railways in the Victorian Economy* (Newton Abbot, 1969), p.14, suggesting 1851 as the date by which the British network was substantially complete; J Simmons, *The Railway in England and Wales, 1830-1914*, p.49, giving 1854 as the date by which the main lines of the English railway system were open.

presents the perhaps contentious view that no government prior to 1914 had a clear railway policy,¹⁹ there is general agreement that the state was reluctant to become involved in any strategic planning or management of a railway system in Britain, and that government policy towards railways was usually reactive and often contradictory.²⁰ This thesis suggests that this historiographical view is not reflected in the development of the railway system of northern Scotland, where the state and its executive made a proactive intervention in 1845 by designing and authorising a coherent blueprint for railway development to the north of Scotland's central belt and its connection into the evolving network to the south. Although the dominant influence of *laissez-faire* capitalism largely shaped economic policy, the state did increasingly intervene in national affairs to tackle the consequences arising from rapid industrial and social change; the establishment of a Railway Department within the Board of Trade in 1840, initially in response to concerns about public safety, was symptomatic of this trend.²¹ Nevertheless, the state's role in the determination of the outline of a Scottish railway network was an unusual intervention for this period.

The emergence of large-scale railway enterprise in the 1840s with its potential for market manipulation dragooned the state into intervention that was reactive, inconsistent and 'lamentably haphazard'.²² The size of the new railway companies, which Gourvish describes as the 'prime example of large-scale free-enterprise capitalism in nineteenth century Britain', dwarfed previous commercial enterprise;

¹⁹ G Alderman, *The Railway Interest* (Leicester, 1973), p.23.

²⁰ G Channon, *Railways in Britain and the United States, 1830-1940*, p.35; TL Alborn, *Conceiving Companies: joint stock politics in Victorian England* (London, 1998), p.200; CJA Robertson, *The Origins of the Scottish Railway System 1722-1844*, p.306; TR Gourvish, *Railways and the British Economy, 1830-1914* (London, 1980), p.28 and p.55; J Simmons, *The Railway in England and Wales, 1830-1914*, p.25 and p.48; G Alderman, *The Railway Interest*, p.32; H Parris, *Government and the Railways in Nineteenth-Century Britain* (London, 1965), p.7 and p.26.

²¹ H Parris, *Government and the Railways in Nineteenth-Century Britain*, pp.205-206.

²² J Simmons, *The Railway in England and Wales 1830-1914*, p.48; TR Gourvish, *Railways and the British Economy 1830-1914*, p.50; TL Alborn, *Conceiving Companies: joint stock politics in Victorian England*, p.200; G Channon, *Railways in Britain and the United States, 1830-1940*, p.35.

major railways were amongst the largest companies in Scotland.²³ Three Presidents of the Board of Trade attempted to make railway policy between 1844 and 1854 – Gladstone, Dalhousie and Cardwell – and all failed in the face of growing railway influence within the legislature.²⁴ Gourvish points to the contradictions emerging in state policy towards railways by 'encouraging competition on one hand and insisting on controls on pricing on the other'.²⁵ Gladstone's Railway Regulation Act of 1844, for example, challenged the principles of free enterprise by authorising a universal state intervention in railway pricing and approving powers for the possible state purchase of new railway companies.²⁶ Channon, however, considers that Parliament 'was always uneasy about the creation of big government as a countervailing force' to the growth of large-scale railway enterprises.²⁷

Although the historiography illustrates a railway system evolving through the plans of private enterprise free from any national coordination, this view is drawn primarily from England and Wales. The design of railways in the highlands of Scotland was strongly influenced by the experience of railroad development in parts of America, where conditions of sparse population and limited traffic were similar.²⁸ In acknowledging the work of AD Chandler on the history of American business

²³ TR Gourvish, *Railways and the British Economy 1830-1914*, p.9; CJA Robertson, *The Origins of the Scottish Railway System 1722-1844*, p.306; TR Gourvish, 'The Bank of Scotland, 1830-1845', *Scottish Journal of Political Economy*, 16 (1969), 288-305, noting the paid up capital of the Bank of Scotland in 1841 to be £1 million: by comparison, the incorporation of the Caledonian Railway in 1845 (8&9 Vic. cap.162, 31 July 1845) set share capital at £2.1 million with an additional £0.7 million in borrowing powers.

²⁴ J Simmons, *The Railway in England and Wales 1830-1914*, pp.52-53; G Alderman, *The Railway Interest*, p.15.

²⁵ TR Gourvish, *Railways and the British Economy 1830-1914*, p.28 and p.50.

²⁶ 7&8 Vic. cap. 85, 1844, The Regulation of Railways Act; section 2 stated that the Treasury may purchase railways established after 1st January 1845, but that the option was not to be exercised for 21 years; section 6 required the running of one cheap train each way daily, stopping at every station, at a fare of not more than one penny per mile.

²⁷ G Channon, *Railways in Britain and the United States, 1830-1940*, p.33.

²⁸ J Mitchell, *Reminiscences of My Life in the Highlands, vol.II* (private publication, 2 volumes, London, 1883 and 1884, reprinted Newton Abbot, 1971), p.181.

enterprise,²⁹ Channon suggests that the significance of the state in the development of the American railway network has been understated.³⁰ A question arises, therefore, whether a similar conclusion might perhaps be applicable to Scotland. Railways in the United States received some assistance from the state in raising capital. In Britain, by contrast, the availability of private capital generated from its earlier industrialisation allowed the state, strongly influenced by *laissez-faire* ideology, to decline to support Scottish railway development from public funds until the 1890s.

The absence of direct financial assistance, however, can overshadow the significance of indirect support for railway development, exemplified by the state's 1845 blueprint for a Scottish railway network. Professor Casson's recent study of the evolution of the British railway system concludes that Members of Parliament approved 'far more schemes' than its executive recommended in 1845 because they 'sacrificed national and regional interests to local populism'.³¹ Consequently, he argues, intense competition produced a national network by 1914 that was approximately two-fifths larger than required to obtain the equivalent social benefits. Nevertheless, this thesis shows that the legislature accepted its executive's recommendations made in 1845 for the development of railways to the north of Scotland's central belt and that there was little of the wasteful duplication in northern Scotland that Casson identifies as a symptom of the British network.

The philosophy of *laissez-faire* in Britain engendered a fear of monopoly, but the legislative process for the incorporation of railway companies created what RW

²⁹ G Channon, *Railways in Britain and the United States, 1830-1940*, pp.3-9; AD Chandler Jr, *The Visible Hand: The Managerial Revolution in American Business* (Cambridge, Massachusetts, 1977).

³⁰ G Channon, *Railways in Britain and the United States, 1830-1940*, p.17 and p.297.

³¹ M Casson, *The Evolution of the British Railway Network, 1825-1914*, Economic and Social Research Council Report, R000239586 (January 2005), pp.5-7;
<http://www.esrcsocietytoday.ac.uk/ESRCInfoCentre/ViewOutputPage.aspx?data=v9XrjLJ6xhFb1dXd6rzebSOSdqAiGFiPEzQpS79z3NY40jVdBa7NERW65wxNoegyLZL8JK4AEzt%2b98%2fDG9G7bAnofoif1D04zUm5l%2b0eBDy8blskFFc%2bjf4rK4L5ChhlxtyaXTdRXSg%3d&xu=&isAwardHolder=&isProfiled=&LikeMinds=&AwardHolderID=&Sector=> (30 March 2007).

Kostal characterises as 'private commercial monopolies'.³² This study examines how these monopoly powers granted by the state to railway companies were exercised in northern Scotland. As early as 1839-40, parliamentary select committees questioned the state's reliance on free market competition as an effective control over emerging railway monopolies, and three regulatory acts followed by 1844.³³

The term 'monopoly', however, requires qualification. Channon warns that the application of neo-classical theories of the firm to railway companies has 'serious limitations' because markets involving transport are 'far removed from the hypothetical world of perfect competition'.³⁴ Pure monopoly, where barriers to entry protect a sole supplier of a product with no available competitive substitute and with its resultant market power exercised to sustain returns above normal profit, is rare.³⁵ The market structure of railways in the nineteenth century was more akin to oligopoly where traditional theory can explain price stability and the use of non-price competition and price agreements with other suppliers to regulate the market, although this approach retains profit maximisation as the principal motivation of the firm.³⁶

GR Hawke concludes that profit maximization for railways in England and Wales in 1840-70, at least regionally, was 'not energetic' and that railways adopted the policy of a 'profit maximizing discriminating monopoly', seeking opportunities to charge

³² RW Kostal, *Law and English Railway Capitalism 1825-1875* (Oxford, 1994), p.183.

³³ The three regulation acts were: 3&4 Vic. cap.97, 1840, 5&6 Vic. cap.59, 1842 and 7&8 Vic. cap.86, 1844; J Simmons, *The Railway in England and Wales, 1830-1914*, pp.33-34 and p.36; JS Simmons and G Biddle, *The Oxford Companion to British Railway History* (Oxford 1997, re-issued 1999), p.418; H Parris, *Government and the Railways in Nineteenth-Century Britain*, pp.7-9.

³⁴ G Channon, *Railways in Britain and the United States, 1830-1940*, p.110 and p.299.

³⁵ AJ Arnold and S McCartney, 'Rates of return, concentration levels and strategic change in the British railway industry, 1830-1912', *Journal of Transport History*, 3rd series, 26, No.1 (March 2005), p.44.

³⁶ G Channon, *Railways in Britain and the United States, 1830-1940*, p.32 and p.111; P Fletcher, 'A model of oligopoly: a note', *Economics*, X, No.5, (Autumn 1974), pp.299-300.

different prices to different consumers for a monopolised service.³⁷ Hawke also contends, however, that railways 'recognised a special responsibility for developing the trade of particular regions', an objective that discriminatory pricing could foster.³⁸ This thesis suggests that these factors became more significant as the railway system extended into the remoter districts of northern Scotland and that the oligopolistic powers granted by the state were increasingly exercised benevolently for the advantage of the region and its landowners. Scottish railways often held a local monopoly as a result of the restrictive geography of much of the territory, the potential capital costs of new railways, and the limited demand available to support a competitive land-based transport system. Throughout the nineteenth century, however, sea transport continued to provide effective competition to railway companies holding sole control of land-based routes in northern Scotland, although oligopolistic price agreements between railway and shipping companies were made to secure market share.³⁹

The inconsistency of state policy towards railways raises the question of whether the development of a railway system in northern Scotland was assisted or hindered by it. The northern railway companies of 1844-74 were relatively small, but this study illustrates that they were able to benefit from consolidation through amalgamation, leases and working agreements. Such methods of combination were widely sought as the British network expanded and restructured after the railway mania of 1845,⁴⁰ but any arrangement that merged the capital of railway companies required parliamentary sanction.⁴¹ Alborn points to the 'uncertain stance on amalgamation' adopted by Parliament, 'which had a tendency to shift from strident opposition to

³⁷ GR Hawke, *Railways and Economic Growth in England and Wales, 1840-1870*, p.333.

³⁸ GR Hawke, 'Pricing policy of railways in England and Wales before 1881', in MC Reed (ed.), *Railways in the Victorian Economy*, p.83 and p.110.

³⁹ CH Lee, 'Some aspects of the coastal shipping trade: the Aberdeen Steam Navigation Company, 1835-1880', *Journal of Transport History*, new series, III, No.2 (September 1975), p.101 and p.105; W Vamplew, 'Railways and the Scottish transport system in the nineteenth century', *Journal of Transport History*, new series, I, No.3 (February 1972), p.144.

⁴⁰ AG Kenwood, 'Railway investment in Britain, 1835-1875', *Economica*, 32, No.127 (1965), p.317; J Simmons, *The Railway in England and Wales, 1830-1914*, p.51.

⁴¹ WA Robertson, *Combination among Railway Companies* (London, 1912), p.8; JS Simmons and G Biddle, *The Oxford Companion to British Railway History*, p.12; 8 Vic. cap.20, 1845, The Railway Clauses Act.

benign neglect every few years'.⁴² Amalgamation could yield operating economies and greater efficiency, but equally it posed the threat of higher fares and rates arising from enhanced market power. Channon suggests that parliamentary hostility towards the amalgamation of railway companies may have encouraged the use of more covert methods of collusion.⁴³ Nevertheless, Simmons considered that from the late 1840s the state began to show less concern over amalgamations of 'end-on' railways to form a continuous route because such unions were not perceived as an attempt to create a monopoly.⁴⁴ The creation of these 'end-on' continuous routes is shown to be fundamental in the development of the northern Scottish network as the only viable way of improving transport links into an economically disadvantaged region.

Inconsistency in state policy also arose as a result of discrepancies between English and Scots law, which assisted the growth of individual Scottish banks and contributed to the earlier development of a Scottish banking system that could channel funds between districts to meet the demand for loans.⁴⁵ The partnerships which created the network of provincial banks in Scotland towards the end of the eighteenth century were not constrained by an English act of 1709, designed to protect the monopoly of the Bank of England, that limited the number of partners

⁴² TL Alborn, *Conceiving Companies: joint stock politics in Victorian England*, p.200.

⁴³ G Channon, *Railways in Britain and the United States, 1830-1940*, p.96.

⁴⁴ J Simmons, *The Railways of Britain* (London, 1961, 2nd edition 1968), p.13; J Simmons, *The Railway in England and Wales 1830-1914*, p.25 and p.69; E Cleveland-Stevens, *English Railways: their development and their relationship to the State* (London, 1915), p.44: Cleveland-Stevens concluded that end-on amalgamations were not favoured by Parliament prior to 1843, 'a view almost reversed in later amalgamations'.

⁴⁵ CW Munn, 'The emergence of Edinburgh as a financial centre', in AJG Cummings and TM Devine (eds.), *Industry, Business and Society in Scotland since 1700* (Edinburgh, 1994), pp.130-31; CW Munn, 'The emergence of joint stock banking in the British Isles: a comparative approach', *Business History*, XXX, No.1 (1988), pp.71-72 and p.80; RH Campbell, 'The Law and the Joint Stock Company in Scotland', in PL Payne (ed.), *Studies in Scottish Business History* (London, 1967), pp.140-41 and p.143; SG Checkland, *Scottish Banking, a History 1695-1973* (Glasgow, 1975), pp.275-76 and table 1, p.84 and table 8, p.240; showing a growth in Scottish bank assets from £329,000 in 1744 to £12,272,000 in 1802; CA Whatley, *The Industrial Revolution in Scotland*, p.55.

forming English country banks to six;⁴⁶ for example, the Aberdeen Banking Company, founded in 1767, had 109 partners to supply its capital and share its business risk.⁴⁷ This study explores the extent to which this established financial network assisted railway development in northern Scotland.

Railway companies in Scotland held no legal advantage over those in England because both were bound by the same national legislation which required a private parliamentary act of incorporation that granted compulsory powers to acquire property and authority to raise share capital and loans.⁴⁸ Since the mid-seventeenth century, however, Scottish law had treated the business partnership as a *persona*, which allowed the company to sue and be sued in the name of the firm rather than in the names of its individual members, a protection only available to their English counterparts through a Royal Charter or a private act of incorporation until company law was harmonised in 1856.⁴⁹ This disparity between Scotland and England contributed to the emergence of what CW Munn describes as 'an efficient and price competitive banking system' by the end of the eighteenth century and a 'structurally homogeneous banking system' by 1845, well in advance of similar development in England.⁵⁰ The provincial banks were gradually replaced by large joint-stock banks

⁴⁶ SG Checkland, *Scottish Banking, a History 1695-1973*, p.46 and p.377; CW Munn, *The Scottish Provincial Banking Companies 1747-1864* (Edinburgh, 1981), p.6, quoting 7 Anne cap.7, clause 61; CW Munn, 'The emergence of Edinburgh as a financial centre', p.130.

⁴⁷ CW Munn, *The Scottish Provincial Banking Companies 1747-1864*, p.16 and p.41, showing also that, of the provincial banks in northern Scotland, the Dundee Banking Company of 1763 had 31 partners, the Perth Banking Company of 1787 had 87 partners, and the Commercial Bank of Aberdeen of 1788 had 16 partners.

⁴⁸ TL Alborn, *Conceiving Companies: joint stock politics in Victorian England*, p.180; G Channon, *Railways in Britain and the United States, 1830-1940*, p.22.

⁴⁹ 7&8 Vic. cap.110, 1844, The Joint Stock Companies Act, which provided limited liability to shareholders but only after three years had elapsed from the sale of their shares; 18&19 Vic. cap.133, 1855, The Limited Liability Act, which amended 7&8 Vic. cap.110, 1844 by providing immediate limited liability protection on registration of the company, but the legislation was not applied to Scotland because of its existing common law protection afforded to business partnerships; 19&20 Vic. cap.47, 1856, The Joint Stock Companies Act, consolidated previous law and extended the legal provisions for incorporation and limited liability nationally; RH Campbell, 'The Law and the Joint Stock Company in Scotland', p.136, quoting Acts of the Parliament of Scotland, 1661, VII, 285 and 261, and 1641, V, 497; B Lenman, *An Economic History of Modern Scotland 1660-1976* (London, 1977), p. 168.

⁵⁰ CW Munn, 'The emergence of Edinburgh as a financial centre', p.130 and p.132.

that could better supply the scale of finance required for new businesses in an era of industrialisation.⁵¹ The Aberdeen Town and County Bank, established in 1825, was the first regional joint-stock bank in Scotland and had 470 partners.⁵² In 1845, nineteen note-issuing joint-stock banks in Scotland operated through regional branches and local agents and were able provide greater national financial stability than the network of smaller private banks in England.⁵³

Whatley judges that the Scottish banking system 'was better able to mobilise capital and considerably more responsive to the needs of industrialisation'.⁵⁴ Devine concurs, describing Scottish banks as 'creative and innovative' particularly in pioneering the short-term cash credit or overdraft facility,⁵⁵ which Munn asserts often tended to evolve into long-term lending.⁵⁶ Munn also identifies the number of bank branches as 'the most glaring difference' between joint-stock banking in Scotland and England and shows that the average number of branches per joint-stock bank in Scotland in 1850 was 50 but only 5.8 in England and Wales.⁵⁷ Gourvish and Reed demonstrate that the rise of these new Scottish joint-stock banks in the 1830s

⁵¹ SG Checkland, *Scottish Banking, a History 1695-1973*, p.283, p.305 and pp.306-307: the Commercial Bank of Scotland, formed in 1810, was the first large joint-stock bank in Scotland with £3 million capital and which had 673 shareholders and 14 branches by 1815. Two further large joint-stock banks were formed in 1825: the National Bank of Scotland had capital of £5 million and, within a year, 1300 shareholders and 13 branches, while the Aberdeen Town and County Bank had capital of £750,000 and 470 shareholders and, by 1826, four branches.

⁵² CW Munn, *The Scottish Provincial Banking Companies*, p.75.

⁵³ DM Ross, *History of Banking II* (London, 1998), vol.1, p.(xix); CW Munn, 'The emergence of Edinburgh as a financial centre', pp.132-33; RH Campbell, *Scotland since 1707: the rise of an industrial society* (Oxford, 1971), p.69; CW Munn, *The Scottish Provincial Banking Companies*, p.98.

⁵⁴ CA Whatley, *The Industrial Revolution in Scotland*, p.55.

⁵⁵ TM Devine, *The Scottish Nation 1700-2007*, p. 105 and p.115: the Royal Bank of Scotland established the 'cash accompt' as 'the world's first overdraft facility' in 1728.

⁵⁶ CW Munn, 'The emergence of Edinburgh as a financial centre', p.131: these cash credit accounts (overdrafts) set an agreed borrowing limit and interest was charged on a daily basis. The account was repayable on demand, 'but in practice these accounts remained in operation for many years and became, in effect, long term loans'.

⁵⁷ CW Munn, 'The emergence of joint stock banking in the British Isles: a comparative approach', pp.78-79.

'quickly catered for the pressing needs of embryonic railways',⁵⁸ and they suggest that the scale of railway company finance gave 'important new dimensions' to this innovative overdraft system instigated in Scotland.

The Scottish branch network was thus able to direct funds to specific branches for investment, 'mostly the large urban, industrial offices',⁵⁹ although Professor Michie concludes that Scottish banks regarded lending to railway companies as 'something to be done once the needs of all other businesses had been met, and large funds remained available'.⁶⁰ Professor Checkland, however, considers that 'there can be no doubt that the banks were 'a very important element in railway finance',⁶¹ and MC Reed illustrates that early Scottish railway acts often specifically identified banks as a source of lending.⁶² The role of Scottish banks in railway development arises within all three of the themes examined in this chapter; successive chapters show that this well-established banking system provided a fundamental source of finance for railway companies in northern Scotland from their conception.

In summary, this study investigates the role of the state in railway development in northern Scotland in 1844-74 and to what extent this differed from the detached and largely reactive stance that historiography suggests was generally adopted as the British railway network evolved.⁶³ It explores how the oligopolistic powers awarded

⁵⁸ TR Gourvish and MC Reed, 'The financing of Scottish railways before 1860 - a comment', p.216 and p.217, footnote 8.

⁵⁹ CW Munn, 'The emergence of joint stock banking in the British Isles: a comparative approach', p.80; A Slaven, *The Development of the West of Scotland: 1750-1960* (London, 1975), p.57.

⁶⁰ RC Michie, 'Investment and railways in nineteenth-century Scotland', *Scottish Industrial History*, 5, No.1 (1982), p.49; RC Michie, *Money, Mania and Markets: Investment, Company Formation and the Stock Exchange in Nineteenth Century Scotland* (Edinburgh, 1981), p.58.

⁶¹ SG Checkland, *Scottish Banking, a History 1695-1973*, p.421.

⁶² MC Reed, *Investment in Railways in Britain, 1820-1844* (London, 1975), pp.229-30, noting that the Dundee and Arbroath Railway was empowered in its 1826 act of incorporation to raise £10,000 by loan from banks; Reed also notes (p.230, footnote 2) that the Monkland and Kirkintilloch (1824), Ballochney (1826) and Slammanan (1835) railways obtained their loan capital from banks.

⁶³ G Channon, *Railways in Britain and the United States, 1830-1940*, p.35, suggests that there was more consistency in parliamentary deliberation from the 1860s, following 'an

by the state through company incorporations were exercised and considers the state's approach to proposals for amalgamations and agreements between northern railway companies in 1844-74. With the earlier development of financial networks in Scotland aided by legal disparities, the thesis also examines the significance of the contribution of the banking system to the evolution of the northern railway system.

- strategic planning and direction

There is a consensus that the state was reluctant to become involved in national planning and intervention with the result that the railway system of Britain emerged in an unplanned way.⁶⁴ In the absence of state direction, railways were planned, constructed and financed by the private sector.⁶⁵ Indeed, Casson argues that the efficiency of the British railway system is, indirectly, 'a judgement on the performance of private enterprise'.⁶⁶ There has been some historiographical debate about the extent to which strategic planning by state or private enterprise influenced the shape of the British railway system and the evolution of its constituent companies. This thesis maintains that the railway system of northern Scotland was based upon judicious strategic planning, devised and directed by entrepreneurs and landowners from the two regional centres of Aberdeen and Inverness. The use of the term 'strategy', however, requires definition. In this study, it implies more than the formulation of a development plan; it involves the continual manoeuvring of resources, influence and support by its instigators whilst forward plans are devised and implemented to try to gain consistently the most favourable position for their enterprise.

element of inconsistency and arbitrariness about separate decisions, especially in the early railway age ...'.

⁶⁴ D Turnock, *An Historical Geography of Railways in Great Britain and Ireland*, p.2; G Channon, *Railways in Britain and the United States, 1830-1940*, p.32 and p.35; J Simmons, *The Railway in England and Wales, 1830-1914*, p.48; RJ Irving, 'The capitalisation of Britain's railways, 1830-1914', *Journal of Transport History*, 3rd series, vol.5, No.1 (March 1984), p.14.

⁶⁵ TR Gourvish, *Railways and the British Economy 1830-1914*, p.49; G Channon, *Railways in Britain and the United States, 1830-1940*, p.22 and p.32.

⁶⁶ M Casson, *The Evolution of the British Railway Network, 1825-1914*, p.2.

Although the escalating scale of railway development increased the difficulties of coordination and control, historiography suggests that strategic planning and management was not universally applied on the early railways. Hawke argues that railways in England and Wales in 1840-70 did not exhibit forward planning,⁶⁷ although Gourvish demonstrates otherwise in relation to the large London and North Western amalgamation.⁶⁸ The degree of strategic planning exhibited in England may therefore have been a function of company size as well as the quality of individual officers and directors. Robertson asserts that the main Scottish railway companies evolving from the 1845-46 mania were directed by those with 'ability and foresight', but who had 'little idea of railway management'.⁶⁹ The absence of research into Scottish railway development in the post-mania period, however, precludes detailed comparison, but there are instances where ambition outpaced the capacity of a company to plan and manage substantial growth. The financial instability of the Caledonian Railway in 1849, for example, arose from its rapid exponential expansion and is ascribed by Butt and Ward to the lack of financial experience of its directors despite their energy and enthusiasm, 'sterling qualities in the era of promotion'.⁷⁰

In comparison to the Caledonian, however, railway companies in northern Scotland were relatively small in financial terms. Nevertheless, this study contends that railway development in this region was based upon a high degree of strategic planning, generated not as a consequence of company size but primarily through the foresight and commitment of specific individuals and groups. In particular, it shows that company development was almost exclusively founded on assiduous planning by regional interests, principally the powerful commercial sector of Aberdeen and the influential landowners of Inverness and the highlands. Their purpose was to enhance

⁶⁷ GR Hawke, *Railways and Economic Growth in England and Wales, 1840-1870*, p.386.

⁶⁸ TR Gourvish, *Mark Huish and the London and North Western Railway: a study of management*, p.258 and p.264.

⁶⁹ CJA Robertson, 'The Cheap Railway Movement in Scotland: the St Andrews Railway Company', *Transport History*, 7, No.1 (March 1974), p.1.

⁷⁰ J Butt and JT Ward, 'The promotion of the Caledonian Railway Company', *Transport History*, 3, No.3 (November 1970), p.249.

and consolidate the economic importance of their own localities, but it engendered competitive conflict between them and resulted in serious financial damage. The study thus reflects Casson's conclusion that the intense competition that generated the British railway network was rooted in the towns.⁷¹

Without state direction, route development was left to the planning of private individual and groups. Although PS Bagwell has described the railway map in Britain in 1840 as showing 'the possibility of long distance communication',⁷² a map of Scotland at that date contained no authorised cross-border railway route from which future northern connections might be made. Yet within three decades, a substantial northern system was in operation, although its architects and their motives have received little investigation. Existing Scottish studies are largely restricted to the pre-mania period. Robertson shows that with the development of the Scottish inter-urban lines in 1837-38 the strategic impetus for railway construction passed from the local coal-owners and iron-masters to the merchant sector.⁷³ In the promotion of the Caledonian Railway in the 1840s as part of an Anglo-Scottish route, Butt and Ward identify the earlier strategic intent of the Grand Junction Railway in England to form a consolidated group, 'simultaneously limiting the effect of the east coast promotion and monopolising long-distance traffic between the principal urban centres of Britain'.⁷⁴ The subsequent leadership of this group by the amalgamated London and North Western Railway and its dynamic manager Mark Huish is recorded in Gourvish's comprehensive work.⁷⁵ In the absence of state participation in railway planning, influential railway federations were able to direct and co-ordinate railway development in England; the powerful east- and west-coast alliances created were significant in shaping the form and operation of much of the early English railway

⁷¹ M Casson, *The Evolution of the British Railway Network, 1825-1914*, p.6.

⁷² PS Bagwell, *The Railway Clearing House in the British Economy, 1842-1922* (London, 1968), p.20.

⁷³ CJA Robertson, *The Origins of the Scottish Railway System 1722-1844*, pp.315-16.

⁷⁴ J Butt and JT Ward, 'The promotion of the Caledonian Railway Company', *Transport History*, 3, No.2 (July 1970), p.167.

⁷⁵ TR Gourvish, *Mark Huish and the London and North Western Railway: a study of management* (Leicester, 1973); TR Gourvish, 'Captain Mark Huish: a pioneer in the development of railway management', *Business History*, XII, No.1 (January 1970), 46-58.

network.⁷⁶ As Huish and the west-coast alliance sought to obtain control of Anglo-Scottish trade, George Hudson and the east-coast alliance jostled for similar influence,⁷⁷ which culminated in the 1856 English and Scottish traffic agreement.⁷⁸ Paradoxically, however, this study shows that the strategic planning of these English-dominated alliances not only failed to secure control of the trunk route into the north of Scotland, but that their intervention proved to be one of the causes of the disintegration of plans to realise it. Furthermore, it identifies some northern strategists who not only showed the ability to realise their independent plans under difficult circumstances, but often backed their vision personally with substantial resources and at considerable risk.

A recurring theme in the literature on Victorian railway development is that the increasing scale of railway enterprise and the evolution of executive management within the companies resulted in a divergence between ownership and control.⁷⁹ This study illustrates, however, that this pattern was not reflected in many northern railway companies where the shareholder base remained narrow, primarily because of difficulties in raising share capital, with the result that ownership and control remained substantially unified.⁸⁰ In principle, the management of British railway

⁷⁶ J Simmons, *The Railway in England and Wales, 1830-1914*, pp.53-56 and p.65; TR Gourvish, *Mark Huish and the London and North Western Railway: a study of management*, p.107 and p.203; G Channon, 'Railway Pooling in Britain before 1900: the Anglo-Scottish traffic', *Business History Review*, 62, No.1 (Spring 1988), p.78.

⁷⁷ JJ Waterman, *The Coming of the Railway to Aberdeen in the 1840s* (Aberdeen, 1975), p.20; CJA Robertson, *The Origins of the Scottish Railway System 1722-1844*, pp.283-84, p.299 and p.317; TR Gourvish, *Mark Huish and the London and North Western Railway: a study of management*, pp.107-108, p.119 and p.185.

⁷⁸ G Channon, *Railways in Britain and the United States, 1830-1940*, pp.112-15, noting that the new English and Scotch traffic agreement of 1856 included the division of receipts to and from the previously 'disputed' north of Scotland; G Channon, 'Railway pooling in Britain before 1900', p.79; TR Gourvish, *Mark Huish and the London and North Western Railway: a study of management*, p.205 and appendix, section 2, p.297.

⁷⁹ G Channon, *Railways in Britain and the United States, 1830-1940*, p.39; MJ Freeman, 'Introduction', in MR Freeman and DH Aldcroft (eds.), *Transport in Victorian Britain* (Manchester, 1988), p.8; TL Alborn, *Conceiving Companies: joint stock politics in Victorian England*, p.188; TR Gourvish, *Mark Huish and the London and North Western Railway: a study of management*, p.288.

⁸⁰ 33&34 Vic. cap.31, 1870, *The Duke of Sutherland's Railway*: in this extreme example of unanimity between ownership and control, which is examined in chapter 9, the Duke was the sole shareholder in the company, which was authorised to construct a railway between

companies was undertaken by directors and officers on behalf of the owners of the company, the shareholders, who could question policies and actions at general meetings.⁸¹ Alborn shows, however, that as the network of English lines approved in 1845-46 began to be built and the increasing capitalisation of companies depressed dividends, shareholders became increasingly at odds with their directors, arguing that their representatives had engaged in expensive competitive conflict rather than improving trade, and had issued substantial amounts of guaranteed capital that diluted the influence of ordinary shareholders.⁸² Although similar inter-company strife arose north of the border, described by Robertson as 'semi-controlled warfare',⁸³ the strategic direction and management within northern railway companies in 1844-74 was rarely challenged, primarily because majority shareholders dominated company boards.

The reluctant but increasing intervention of the Victorian state in economic policy raises the question of whether the prospect of potential legislation induced changes in the strategic planning of railway companies. Channon argues that railways in Britain in the last three decades of the nineteenth century began to revise their operating policies to include the concept of 'public service' to avoid further restrictions on their commercial freedom.⁸⁴ Alborn observes that contemporary debate over the role of railways as a public institution continued from the 1860s into the next century.⁸⁵ Alderman, however, identifies the dilemma of free-market

Golspie and Helmsdale, a distance of 17 ¼ miles, and planned as part of the through far north route to Wick and Thurso.

⁸¹ 8&9 Vic. cap.20, 1845, The Railway Clauses Act; 31&32 Vic. cap.119, 1868, The Regulation of Railways Act.

⁸² TL Alborn, *Conceiving Companies: joint stock politics in Victorian England*, p.188 and pp.204-205.

⁸³ CJA Robertson, 'Sir James Thompson', in A Slaven and S Checkland (eds.), *Dictionary of Scottish Business Biography 1860-1960*, vol.2, p.312: 'Aggression was nothing new in Scottish railway politics, where inter-company relations often resembled semi-controlled warfare, with occasional truces to allow both sides to recover from severe mutual damage'. Thompson was general manager of the Caledonian Railway between 1882 and 1900 and chairman from 1901 until 1906.

⁸⁴ G Channon, *Railways in Britain and the United States, 1830-1940*, p.34.

⁸⁵ TL Alborn, *Conceiving Companies: joint stock politics in Victorian England*, p.212 and pp.217-18.

legislators in judging 'whether it was right to impose upon industries created for private profit the duties and obligations of a public utility', concluding that this issue was not comprehensively addressed in the nineteenth century.⁸⁶ This study adds a further perspective to this debate by showing that the strategic planning of railway routes into the far north and west of Scotland was devised to establish railways that could help to integrate a remote and almost subsistence economy into the expanding national networks of trade. It explains that these lines were operated close to marginal cost with any investment returns expected to accrue indirectly from increasing land values arising from improved transport links.⁸⁷ While therefore providing some Scottish evidence to support Channon's view of the increasing significance of public utility in railway policy, it contends that the purpose of its adoption in northern Scotland was primarily to meet local economic interests, rather than as any reaction to potential restrictive legislation. Indeed, the persistent economic difficulties encountered in the north-west of Scotland finally induced some financial assistance from the state towards further railway development in the 1890s along routes selected specifically for their public benefit.⁸⁸

This chapter has already shown that the Scottish banking system was more developed than that in England by the early 1800s, and operated an established branch network by 1845.⁸⁹ Although there is general agreement that there was a close interweaving of railway and bank directorships in Britain,⁹⁰ Channon asserts that 'There is no evidence that financial interests came to play an important, let alone dominating, role in shaping the strategies and structure of British railway companies

⁸⁶ G Alderman, *The Railway Interest*, p.32.

⁸⁷ W Vamplew, 'Railway Investment in the Scottish Highlands', *Transport History*, 3, No.2 (July 1970), p.152, observes that 'Generally, the construction of Highland railways had a long term beneficial effect on the land values of the parishes through which they passed', although he concludes that railways in the Scottish Highlands had 'no instantaneous effect' on land values.

⁸⁸ J McGregor, *The West Highland Railway: Plans, Politics and People*, pp.83-87; D Ross, *The Highland Railway*, p.89 and pp.91-92.

⁸⁹ CW Munn, 'The emergence of Edinburgh as a financial centre', p.132.

⁹⁰ TL Alborn, *Conceiving Companies: joint stock politics in Victorian England*, p.175; G Channon, *Railways in Britain and the United States, 1830-1940*, pp.37-38.

...'.⁹¹ This study demonstrates that banks provided key support for railway development in northern Scotland, but it also cites some evidence that suggests a strategic role undertaken by bankers within some northern railway companies. As in England, bankers not only could assist Scottish railway boards in securing relatively favourable lending terms, but they also provided representation of local interests in trade and commerce.⁹²

To summarise, this study investigates the extent to which the new northern railway system was the result of resolute strategic planning rather than the unplanned expansion that historiography denotes was generally the pattern of railway development in Britain. It assesses the respective contributions and motives of the influential regional centres, the powerful English alliances and the established banking networks, and traces the emergence of the concept of public utility within the objectives of northern railway promoters.

- sources and management of railway finance

As the English network of trunk lines grew, the scale of capital required escalated beyond local supply and was increasingly obtained from a capital market that could attract and direct investment funds nationally.⁹³ Indeed, Casson observes that, with the failure of the state to control effectively the number of railways authorised in Britain, 'the burden of effective rationing fell upon the capital market'.⁹⁴ The financial constraints experienced by railway companies as the network expanded have been subject to some investigation, but any comparative study of England and Scotland has been largely confined to the period prior to the 1845 railway mania because of an absence of Scottish research thereafter. This chapter has already identified that, although the economic characteristics of northern Scotland in 1844 offered little

⁹¹ G Channon, *Railways in Britain and the United States, 1830-1940*, p.37.

⁹² G Channon, *Railways in Britain and the United States, 1830-1940*, p.38.

⁹³ SA Broadbridge, 'Sources of railway share capital', in MC Reed (ed.), *Railways in the Victorian Economy*, p.191; MC Reed, *Investment in Railways in Britain, 1820-1844*, p.75; G Channon, *Railways in Britain and the United States, 1830-1914*, p.38.

⁹⁴ M Casson, *The Evolution of the British Railway Network, 1825-1914*, p.7.

apparent prospect of returns to new railway capital, a railway system extended across the region by 1874, which prompts the question of who invested in these railways and why? The thesis examines the sources and management of the capital raised by these northern railway companies and how they were able to sustain their business solvency, or survive periods of insolvency, under conditions of limited demand. It argues that the successful realisation of this railway system was founded upon significant economies achieved in the costs of formation and substantial local investment, supplemented repeatedly by advances from the banking sector. It shows that the influence of national, and particularly English, capital became insignificant as the system expanded northwards and, in particular, it highlights the critical role played by temporary credit in the financial structure of northern railway companies, a feature that has received little previous investigation.

The availability of capital as a determinant of the nature and timing of railway construction in Scotland was the subject of a largely unresolved debate in 1970-71. This study explores the issues of capital supply raised by this debate in the context of northern Scotland. Vamplew contends that the slow development of railways in Scotland before 1850 was the result of difficulties in raising capital, exacerbated by competing demands for available investment funds as Scotland began its sustained economic growth.⁹⁵ As a result, large-scale railway development in Scotland required English capital.⁹⁶ Gourvish and Reed, however, judge that the Scottish experience of raising share capital was not markedly different from that elsewhere in England.⁹⁷ In the 1840s, they argue, short-term investors began to be replaced by investment holders and the share market widened,⁹⁸ which supports the general

⁹⁵ W Vamplew, 'Sources of Scottish railway share capital before 1860', p.426-27 and pp.435-36.

⁹⁶ W Vamplew, 'Sources of Scottish railway share capital before 1860', pp.430-31 and pp.433-34; CJA Robertson, *The Origins of the Scottish Railway System 1722-1844*, pp.333-34.

⁹⁷ TR Gourvish and MC Reed, 'The financing of Scottish railways before 1860 - a comment', p.213.

⁹⁸ TR Gourvish and MC Reed, 'The financing of Scottish railways before 1860 - a comment', p.215.

historiographical view that the capital market was becoming more perfect⁹⁹ and 'directing funds to the most profitable opportunities regardless of location'.¹⁰⁰ Furthermore, Gourvish and Reed demonstrate the importance of loan capital and the use of bank overdrafts in early railway development in Scotland.¹⁰¹ They advance 'a strong impression that these institutions were willing to grant overdraft facilities and short-term loans to railways whose prospects were not necessarily bright'.¹⁰² Vamplew, however, questions whether Scottish banks were as 'generous' as Gourvish and Reed suggest,¹⁰³ and argues that 'banks were reluctant to make loans to companies that were not in operation'.¹⁰⁴ Nevertheless, the examples subsequently quoted by Checkland show that banks lent at least £281,000 to Scottish railways in the period 1829-45 prior to the great railway mania.¹⁰⁵ In some later research, Michie suggests that loans to railway companies in Scotland had a lower priority to other business needs.¹⁰⁶ This study investigates the place of bank lending in the financing of northern railway companies. It contends that the banking

⁹⁹ SA Broadbridge, *Studies in Railway Expansion and the Capital Market in England, 1825-1873* (London, 1970), p.154; GR Hawke and MC Reed, 'Railway capital in the United Kingdom in the nineteenth century', *Economic History Review*, new series, XXII, No.2 (1969), pp.277-78.

¹⁰⁰ RJ Irving, 'The capitalization of Britain's railways, 1830-1914', p.1; GR Hawke and MC Reed, 'Railway capital in the United Kingdom in the nineteenth century', p.279 and p.286.

¹⁰¹ TR Gourvish and MC Reed, 'The financing of Scottish railways before 1860 - a comment', pp.216-17: 45% of the funds of the Glasgow, Paisley and Greenock Railway were held as loan capital in 1840.

¹⁰² TR Gourvish and MC Reed, 'The financing of Scottish railways before 1860 - a comment', p.217.

¹⁰³ W Vamplew, 'The financing of Scottish railways before 1860 - a reply', p.222.

¹⁰⁴ W Vamplew, 'Banks and railway finance: a note on the Scottish experience', *Transport History*, 4, No.2 (July 1971), p.177.

¹⁰⁵ SG Checkland, *Scottish Banking, a History 1695-1973*, p.421: Checkland notes that surviving bank records 'are not systematic in recording advances and almost never report debts repaid' and therefore his study of Scottish banks can only record 'some examples from a great many bank loans' made to railways (pp.420-21); G Borthwick, 'The financing of Scottish Railways in the 1840s' (unpublished MA dissertation, University of York, 2000), p.31, states that banks lent £437,000 to local Scottish railways between 1826 and 1840.

¹⁰⁶ RC Michie, 'Investment and railways in nineteenth-century Scotland', p.49; RC Michie, *Money, Mania and Markets: Investment, Company Formation and the Stock Exchange in Nineteenth Century Scotland*, p.58.

sector played a very significant role in both the pre- and post-operation phases of many of these companies and often in unpromising circumstances, lending support to Gourvish and Reed's 'strong impression' quoted above. Temporary bank loans were often recorded in suspense accounts held outside the main company accounts; the study identifies the critical function of this 'hidden' debt in the financial structure of many of the northern railway companies, a feature which has received scant attention in the historiography of Scottish railways.

'Undoubtedly the major factor determining the cycles of railway construction in Scotland was the availability of capital.'¹⁰⁷ This conclusion drawn by Michie raises a question of cause and effect; did the availability of capital encourage the promotion of new lines, or were routes planned and promoted before there was certainty of finance? Both aspects were evident in the 1845 railway mania; the cyclical upswing in the economy generated wealth at a time when new railway schemes were seeking investors, but the increasing supply of capital and the prospect of higher returns to investors encouraged the formulation of other railway plans, increasingly variable in their economic realism.¹⁰⁸ Capital shortfalls arose once funds were called because, as Mitchell and Hawke have shown, railway construction was contra-cyclical and capital was usually required after the peak of the economic cycle had passed.¹⁰⁹ Nevertheless, Simmons considered that Scotland was less affected by the 1845 speculation than any other part of Britain.¹¹⁰ Robertson supported the view that the great railway mania was essentially 'English-centred'. He noted that most projects proposed for Scotland were for 'logical routes with apparently good prospects of

¹⁰⁷ RC Michie, 'Investment and railways in nineteenth-century Scotland', p.53.

¹⁰⁸ RW Kostal, *Law and English Railway Capitalism 1825-1875*, p.12 and p.56; RC Michie, 'Investment and railways in nineteenth-century Scotland', p.52; J Simmons, *The Railway in England and Wales 1830-1914*, p.41; H Parris, *Government and the Railways in Nineteenth-Century Britain*, p.88.

¹⁰⁹ BR Mitchell, 'The coming of the railway and United Kingdom economic growth', in MC Reed (ed.), *Railways in the Victorian Economy*, p.26; GR Hawke, *Railways and Economic Growth in England and Wales, 1840-1870*, p.364 and p.370; HG Lewin, *The Railway Mania and its Aftermath, 1845-52* (London, 1936, republished Newton Abbot 1968), p.282.

¹¹⁰ J Simmons, *The Railway in England and Wales 1830-1914*, p.41, footnote 7.

profitability' and that most were ultimately constructed.¹¹¹ This study considers whether capital availability may have encouraged the development of any railways in northern Scotland, rather than reactively supplying the means to realise existing plans for railways.

The suggestion that the 1845 railway mania was largely an English phenomenon, however, poses two further questions: to what extent did English capital contribute to Scottish railway development after 1845, and how far was the supply of funds for new railways in the north of Scotland constrained by the high demand for capital for established railways to the south? Historians agree that English capital played an important part in the financing of the cross-border routes of the 1840s and that some Scottish companies faced disadvantages in raising capital because of their small scale and remoteness.¹¹² Vamplew conjectures that any dependence on English capital 'probably declined' after 1850 once investment funds were generated by Scottish economic growth and as lines extended into areas 'less obviously profitable to the railway investor'.¹¹³ Moreover, he suggests that the Scots invested in local lines because of the advantages of cheaper transport and increased land values rather than for investment returns alone.

If the remoteness and small size of some Scottish railway companies placed them at a disadvantage in raising share capital in a national market, the degree to which capital for the new northern companies was sourced locally requires investigation. There has been some examination of this factor in pre-mania railway companies in England and Scotland. Broadbridge demonstrates that local interests provided the bulk of the capital for the Lancashire and Yorkshire Railway in England in its early

¹¹¹ CJA Robertson, *The Origins of the Scottish Railway System 1722-1844*, p.335; W Vamplew, 'Sources of railway share capital before 1860', *Scottish Journal of Political Economy*, 17 (1970), p.427.

¹¹² CJA Robertson, *The Origins of the Scottish Railway System 1722-1844*, p.334; W Vamplew, 'Sources of Scottish railway share capital before 1860', pp.430-31 and p.434-35 and p.439; TR Gourvish and MC Reed, 'The financing of Scottish railways before 1860 – a comment', p.211 and pp.218-19; W Vamplew, 'The financing of Scottish railways before 1860 – a reply', p.222.

¹¹³ W Vamplew, 'Sources of Scottish railway share capital before 1860', p.435 and p.439.

years,¹¹⁴ while Robertson illustrates that just over half of the subscriptions to the 1837-38 inter-urban lines in Scotland were local.¹¹⁵ However, Gourvish and Reed caution that evidence of firm shareholding is hard to trace because the share registers of many early railway companies have not survived.¹¹⁶ Data based upon subscription contracts do not necessarily indicate the longer-term holding of railway shares. Indeed, Reed considers that the original subscribers in many companies in Britain were in a minority within a few years of incorporation.¹¹⁷ However, this study shows that, as railway routes were pushed further north, the importance of local capital became greater and, moreover, that there was long-term holding of investment in these companies. Furthermore, it illustrates that railway companies in the highland region were increasingly and substantially financed by a relatively small cadre of wealthy landowners.

The escalating costs of railway development in Britain resulted in companies seeking additional finance. Reed argues that borrowing became an alternative rather than the expected complementary source of finance for railways in pre-mania Britain due to difficulties in raising ordinary share capital.¹¹⁸ As a result, loans assumed a greater proportion of total capital raised, especially in the period before lines opened and generated revenue. This study examines whether loans continued to be an alternative source of capital as railways extended into the north of Scotland. Hawke and Reed calculate that from 1847, as the railway system of the United Kingdom consolidated, the proportion of paid up capital represented by debentures and loans

¹¹⁴ SA Broadbridge, *Studies in Railway Expansion and the Capital Market in England, 1825-1873*, p.118.

¹¹⁵ CJA Robertson, *The Origins of the Scottish Railway System 1722-1844*, table 30, pp.156-57: 57.4% of the number of subscriptions made to the 1837-38 inter-urban lines came from local sources, with 63.2% of subscriptions overall from the whole of Scotland and 34.5% from England. Of the amounts subscribed for these lines, 48.5% was raised locally, with 53.9% overall coming from Scotland and 43.2% from England.

¹¹⁶ TR Gourvish and MC Reed, 'The financing of Scottish railways before 1860 - a comment', p.210.

¹¹⁷ MC Reed, *Investment in Railways in Britain, 1820-1844*, p.105 and p.194.

¹¹⁸ MC Reed, *Investment in Railways in Britain, 1820-1844*, p.72, p. 56, table 9 and p.60: loans comprised 44% of the total capital raised in 1840, 48% in 1842 and 34% in 1844.

did not vary by more than four percent above or below 25 percent,¹¹⁹ but they caution that temporary loans are not always recorded. It is this temporary debt which is shown to be of great significance for northern railway development.

Many railway companies, however, resorted to an increased use of preference capital from the late 1840s, which tended to reduce the amount of capital obtained from borrowing.¹²⁰ In addition, permissive legislation in 1868 allowed railway companies to convert debenture loans into debenture stock to try to avoid the consequences of renewing loans when interest rates were high.¹²¹ As a result, the proportion of capital requiring guaranteed fixed interest payments becomes a more significant indicator of a railway company's financial structure. Gourvish notes that 48 percent of railway capital other than loans required fixed interest payments in the United Kingdom in 1870,¹²² which provides a benchmark towards the end of the period of this study.

The early development of railways in both England and Scotland encountered serious inaccuracies in the estimation of costs. Many companies were forced to seek new capital powers or loans, or both, which tended to depress the returns on investment.¹²³ The study explores the extent to which similar cost inaccuracies were replicated in the later railway development in northern Scotland and the financial impact that ensued. Estimated costs usually determined the level of capital authorised in the private act of incorporation, with borrowing powers approved to

¹¹⁹ GR Hawke and MC Reed, 'Railway capital in the United Kingdom in the nineteenth century', p.274 and p.279.

¹²⁰ TL Alborn, *Conceiving Companies: joint stock politics in Victorian England*, p.194; MC Reed, *Investment in Railways in Britain, 1820-1844*, p.69.

¹²¹ TL Alborn, *Conceiving Companies: joint stock politics in Victorian England*, p.213 and p.215.

¹²² TR Gourvish, *Railways and the British Economy, 1830-1914*, p.18; TR Gourvish, 'Railways 1830-1870: the formative years', in MJ Freeman and DH Aldcroft (eds.), *Transport in Victorian Britain*, p.67.

¹²³ RJ Irving, 'The capitalization of Britain's railways, 1830-1914', p.6; MC Reed, *Investment in Railways in Britain, 1820-1844*, p.58; RC Michie, 'Investment and railways in nineteenth-century Scotland', p.52; W Vamplew, 'Sources of Scottish railway share capital before 1860', p.427.

meet immediate difficulties in raising share capital or to cover cost increases. From 1836, parliamentary standing orders required that borrowing powers contained in railway legislation were restricted to one-third of the authorised share capital and, furthermore, such powers could not be exercised until half of the share capital had been paid up.¹²⁴ Reed describes railway estimates made in Britain in 1820-44 as 'hopelessly optimistic'.¹²⁵ Gourvish attributes these inaccuracies partly to inexperience in costing and 'undue optimism', but also to 'lavish ornamentation', engineering difficulties and legal costs.¹²⁶ JR Kellett estimates that railways in Britain paid twice the market value for land and that expensive land purchases continued until the late 1860s.¹²⁷ Robertson identified three specific causes of cost inaccuracy in Scotland before 1844, albeit in 'uncertain proportions'; legitimate extensions and improvements, unforeseen cost increases, and miscalculation or incompetence.¹²⁸ Although he described contemporary Scottish cost estimates as 'educated guesses', Robertson also advanced the 'unprovable suspicion' of some deliberate miscalculation in order to keep estimates low to attract subscribers and perhaps to ease Parliamentary approval.¹²⁹ The study compares the relative costs of the railways that formed the northern network and it shows that substantial economies were achieved in constructing main line routes.

This section has largely considered capital finance, but the apparent lack of economic advantages in the northern counties of Scotland raises the question of how these new railway companies were able to generate sufficient revenue to cover their operational costs and also meet guaranteed payments on loan and preference capital. As the proportion of capital carrying guaranteed commitments increased,

¹²⁴ GR Hawke and MC Reed, 'Railway capital in the United Kingdom in the nineteenth century', p.282; J Simmons and G Biddle (eds.), *The Oxford Companion to British Railway History*, entry on 'Capital' by MC Reed, p.69.

¹²⁵ MC Reed, *Investment in Railways in Britain, 1820-1844*, p.24.

¹²⁶ TR Gourvish, *Mark Huish and the London and North Western Railway: a study of management*, p.20 and p.22.

¹²⁷ JR Kellett, *The Impact of Railways on Victorian Cities* (London, 1969), p.392 and appendix 1, p.428.

¹²⁸ CJA Robertson, *The Origins of the Scottish Railway System 1722-1844*, p.323.

¹²⁹ CJA Robertson, *The Origins of the Scottish Railway System 1722-1844*, p.323.

railway companies faced greater difficulties in paying returns to ordinary shareholders from available revenue. Lower dividends tended to reduce the attractiveness of new investment in the company and, moreover, high levels of debt could challenge its very survival.¹³⁰ The study examines the efficacy of financial management of northern railway companies, operating under conditions of limited demand, and investigates how some were able to survive relatively long periods of acute insolvency.

In summary, this study seeks to determine the extent to which capital supply preceded or followed the promotion of railways in northern Scotland, and whether the previous experience of inaccurate estimates of costs in Scotland and England was repeated, reduced or eliminated in the formation of these new routes. It investigates who invested in these northern railway companies and why, and explores the degree to which the companies were dependent upon local finance because of their size and remoteness; furthermore, it examines the significance of loans as a source of finance and the importance of the banking sector in their supply. The study also considers how companies sustained their business solvency in a region with few economic advantages and limited demand for transport. It shows the widespread adoption of cheap railway principles to contain capital costs, but it also indicates that the capital difficulties faced by many of the northern Scottish companies were often exacerbated not just as a consequence of the proportion of authorised capital raised by loans, on which historiography tends to focus, but particularly as a result of the burden of hidden temporary debt, which contemporary accounting practice did not always reveal to shareholders in published accounts and which has remained almost as concealed in the historiography.

The economy of northern Scotland offered little conspicuous incentive for railway investment in 1844, but a railway system extended across much of the region by 1874. The historiography explored in this chapter suggests that the state, strategic planning and finance were influential factors in the development of the earlier railway networks in Scotland and England. Successive chapters examine the extent to which these factors shaped the growth of railways in the comparatively disadvantaged northern counties of Scotland and whether their contributions to that

¹³⁰ G Channon, *Railways in Britain and the United States, 1830-1940*, p.39.

development might differ from the experiences of earlier railway evolution to the south.

Sources and financial methodology

This thesis is based on analysis of the records of twenty-five railway companies promoted in the north of Scotland between 1844 and 1874, supplemented by contemporary writing of the period.¹³¹ Financial information, more particularly capital and revenue data abridged from company records and various financial indicators derived from this primary data, is set out for each company in the appendix. Research of primary sources has concentrated upon the records of Scottish railway companies held in the National Archives of Scotland, but inevitably some potentially valuable documents, particularly shareholder records, have not survived. Contemporary journals and newspapers, notably *Blackwood's Edinburgh Magazine*, *Bradshaw's Railway Almanack*, *Railway Times*, *Herapath's Railway Journal* and *Railway News*, have provided comment and data on the finances and business performance of northern railway companies that has validated, supplemented, or challenged information contained in company annals.

Any financial analysis of railway companies in the nineteenth century is hindered by inconsistency in the way accounts were maintained and presented; there was, for example, variation in the way companies allocated expenditure between capital and revenue accounts. The need for some uniformity in railway accounting, especially following the financial crisis of 1866 in which railway securities played a central role, resulted in the Regulation of Railways Act in 1868.¹³² Specific accounts were required in a prescribed form half-yearly by the Board of Trade which separated

¹³¹ The appendix contains data of 26 northern railway companies, but the Deeside Extension Railway is treated as part of the Deeside Railway because it was managed by the Deeside Railway board, reconstituted by the addition of two directorships to represent extension interests.

¹³² 31&32 Vic. cap. 119, 1868, The Regulation of Railways Act; PL Cottrell, 'Railway finances and the crisis of 1866: contractor's bills of exchange and finance companies', *Journal of Transport History*, new series, III, No.1 (February 1975), pp.33-35; G Channon, *Railways in Britain and the United States, 1830-1940*, p.40.

capital and revenue expenditure.¹³³ Nevertheless, differences continued in the ways companies constructed and reported capital and revenue accounts;¹³⁴ Channon advises that published accounts remain an 'imperfect guide' to financial policy and comparisons of company performance.¹³⁵

A number of indicators are used within the study to evaluate the financial affairs of northern railway companies but, given the limitations of financial sources, the data are merely figurative and it is the trend that is of greater significance than the raw data themselves. Any gaps in data within company records are indicated in the appendix, but where other data have been identified from contemporary sources, these are included. In particular, company accounts do not always contain the detail of any temporary debt held and, where this is the case, the appendix explains the derivation of any estimate of such debt. The consistency of data is strengthened to some degree because two of the principal early northern railway companies, the Great North of Scotland and the Inverness and Aberdeen Junction, provided administrative staff and services to their respective satellites; similarities in their accounting methodology can therefore be identified across a range of railway company accounts.

A simple indicator of the potential financial stability of a railway company in its early years can be drawn from estimates of costs compared with its authorised capital and its revenue stream. The widespread inaccuracy of estimates and the resultant difficulties of servicing capital debt could curtail the prospect of longer-term economic success even if a company showed a rising trend in gross revenue. Data of gross revenue are used in the study as a measure of turnover because railway companies adopted varying practices to determine net revenue, which make the use of such data problematical for any comparative purpose. Some companies, for example,

¹³³ 31&32 Vic. cap.119, 1868, The Regulation of Railways Act, schedule 1 required railway companies to submit half-yearly accounts to the Board of the Trade in a prescribed form comprising thirteen tables of capital and revenue data, including a general balance sheet showing finance 'below the line' of the main accounts, and two additional tables of system mileage and train mileage; GA Lee, 'The concept of profit in British accounting, 1760-1900', *Business History Review*, XLIX (1975), p.24.

¹³⁴ G Alderman, *The Railway Interest*, p.31.

¹³⁵ G Channon, *Railways in Britain and the United States, 1830-1940*, p.40.

moved costs out of revenue to try to maintain a dividend to ordinary shareholders, while many established railway companies increasingly raised capital from preference shares from the late 1840s,¹³⁶ which required additional deductions from gross revenue to pay dividends. Dividend data also require great caution and must be interpreted alongside the balance on the capital account and any evidence that might imply that dividends were paid other than from revenue. Railway companies were not alone in seeking to preserve revenue to pay dividends; the North of Scotland Bank came close to collapse in 1848 by trying to sustain dividends after overextending its lending during the railway boom.¹³⁷ Share prices can give some comparative indication of a company's status in the market, but, as prices were primarily driven by dividends and rumour, circumspection is required in their use.

These indicators, however, tend to show more about trends in the performance of the company rather than its long-term stability. Current accountancy practice suggests that a company is solvent if its assets exceed its total liabilities, if it can pay debts when due and if it can service its borrowing.¹³⁸ Although contemporary, these criteria can serve for the historical analysis in this study, particularly because the laws governing insolvency and bankruptcy in England and Scotland differed until some rationalisation was effected in 1869.¹³⁹ The relevance of the first two of these present-day criteria, for example, was plain in the momentous collapse of financial intermediary Overend-Gurney in 1866.¹⁴⁰

¹³⁶ GR Hawke and MC Reed, 'Railway capital in the United Kingdom in the nineteenth century', p.284, noting a movement from loans and debentures to preference stock as a means of raising capital for railways in Scotland until the mid 1880s; TR Gourvish, *Railways and the British Economy, 1830-1914*, p.18.

¹³⁷ SG Checkland, *Scottish Banking, a History 1695-1973*, p.349: in a run on the North of Scotland Bank in February 1848, the bank's capital was reduced from £380,000 to £115,550; A Keith, *The North of Scotland Bank, 1836-1936* (Aberdeen, 1936), pp.50-55 and p.59.

¹³⁸ W McKenzie, *The Financial Times Guide to Using and Interpreting Company Accounts* (3rd edition, London, 2003), p.152; M Pendlebury and R Groves, *Company Accounts: analysis, interpretation and understanding* (1994, 6th edition, London 2004), p.288.

¹³⁹ VM Lester, *Victorian Insolvency: Bankruptcy, Imprisonment for Debt, and Company Winding-up in Nineteenth-Century England* (Oxford, 1995), p.11, p.149 and p.157, quoting the new Bankruptcy Act, 32&33 Vic. cap.71, 1869.

¹⁴⁰ PL Cottrell, 'Railway finances and the crisis of 1866: contractor's bills of exchange and finance companies', pp.33-34; VM Lester, *Victorian Insolvency*, p.75-76. Contemporary reference to the collapse of Overend-Gurney and Company is made in chapter 8.

Two gearing ratios are derived in the appendix tables. Gearing is defined as the proportion of company capital financed by lenders rather than shareholders.¹⁴¹ The need for two gearing ratios arises because, as the previous section has identified, railway loans comprised both authorised and temporary borrowing. The first gearing ratio shows the proportion of capital raised by borrowing under the powers granted to each company by Parliament. Legislation to incorporate railway companies generally prescribed that loans could be taken up to one-third of the authorised share capital once half of the share capital had been paid up.¹⁴² Therefore, if a company raised its full share and loan capital, a gearing ratio of authorised borrowing to total authorised capital would be 0.25, which was, in effect, the maximum gearing ratio approved by the state. This ratio, however, refers to authorised capital rather than the amount of capital actually received, so in practice, at least in the short-term, a ratio of loans to total capital raised could rise as high as 0.4 if a company had obtained only its minimum half of share capital but was able rapidly to secure loans to the full extent of its borrowing powers.¹⁴³ Such action would, however, put immediate strain on the ability of the company to service the debt and indicate a potential weakness in the company's financial structure.

This chapter has already suggested that temporary borrowing added to the financial pressures faced by northern railway companies. Railway companies employed a variety of sources to secure short- or medium-term fixed interest advances, which included bank loans, the issue of bills of exchange to suppliers,¹⁴⁴ and temporary credit from other financial intermediaries and contractors. Significantly, this type of debt, if it was reported at all to shareholders, usually appeared 'below the line' in the

¹⁴¹ M Pendlebury and R Groves, *Company Accounts: analysis, interpretation and understanding*, p.288.

¹⁴² J Simmons and G Biddle (eds.), *The Oxford Companion to British Railway History*, entry on 'Capital' by MC Reed, p.69.

¹⁴³ For example, if a company had authorised share capital of £300,000 and borrowing powers of £100,000 and it raised only half its share capital (£150,000) but all of its authorised loans (£100,000), its loans would comprise 0.4 of its total raised capital (£150,000 in shares and £100,000 in loans, totalling £250,000).

¹⁴⁴ See Glossary entry on 'bill of exchange'.

general balance sheet of the company and therefore did not present an immediate charge on the revenue or capital account. Accounting practice still reflects the advantage of this creative methodology.¹⁴⁵ Nevertheless, such 'hidden' debt still required servicing and ultimate repayment, despite being recorded outside the main accounts.¹⁴⁶ A second gearing ratio is therefore used in the study, which expresses company turnover, measured by gross revenue, as a proportion of the total of all types of identified borrowing that carried a guaranteed payment. This ratio gives an indication of the scale of the company's total debt, the prospects of repaying that debt from its revenue stream, and thus the longer-term financial stability of a company. As the ratio of gross revenue divided by total debt falls, the less likely it becomes that revenue can sustain that level of debt and therefore the greater the financial instability of the company becomes. In chapter 3, this second gearing ratio is derived for the Caledonian Railway, which was insolvent in 1849 and required new legislation before it could build its financial recovery. Given that a certain level of gearing was evident when the company was insolvent, the Caledonian's debt gearing ratio provides a benchmark in the study against which to evaluate the financial viability of later railway companies in the north of Scotland. It cannot, of course, be taken as an absolute sign of any terminal financial failure, but it is, nevertheless, useful as an indicator.

Further evidence of financial confidence in a company can be displayed by its ability to replace maturing loans with new ones and to raise new capital from existing shareholders. However, the willingness of banks in particular to provide advances to railway companies, and for how long, cannot provide any reliable indicator of a company's financial situation. Indeed, the study illustrates that banks often had little choice but to renew loans to avoid significant capital loss on the sums advanced by precipitating the bankruptcy of a company, which supports Munn's assertion cited

¹⁴⁵ J Griffiths, *Creative Accounting: how to make your profits what you want them to be* (London, 1968), p.25, states 'By taking advantage of the rather vague rules defining when an item is extra-ordinary and disclosed below the line ... a company can boost its earnings quite substantially'.

¹⁴⁶ GR Hawke and MC Reed, 'Railway capital in the United Kingdom in the nineteenth century', p.274.

earlier that short-term credit tended to extend into long-term lending.¹⁴⁷ Nevertheless, patterns of bank borrowing can provide some evidence of shortfalls in a railway company's finances.

Whilst the study refers to two gearing ratios, one for authorised borrowing and a second for the total debt held by a company, it is essential to re-emphasise that the mechanism of gearing is less important than the trend indicated over time. If the gross revenue of a company is rising and its debt gearing is improving, the company can demonstrate the feasibility of emerging successfully from a deep financial crisis, as illustrated by the Great North and Scotland and Highland Railways in 1866-72 and explained in chapter 8.

The form of the thesis

Successive chapters adopt a chronological approach to the investigation of the development of the railway system in northern Scotland so that the often complex activity in progress across a range of companies during specific periods can be interpreted. The next chapter establishes the extent of the Scottish railway system in 1844 in the context of the sharp economic divide between the industrialising central belt of Scotland and the semi-feudal structure of the far north. It identifies the constraints experienced in railway development in Scotland by that date and considers the consequences for new development into northern Scotland.

Chapter 3 examines the strategic plan for Scottish railway development prepared by the executive of the state in 1845, and the consequences of its authorisation by the legislature. The intense competition that ensued contributed to the financial insolvency of the Caledonian, the largest railway company in Scotland at that time. This significant event in Scottish business history provides a financial benchmark throughout the study. The following chapter contrasts the strategic planning and financial control of the three companies that formed the authorised northern trunk route to Aberdeen, opened throughout in 1850, and identifies the English influence

¹⁴⁷ CW Munn, 'The emergence of Edinburgh as a financial centre', p.131.

within them. It also investigates the formation of the Aberdeen railway web, a virtual regional monopoly created within the state's company authorisations of 1845-46, and the causes and consequences of its collapse in 1848-49.

The results of this Aberdonian disintegration generated the conditions that assisted the formation of a new competitive web of companies based in Inverness. The following three chapters explain the interwoven development of the northern trunk route between Aberdeen and the highland capital of Inverness, and the railways promoted into the surrounding districts, which were based on the strategic plans emanating from these two regional centres. Chapter 5 studies the early development of the Great North of Scotland Railway between 1845 and 1861, its branch line policy and the results and consequences of its monopoly power. The chapter also reveals the growing extent of the endemic financial instability contained within its allied branch network. Chapter 6 explores the concurrent competitive developments promoted from Inverness and probes the sources of finance obtained for this new network of lines, initially isolated from the national network but conceived as part of a much bolder strategy to secure local control of railway development throughout northern Scotland. The complex competitive battles that ensued between 1860 and 1865 to capture and defend northern territory are analysed in chapter 7. In particular, this chapter outlines the reasons for the rapid collapse of the Great North from a dominant monopoly into an isolated rural railway system by 1866.

The serious financial damage that was incurred by both regional railway monopolies as a result of this competition is evaluated in chapter 8. It reveals the depth of the financial crises faced by the Great North of Scotland and Highland railway companies and appraises the strategies used by both Aberdeen and Inverness to extricate themselves from debt. It thus provides a comparative study of the successful financial recovery of these companies between 1866 and 1872, which contributes to both the railway and business historiography of Scotland. Chapter 9 then examines the development of the railway system into the far north and west of Scotland between 1865 and 1874 where economic circumstances were particularly discouraging. It identifies the sources of finance for these companies and the motivation of the promoters in operating the lines close to cost, seeking indirect returns for their investment. Finally, chapter 10 summarises the roles played by the

state, strategic planning, and railway finance in the successful development of the railway system in northern Scotland between 1844 and 1874 and reflects on the extent to which the influence of these factors might differ from that evident in earlier railway evolution to the south.

Chapter 2: Scotland and its railways, 1844

Map 1: Principal towns to which reference is made in the text



This chapter provides the context for the thesis. First, it considers the 'dual economy' of Scotland in the 1840s to which reference was made in the last chapter,¹

¹ CA Whatley, *The Industrial Revolution in Scotland*, (Cambridge, 1997), p.1.

illustrated by the marked divergence between the economic development of the industrialising counties of the central Forth-Clyde valley and the semi-feudal counties of the far north and north-west, where population clearances continued into the 1850s. A contrast is then drawn between the extent of the Scottish railway network in 1844 and that in England. Scottish railways at that date were almost exclusively confined to the Forth-Clyde central belt and no main route had been constructed north of a geographic line drawn between Glasgow and Aberdeen, the region which is the focus of this study. The chapter then identifies the constraints of capital and revenue encountered by established railways on both sides of the border by 1844 and, given the unpromising economic conditions in the north, considers the implications of these for the extension of railways into northern Scotland.

The north-south divide: the Scottish economy by 1844

During the first half of the nineteenth century, the Scottish economy was stimulated by a large growth in population, increased home demand, technological change and the expansion of inter-regional trade.² This economic development was shaped not just by the supply of natural resources and labour, but by the practicality and availability of systems of communication.³ Railways supported rather than caused economic growth in both Scotland and England, in particular by facilitating access to deposits of raw materials.⁴ Although the Scottish railway system in 1844 was small and disjointed in comparison with the larger and more integrated network developing in England, it evolved using local investment primarily to provide a supply of coal for

² TM Devine, *The Scottish Nation 1700-2007* (London 1999, new edition, London, 2006), pp.108-110, pp.154-55 and p.257; RH Campbell, *The Rise and Fall of Scottish Industry* (Edinburgh, 1980), pp.9-10; SGE Lythe and J Butt, *An Economic History of Scotland 1100-1939* (Glasgow, 1975), p.95 and p.102.

³ CA Whatley, *The Industrial Revolution in Scotland*, p.24 and pp.31-34; TM Devine, *The Scottish Nation 1700-2007*, p.259; SGE Lythe and J Butt, *An Economic History of Scotland*, p.170.

⁴ BR Mitchell, 'The coming of the railway and United Kingdom economic growth', *Journal of Economic History*, 1st series, 24 (1964), p.315; GR Hawke, *Railways and Economic Growth in England and Wales, 1840-1870* (Oxford, 1970), p.366, p.392 and p.402; W Vamplew, 'Railways and the transformation of the Scottish economy', *Economic History Review*, 2nd series, 24 (1971), p.47 and p.54.

industrial needs, linking short railways with the sea estuaries and the three major canals of the central valley.

The geography of Scotland contributed to the increasing economic and social division between the north and south that was already evident by the end of the eighteenth century. To the north of the Forth-Clyde valley, the nature of the terrain focussed trade and transport towards the east coast, where the great sea inlets of the Forth, Tay and Moray Firths gave strategic importance to the towns of Stirling, Perth and Inverness. Coastal shipping provided the principal means of transport and remained an important feature of the northern transport system throughout the nineteenth century.⁵

This economic division between the regions is illustrated by census data (table 1), which identifies the concentration of employment and consumer demand and thus suggests the areas where commercial and industrial investment was focussed. The population of Scotland rose by 62.9 percent in 1801-41. Growth was rapid in the counties of the central Forth-Clyde valley where the pivotal coal and iron industries were located; the population of Renfrewshire and Lanarkshire, including the key towns of Glasgow and Paisley, grew by 97.5 percent and 189.0 percent respectively in these four decades, while Midlothian, with major coal reserves served by the Monkland railway system, grew by 83.8 percent. The population of the northern counties, lacking raw materials and communications, grew below the national rate, indicating their relatively slow economic progress in comparison with counties in the central valley. In the north-east, Aberdeenshire with fertile farmland and an established mercantile centre grew by 58.9 percent in 1801-41, just below the national average, while Inverness-shire, containing some of the wilder geographic regions in the north-west, grew by 34.6 percent, approximately half the national average.

⁵ W Vamplew, 'Railways and the Scottish transport system in 18th century', *Journal of Transport History*, new series, I, No.3 (February 1972), p.144; CH Lee, 'Some aspects of the coastal shipping trade: the Aberdeen Steam Navigation Company, 1835-1880', *Journal of Transport History*, new series, III, No.2 (September 1975), pp.101-102.

Table 1: Census of Scotland: data showing the population by county, 1801-71

County	1801	1811	1821	1831	1841	1851	1861	1871
Aberdeen	121065	133871	155049	177657	192387	212032	221569	244603
Angus	99053	107187	113355	139606	170453	191264	204425	237567
Argyll	81277	86541	97316	100973	97371	89298	79724	75679
Ayr	84207	103839	127299	145055	164356	189858	198971	200809
Banff	37216	38433	43663	48337	49679	54171	59215	62023
Berwick	30206	30893	33385	34048	34438	36297	36613	36486
Bute	11791	12033	13797	14151	15740	16608	16331	16977
Caithness	22609	23149	29181	34529	36443	38709	41111	39992
Clackmannan	10858	12010	13263	14729	19155	22951	21450	23747
Dumfries	54597	62960	70878	73770	72830	78123	75878	74808
Dunbarton	20710	24189	27317	33211	44296	45103	52034	58857
East Lothian	29986	31050	35127	36145	35886	36386	37634	37771
Fife	93743	101272	114556	128839	140140	153546	154770	160735
Inverness	72672	77671	89961	94797	97799	96500	88888	87531
Kincardine	26349	27439	29118	31431	33075	34598	34466	34630
Kinross	6725	7245	7762	9072	8763	8924	7977	7198
Kirkcudbright	29211	33684	38903	40590	41119	43121	42495	41859
Lanark	147692	191291	244387	316819	426972	530169	631566	765339
Midlothian	122597	148607	191514	219345	225454	259435	273997	328379
Moray	27760	27967	31398	34498	35012	38959	42695	43612
Nairn	8322	8496	9268	9354	9217	9956	10065	10225
Orkney	24445	23238	26979	28847	30507	31455	32395	31274
Peebles	8735	9935	10046	10578	10499	10738	11408	12330
Perth	125583	134390	138247	142166	137457	138660	133500	127768
Renfrew	78501	93172	112175	133433	155072	161091	177561	216947
Ross and Cromarty	56318	60853	68762	74820	78685	82707	81406	80955
Roxburgh	33721	37230	40892	43663	46025	51642	54119	53974
Selkirk	5388	5889	6637	6833	7990	9809	10449	14005
Stirling	50825	58174	65376	72621	82057	86237	91926	98218
Sutherland	23117	23629	23840	25518	24782	25793	25246	24317
West Lothian	17844	19451	22685	23291	26872	30135	38645	40965
Wigtown	22918	26891	33240	36258	39195	43389	42095	38830
Zetland (Shetland)	22379	22915	26145	29392	30558	31078	31670	31608
Scotland	1608420	1805864	2091521	2364386	2620184	2888742	3062294	3360018

Source: National census data, quoted in RH Campbell and JBA Dow (eds.), *Source Book of Scottish Economic and Social History* (Oxford, 1968), p.2 and insert 8.

The effects of the highland clearances, which included emigration, out-migration and the enforced movement of population from highland land to the coast, is illustrated by the small increase of 7.2 percent in the population of Sutherland in 1801-41. The interior of Sutherland was described as:

... extensive tracts of great bog, – broken into mountains, and rocks and wild scenery, and interspersed here and there with patches of land, under imperfect tillage, near the riverbanks.⁶

⁶ Thomas Sellar, *The Sutherland Clearances of 1814*, (1883), containing a letter from Patrick Sellar to James Loch, Commissioner of the Duke of Sutherland, 1 May 1850, and quoted in RH Campbell and JBA Dow (eds.), *Source Book of Scottish Economic and Social History*, p.42.

The size of settlements in the north contrasted sharply with the large towns to the south. By 1841, the population of Glasgow was 275,000, reaching 420,000 by 1861; the population of Edinburgh and Leith in 1841 was 166,000, rising to 203,000 in 1861. Even by 1861, the northern centres of population were minute in comparison; Inverness (16,162), Elgin (11,728), Wick (12,841), Thurso (5,561), Peterhead (9,796) and Fraserburgh (4,511)⁷ were all targets for early railway promotions, but offered limited demand and potential revenue. The population of all but one of the northern counties had peaked by 1861, just before the railway ventured north of Inverness (table 2).

Table 2: The population of northern counties of Scotland at their peak

County	Population in 1821	Population at peak	Year of peak
Caithness	29181	41111	1861
Inverness	89961	97799	1841
Nairn	9268	10225	1871
Perth	138247	142166	1831
Ross and Cromarty	68762	82707	1851
Sutherland	23840	25518	1851

Source: Census data, quoted in WC Dickinson and GS Pryde, *A New History of Scotland*, vol.2 (Edinburgh, 1962), p.232.

The only towns north of the Forth-Clyde valley of any significant size by 1861 were Aberdeen (77,272), Dundee (95,275) and Perth (30,225).⁸ It was therefore logical that the projection of a trunk railway route to the north of Scotland's central belt favoured the Perth-Aberdeen route where trade and population were concentrated.

Industrial growth centred on the Scottish cotton industry before 1830, followed by expansion in the metal industries in 1830-80.⁹ Scotland had reserves of coal,

⁷ J Thomas and D Turnock, *A Regional History of the Railways of Great Britain, vol.15, North of Scotland* (Newton Abbot, 1989), data drawn from chapters V and VI, pp.143-264.

⁸ J Thomas and D Turnock, *A Regional History of the Railways of Great Britain, vol.15, North of Scotland*, p.87, p.89, and p.143; SGE Lythe and J Butt, *An Economic History of Scotland 1100-1939*, p.96.

⁹ CA Whatley, *The Industrial Revolution in Scotland*, pp.24-26; TM Devine, *The Scottish Nation 1700-2007*, p.108 and p.257; RH Campbell, *The Rise and Fall of Scottish Industry 1707-1939*, p.19; SGE Lythe and J Butt, *An Economic History of Scotland*, p.161.

limestone and iron-ore needed for industrialisation, but Scottish coal was uncompetitive in England due to transport costs and the efficiency of the Durham and Northumberland coalfields, which produced one-third of British output in 1800 compared to just under one-eighth from Scotland.¹⁰ Nevertheless, Scottish coalfields supplied Edinburgh and Glasgow with over one million tons of coal annually by 1830 and exported 5 percent of its output to Ireland.¹¹ Demand for coal increased as Scottish production of pig iron rose from 5 percent of British output in 1830 to 26 percent in 1848, principally as a result of the development of Neilson's hot-blast process in 1828 and the local discovery of blackband ironstone.¹²

Table 3: The working population of Scotland, 1851

	metals	Textiles & clothing	Other manufacturing	Agriculture and fishing	Mining	Services	Total
Workforce (000s)	60.8	366.4	66.2	347.6	48.1	380.8	1269.9
% of total	4.8%	28.9%	5.2%	27.4%	3.8%	30.0%	

Source: AK Cairncross (ed.), *The Scottish Economy* (Cambridge 1954), table 36, p.77.

Scotland's economy retained a strong agricultural sector throughout the nineteenth century (table 3). In the north-east, the counties surrounding Aberdeen provided rich and improved agricultural land, whereas the old system of 'runrig', the farming of strips between a quarter and half an acre each, continued in the highlands until the 1850s.¹³ North-east of Inverness in the coastal lands of Easter Ross, many

¹⁰ MW Flinn and D Stoker, *The History of the British Coal Industry, vol.2, 1700-1830: The Industrial Revolution* (Oxford 1984), tables 1.2 and 1.3, p.26.

¹¹ J Hassan, 'The supply of coal to Edinburgh', *Transport History*, 5, No.2 (July 1972), pp.125-26; CJA Robertson, *The Origins of the Scottish Railway System 1722-1844* (Edinburgh, 1983), p.61; MW Flinn and D Stoker, *The History of the British Coal Industry, vol.2*, table 7.6, p.223.

¹² CA Whatley, *The Industrial Revolution in Scotland*, p.33; TM Devine, *The Scottish Nation 1700-2007*, p.257; A Slaven, *The Development of the West of Scotland: 1750-1960*, p.9 and pp.120-22; RH Campbell, 'Developments in the Scottish pig iron trade', *Journal of Economic History*, 1st series, 15, No.3 (1955), p.209; W Vamplew, 'The railways and the iron industry: a study of their relationship in Scotland', in MC Reed (ed.), *Railways in the Victorian Economy* (Newton Abbot, 1969), p.33.

¹³ TM Devine, *Clanship to Crofters' War: the social transformation of the Scottish Highlands* (Manchester, 1994), pp.33-34; SGE Lythe and J Butt, *An Economic History of Scotland*, p.111; RH Campbell, *Scotland since 1707: the rise of an industrial society* (Oxford, 1965, reprinted 1971), p.19.

effective and efficient farms were formed largely by new landowners bringing external capital, contrasting with the multiple-tenant farms in the west that developed from the clan system and the highland clearances.¹⁴ The Highland area retained tribal characteristics where '... below the ranks of the chiefs and chieftains stretched a hierarch of tenants'.¹⁵ The agricultural inefficiency of the feudal clan system conflicted with the increased commercialization of agriculture from 1830.¹⁶ At the time Scotland was competing for new investment to develop industry and to expand its embryo railway system, large parts of the north were subject to severe poverty and regular famine.

By the early nineteenth century, sheep had largely replaced traditional black cattle as the export of the highlands.¹⁷ To create the necessary size of farms for large flocks, much of the population was removed from the land.¹⁸ James Loch, Commissioner to the Duke of Sutherland, defended these highland clearances by arguing that demand for wool had resulted in a quadrupling of land rents.¹⁹ The capital required

¹⁴ JAR Smith, 'From Isolation to Integration: the development of roads in the northern Highlands of Scotland, 1800-1850' (unpublished PhD thesis, University of Aberdeen, 2001), p. 56; IRM Mowat, *Easter Ross 1750-1850: the double frontier* (Edinburgh, 1981), p.31; CA Whatley, *Scottish Society 1707-1830* (Manchester, 2000), p.242; TM Devine, *The Scottish Nation 1700-2007* (London, 2006), pp.187-88 and pp.417-18.

¹⁵ TC Smout, *A History of the Scottish People, 1560-1830* (London, 1969), p.337.

¹⁶ TM Devine, *Clanship to Crofters' War: the social transformation of the Scottish Highlands*, pp.43-44; RH Campbell and TM Devine, 'The Rural Experience', in WH Fraser and RJ Morris (eds.), *People and Society in Scotland*, vol. II (Edinburgh, 1990), p.48; CA Whatley, *The Industrial Revolution in Scotland*, p.1.

¹⁷ TM Devine, *The Scottish Nation 1700-2007*, p.176: as an example, cattle numbers almost halved from 5,140 to 2,906 in the two large parishes of Creich and Assynt in Sutherland in 1790-1808 while sheep numbers almost trebled from 7,840 to 21,000 in the same period; MGH Pittock, *The Invention of Scotland: the Stuart myth and the Scottish identity, 1638 to the present day* (London, 1991), p.107, notes that there were 250,000 sheep in the Highlands in 1811 but almost a million in the 1840s; SG Checkland, *Scottish Banking, a History 1695-1973* (Glasgow, 1975), p.227, comments that in the second half of the eighteenth century, black cattle were the 'most readily realisable form of wealth' for Highlanders.

¹⁸ TM Devine, *Clanship to Crofters' War: the social transformation of the Scottish Highlands*, p.35, noting that highland population was not only displaced by the establishment of new sheep farms but also by the formation of new crofts from the traditional runrig system.

¹⁹ James Loch, *An Account of the Improvements on the Estates of the Marquess of Stafford in the Counties of Stafford and Salop, and on the Estate of Sutherland, with remarks* (London, 1820), p.xvii: '...the demand for the raw material of wool by the English manufacturers enabled the Highland proprietor to let his lands for quadruple the amount they ever before produced to him'.

for these large farms was beyond the means of the native population.²⁰ In Sutherland, attempts were made to move the population, which had not already migrated, to the east coast.²¹ Coastal land was of poor quality, but the increasing reliance on the potato as the staple diet allowed a large population to be supported by a relatively small area of land of indifferent quality. Fishing offered a potential additional source of food and income, but few had the necessary skills or capital to operate commercially. Helmsdale was established by the Duke of Sutherland as an east-coast fishing port, with £14,000 expended there in 1814-19; between 1811 and 1833, £½ million was invested in Sutherland's estates but with limited economic impact.²² Land values in parts of the north rose as the population was moved, and this was attributed to the prosperity of sheep-farming and new revenue derived from letting moors for grouse-shooting.²³ Some state assistance was offered through loans for land drainage, but with the scope widened to include fencing and roads.²⁴

The hierarchical clan system traditionally provided a source of troops for the national government, but the exodus of an estimated 20,000 people to the United States of America in 1803 raised concerns not only about the loss of recruits but also for the

²⁰ E Richards, *A History of the Highland Clearances*, vol. 1 (London, 1982), p.288; TM Devine, *The Scottish Nation 1700-2007*, p.175.

²¹ TM Devine, *The Scottish Nation 1700-2007*, p.177: in 1807-21, between 6,000 and 10,000 people were moved from inland Sutherland parishes to crofts on the coast, which Devine describes as 'in the most remarkable example of social engineering undertaken in early nineteenth-century Britain'; TM Devine, *Clanship to Crofters' War: the social transformation of the Scottish Highlands*, pp.36-37; MGH Pittock, *The Invention of Scotland*, p.111, records that the Countess of Sutherland appropriated 794,000 acres of clan land in 1814-20.

²² E Richards, *The Leviathan of Wealth: the Sutherland Fortune in the Industrial Revolution* (London, 1973), p.285 and p.286; CA Whatley, *Scottish Society 1707-1830*, p.248; TC Smout, *A History of the Scottish People, 1560-1830*, p.355; B Lenman, *An Economic History of Modern Scotland, 1660-1976* (London, 1977), p.145.

²³ *Inverness Courier*, 28 October 1835: '... many Highland proprietors derive a greater revenue from their moors alone, for grouse shooting, than their whole rental amounted to sixty years since'; TM Devine, *Clanship to Crofters' War: the social transformation of the Scottish Highlands*, p.78.

²⁴ 9&10 Vic. cap.101, 1846, The Land Drainage Act, offering loans at 6½ % with repayment over a period of up to 22 years; TM Devine, *Exploring the Scottish Past – themes in the history of Scottish society* (East Linton, 1995), p.167, suggesting that this legislation became a method of offering state loans to a distressed region to avoid the 'ideological predilections' of the government towards giving direct state aid; TM Devine, *Clanship to Crofters' War: the social transformation of the Scottish Highlands*, p.159.

supply of labour required by landowners.²⁵ To try to counter the loss of population, Thomas Telford was commissioned by the government in 1802 to give advice on how the highlands might be opened up and improved. Although prevailing economic philosophy shunned state intervention, Telford's report resulted in the injection of some state assistance into the northern economy. The government agreed to fund the construction of the Caledonian Canal from Fort William via the Great Glen to Inverness, ostensibly to provide a route for warships avoiding the treacherous northern route around Scotland, but in reality creating employment in the north of Scotland. In addition, a Commission of Highland Roads and Bridges was established in June 1803 to supervise the building and improving of communications in the highlands, with half of the costs to be met by the state. The Commission was charged to '... ensure funds were spent economically whilst producing maximum benefit to the government and the population'; by 1821, £450,000 had been spent on 885 miles of roads.²⁶

The Caledonian Canal opened in 1822 and cost £905,258, but by 1831 it had accumulated a debt of £39,000.²⁷ This new water route was patronised by Queen Victoria in 1847, which advertised the attractions of the area to the wider public and prompted the first tours to the area by Thomas Cook in 1847-48.²⁸ In February 1860, the Inverness and Aberdeen Junction Railway made a bid to take control of

²⁵ J Hunter, *The Making of the Crofting Community* (Edinburgh, 1976), p.23; TM Devine, *Clanship to Crofters' War: the social transformation of the Scottish Highlands*, pp.91-92.

²⁶ JAR Smith, 'From Isolation to Integration: the development of roads in the northern Highlands of Scotland, 1800-1850', pp.82-83: half the cost of roads was to be met by heritors (see Glossary entry on 'heritors'); CA Whatley, *Scottish Society 1707-1830*, p.252, notes that £450,000 was spent on 885 miles of road by 1821, although J Mitchell, *Reminiscences of My Life in the Highlands, vol.1*, (private publication, 2 volumes, 1883 and 1884, reprinted Newton Abbot, 1971), p.31, states that £540,000 was spent on roads by 1821, of which £267,000 was provided by the government: Mitchell quotes 875 miles of road constructed at an average cost of £400 per mile.

²⁷ J Lindsay, *The Canals of Scotland* (Newton Abbot, 1968), pp.142-43 and p.160.

²⁸ I McCrorie, *Royal Road to the Isles, 150 years of MacBrayne Shipping*, (Gourock, 2001), p.5; T Cook, *Scottish Tourist Practical Directory* (London, 1866), p.1 and p.4.

the Canal to secure its northern territory, but the Canal Commissioners decided to seek a lease from public advertisement and the bid was not pursued further.²⁹

These attempts by the government to stimulate the northern economy were overtaken by the arrival of potato blight in 1846, which devastated the staple diet of the highland population for several years.³⁰ This disaster was further compounded by a fall in herring prices of 17 percent in 1848, leaving prices 40 percent below those obtained before the loss of trade in salted fish to the West Indies following the abolition of the slave trade in 1807.³¹ Thus, many highlanders had within half a century lost their land, their homes, their livelihood and their means of sustenance. By December 1846, 67 percent of highland districts experienced an entire failure of the potato crop with 30 percent of families in Inverness-shire identified as destitute.³² The 1846 potato blight placed almost 200,000 highland people at risk and, incited by public and press concern, the government organised direct assistance from late 1846 until the summer of 1847, which supplemented the aid given by many landowners to their residents.³³ From February 1847, the administration of relief was passed to the Central Board of Management for Highland Relief, which also

²⁹ Minutes of the Inverness and Aberdeen Junction Railway, NAS/BR/IAJ/1/2, 22 February 1860, p.99 and 29 February 1860, p.102; see also chapter 6, 'Consolidation of the Inverness web'.

³⁰ TM Devine. *The Potato Famine in the Scottish Highlands, 1840-1860* (Report to the Economic and Social Science Research Council, March 1985), p.7, notes that potato blight continued to have serious effects until 1855; TM Devine, *The Scottish Nation 1700-2007*, pp.413-14; TM Devine, *Clanship to Crofters' War: the social transformation of the Scottish Highlands*, p.56 and p.200: 'the first optimistic press reports of recovery' were seen in early 1856.

³¹ J Thomson, *The Value and Importance of the Scottish Fisheries* (1849), pp.135-39, in RH Campbell and JBA Dow, *Source Book of Scottish Economic History*, p.59. The Act abolishing the slave trade passed through Parliament in 1807 and became law in May 1808.

³² TM Devine and WJ Orr, *The Great Highland Famine* (Edinburgh, 1988), p.35 and p.41.

³³ TM Devine, *Clanship to Crofters' War: the social transformation of the Scottish Highlands*, pp.150-51 and p.160; TM Devine, *The Scottish Nation 1700-2007*, pp. 414-15, contrasts the 200,000 highlanders at risk as a result of potato blight with the 3 million people affected in Ireland; TM Devine, *The Potato Famine in the Scottish Highlands*, p.7, assesses that 120,000 people were directly affected by the potato famine; J Prebble, *The Highland Clearances* (London, 1963, reprinted 1969), p.218, quoting an advertisement in *The Times* in 1845 seeking subscriptions for Ross-shire cottagers who had been evicted.

encouraged local committees to recommend works to open up communication or develop district resources such as harbours and roads.³⁴

Emigration from the north continued both to the south and overseas. In the summer of 1847, the Duke of Sutherland supported 380 of his tenants to emigrate to the United States.³⁵ After a violent incident at Greenyards in Ross-shire in 1855 produced severe press criticism of landowners, forced evictions gave way to '... mainly invisible pressure on the people to ease them out of the region'.³⁶ A new poor law was enacted in 1845, which removed the control of poor relief from local heritors³⁷ to parish boards with power to raise funds on rateable value, half from owners of property and half from tenants, but for some landowners this change came too late to avoid bankruptcy.³⁸ A major change in the structure of northern society was taking place:

Many of the old, impoverished families were swept away and the places taken by men who had made fortunes in trade, the law, banking, industry and the professions.³⁹

³⁴ JAR Smith, 'From Isolation to Integration: the development of roads in the northern Highlands of Scotland, 1800-1850', p.270; TM Devine, *Clanship to Crofters' War: the social transformation of the Scottish Highlands*, p.160, notes that the function of the government became 'a great enabling agency which left the direct administration of relief to others'; TH Devine, *The Scottish Nation 1700-2007*, p.415: the Free Church and the relief committees in Edinburgh and Glasgow came together in January 1847 to form Central Board for Highland Relief, which used 'the superb intelligence of local ministers' to direct aid where it was most needed.

³⁵ *Inverness Courier*, 18th February 1848, quoted in J Hunter, *The Making of the Crofting Community*, p.77; TC Smout, *A Century of the Scottish People, 1830-1950*, p.63.

³⁶ E Richards, *A History of the Highland Clearances*, vol.1, pp.474-75.

³⁷ See Glossary entry on 'heritors'.

³⁸ 8&9 Vic. cap.83, 1845, An Act for the Amendment and better Administration of the Laws relating to the Relief of the Poor in Scotland; TM Devine, *The Potato Famine in the Scottish Highlands, 1840-1860*, p.8, estimated that 6 percent of estates were sold or subjected to trustee administration as a result of the famine and that the majority of estate owners survived because the bulk of their rentals came from sheep farming.

³⁹ TM Devine and WJ Orr, *The Great Highland Famine*, pp.93-94; TM Devine, *The Scottish Nation 1700-2007*, p.417, notes that 'Over three-quarters of all estates in the famine zone had been acquired by merchants, bankers, lawyers, financiers and industrialists by the 1840s'; TM Devine, *Clanship to Crofters' War: the social transformation of the Scottish Highlands*, pp.58-59 and p.66.

Joseph Mitchell, Superintendent of Highland Roads and Bridges between 1824 and 1863 and a promoter and engineer of the early Inverness railways, observed this fundamental shift in land ownership:

Scotland, in fact, does not belong to the people of Scotland. They are permitted to reside in it ... One half of their country is owned by seventy proprietors, while nine-tenths belongs to seventeen hundred persons.⁴⁰

JAR Smith shows that subsidy from government, landowners or both was necessary to improve highland prosperity, but '... once the roads were built, the communities they linked still suffered from the same inherent problems as before'.⁴¹ The abandonment by the state of its free-market philosophy, initially by investment in canals and roads providing employment, and then by providing relief albeit temporarily in the face of a publicised national disaster, prompted a further inquiry into the condition of the highlands in 1851, which found a population 'apparently settling down to live off charitable funds'.⁴² The conclusion was drawn that previous state assistance had not produced lasting improvement and therefore further large scale emigration should be encouraged because 'the time had come for Highland expenditure to be met from Highland resources'.⁴³ The only source of long-term investment for economic progress in these circumstances, therefore, was from the new landowners.⁴⁴ Railways were seen as one method to stimulate economic

⁴⁰ J Mitchell, *Reminiscences of My Life in the Highlands, vol.II*, p.116; TM Devine, *The Scottish Nation 1700-2007*, p.449: the first government survey of Scottish landowning conducted in 1872-73 indicated that 659 landowners owned 80 percent of Scotland and 118 individuals held 50 percent of the land.

⁴¹ JAR Smith: 'From Isolation to Integration: the development of roads in the northern Highlands of Scotland, 1800-1850', pp.362.

⁴² Report of the Board of Supervision by Sir John MacNeill on the Western Highlands and Islands, PP 1851, vol.26, quoted in TC Smout, *A Century of the Scottish People*, p.66.

⁴³ J Hunter, *The Making of the Crofting Community*, p.75; TM Devine, *The Scottish Nation 1700-2007*, p.420.

⁴⁴ TC Smout, 'Scottish landowners and economic growth, 1650-1850', *Scottish Journal of Political Economy*, 11 (1964), pp.229-30; W Vamplew, 'Railway Investment in the Scottish

development and it was these landowners that were to play a key strategic role in their promotion. Emigration continued; at least 16,000 people left the north-west highlands and islands between 1847 and 1857.⁴⁶ While the north-east of the country had small towns and established trading patterns, the west had nothing comparable. The economy of the north of Scotland remained weak and fragile: the population of the Highlands and Islands 'sank to the country's lowest material levels'.⁴⁶ It was against this unpromising backdrop of economic destitution that proposals were formulated in 1844-45 for the expansion of the railway system into the north of Scotland.

The Scottish railway system, 1844

In the early 1820s, the type and pace of railway development in England and Scotland was similar.⁴⁷ England had a widespread system of canals serving industrial areas with waggonways linking coal sources to these waterways.⁴⁸ Scotland had fewer canals than England, but its short railways were designed principally to link coalfields to a water-based system of transport; the first waggonway was opened in 1722.⁴⁹ By 1825, there were 360 lines in England and 30 in Scotland, but their average length was only 3 miles.⁵⁰

highlands', *Transport History*, 3, No.2, (July 1970), p.147; TM Devine, *The Scottish Nation 1700-2007*, pp.451-52.

⁴⁵ J Hunter, *The Making of the Crofting Community*, p.77: this emigration was to Canada, the United States of America and Australia; TM Devine, *Clanship to Crofters' War: the social transformation of the Scottish Highlands*, p.162; TM Devine, *The Scottish Nation 1700-2007*, p.419.

⁴⁶ JAR Smith: 'From Isolation to Integration: the development of roads in the northern Highlands of Scotland, 1800-1850', pp.357-58; CA Whatley, *Scottish Society 1707-1830*, p.254.

⁴⁷ CJA Robertson, *The Origins of the Scottish Railway System 1722-1844*, pp.44-45.

⁴⁸ PJG Ransom, *The Archaeology of Railways* (Tadworth, 1981), p.32, noting that 150 miles of waggonway were operational by 1800; MJT Lewis, *Early Wooden Railways* (London, 1970), p.119.

⁴⁹ K Brown, 'The Tranent-Cockenzie Wagon-way', *Railway Magazine*, 82, (1938), p.1, CJA Robertson, *The Origins of the Scottish Railway System 1722-1844*, p.6.

⁵⁰ RD Baxter, *Stone Blocks and Iron Rails* (Newton Abbot, 1866), table 2.1, p.48.

Scotland did not require an extensive railway system because industrialisation was concentrated in the counties of the central belt, close to the sources of coal and iron-ore.⁵¹ These early railways in Scotland were promoted by coal and iron entrepreneurs and so there was little incentive to develop longer routes. Available local capital was directed into primary enterprises and the expansion of the iron industry.⁵² As a result, these early lines were designed for the transport of raw materials and finished goods. The three major canals in Scotland, the Monkland, the Forth and Clyde and the Union, were designed to carry coal to Glasgow and Edinburgh, but, in contrast to many canals in England, substantial passenger traffic developed on them.⁵³ Early railways were designed to be complementary to these canals and not to be in direct opposition to them.⁵⁴ Railways and canals in Scotland continued to form an interlinked system of transport well into the second half of the nineteenth century. From 1825, railways in England began to use steam technology on its new inter-urban routes, but progress in Scotland remained slow. Of the eight Scottish lines authorised in 1824-30, all were short, designed primarily for goods traffic using horse haulage and built to a narrow gauge.⁵⁵

The pace of railway development in England accelerated in the mid 1830s with 75 lines authorised in 1835-37, but only 15 railway acts were approved for Scottish schemes in the same period.⁵⁶ Of these, only the Glasgow, Paisley and Greenock

⁵¹ RC Michie, *Money, Mania and Markets: Investment, Company Formation and the Stock Exchange in Nineteenth Century Scotland* (Edinburgh, 1981), p.55; TM Devine, *The Scottish Nation 1700-2007*, p.259.

⁵² RC Michie, 'Investment and railways in nineteenth-century Scotland', *Scottish Industrial History*, 5, No.1 (1982), p.48; W Vamplew, 'Sources of Scottish railway share capital before 1860', *Scottish Journal of Political Economy*, 17 (1970), p.436; W Vamplew, 'Railways and the transformation of the Scottish Economy', *Economic History Review*, 2nd series, 24 (1971), p.54.

⁵³ J Lindsay, *The Canals of Scotland*, p.81 and p.92.

⁵⁴ JWF Gardner, *Railway Enterprise: the origin and subsequent development of the Railways of Scotland* (Glasgow, 1934), p.10.

⁵⁵ CJA Robertson, *The Origins of the Scottish Railway System 1722-1844*, p.51 and table 12, pp.52-54: gauges for these eight lines are shown in table 4 of this chapter.

⁵⁶ CJA Robertson, *The Origins of the Scottish Railway System 1722-1844*, p.98 and table 25, pp.101-102; Prospectus of the Glasgow, Paisley, Kilmarnock and Ayr Railway, 1836, NAS/BR/PRO(S)/1/8.

Railway (22 miles) and the Glasgow, Paisley, Kilmarnock and Ayr Railway (50 miles) were of significant length. The 1835-36 railway mania left Scotland relatively untouched; by 1838, England had 497 miles of railway; Scotland had just 49.⁵⁷ Scottish railways comprised a series of short lines in the central belt and three local lines centred on the port of Dundee. There was no long distance Scottish equivalent to the Liverpool and Manchester Railway for twelve years until the Edinburgh and Glasgow Railway opened in 1842, by which time the English system was expanding rapidly and challenging the dominance of canals. The first attempt to break the monopoly of water transport in Scotland came with the opening of the Garnkirk and Glasgow Railway in 1831. Although principally intended to transport coal to Glasgow, it was the first Scottish line to plan for passenger traffic but, unlike the Liverpool and Manchester Railway in England, it did not link two major centres of population.⁵⁸ Nevertheless, competitive financial returns to investors were available in Scotland.⁵⁹ When the Liverpool and Manchester was paying a steady 9 percent dividend during the 1830s, some of the Scottish mineral lines were paying at least as much; the Ballochney line, only five miles long, paid 14 percent in 1838.⁶⁰

These early short lines in Scotland, linked to canals, realised the needs of their owners. Charles Maclaren, editor of *The Scotsman*, published plans in 1824 for a network of Scottish railway routes, but his visionary views did not attract practical support.⁶¹ Robert Stephenson proposed a line to Aberdeen via Strathmore in 1827; a scheme to connect England and Scotland via an inland route between Newcastle and Edinburgh was put forward in 1832 and a national scheme of railways for

⁵⁷ RC Michie, 'Investment and railways in nineteenth-century Scotland', p.50; W Vamplew, 'Sources of Scottish railway share capital before 1860', p.436; MC Reed, *Investment in Railways in Britain, 1820-1844* (London, 1975), p.222.

⁵⁸ CJA Robertson, *The Origins of the Scottish Railway System 1722-1844*, p.60. J Simmons, *The Railway in England and Wales. 1830-1914*, vol.1 (Leicester, 1978), p.19; CA Whatley, *The Industrial Revolution in Scotland*, p.34.

⁵⁹ W Vamplew, 'Sources of Scottish railway share capital before 1860', p.426.

⁶⁰ CJA Robertson, *The Origins of the Scottish Railway System 1722-1844*, p.77: Robertson also notes that the Monkland and Kirkintilloch Railway paid over 10 percent in this period (p.308).

⁶¹ CJA Robertson, *The Origins of the Scottish Railway System 1722-1844*, pp.46-47.

Scotland was projected again in 1841.⁶² All of these unsuccessful proposals predated the connection of Edinburgh and Glasgow, the two principal centres of population, in 1842. The *Railway Times* observed:

... in poor Scotland, they are children as to railways ... Let the line from Edinburgh to Glasgow be finished and an impetus will be given to all others.⁶³

Although the government commissioned a survey of potential railway routes in Ireland in 1841 in response to concerns about economic conditions in that province, a proposal to the Treasury for a similar survey of Scottish routes presented by the magistrates and Town Council of Inverness, also in 1841 and prompted by Joseph Mitchell, the superintendent of Highland Roads and Bridges, failed to gain state approval.⁶⁴ The government provided 12 percent of the capital in Irish railways in 1831-52, but no state assistance for railways in Scotland was forthcoming until late in the century.⁶⁵ The state had, however, invested £1.5 million in highland roads and the Caledonian Canal and this assistance to Scotland had attracted strong criticism:

⁶² KG Jones, *The Railways of Aberdeen, 150 years of history* (Great North of Scotland Railway Association, 2000), p.5; WM Acworth, *The Railways of Scotland* (London, 1890), p.29; Correspondence on a National Railway of Scotland, 1841, NAS/BR/HRP(S)/1/1/20.

⁶³ *Railway Times*, 15 August 1840, p.657.

⁶⁴ J Mitchell, *Reminiscences of My Life in the Highlands*, vol.II, p.150; *Railway Times*, 10 April 1841, p.415.

⁶⁵ W Vamplew, 'Railway Investment in the Scottish Highlands', *Transport History*, 3, No.2, (July 1970), p.142; J McGregor, *The West Highland Railway: Plans, Politics and People* (Edinburgh, 2005), pp.39-41; CJA Robertson, 'Railway Mania in the Highlands: The Marquis of Breadalbane and the Scottish Grand Junction Railway', in R Mason and N Macdougall (eds.), *People and Power in Scotland* (Edinburgh, 1992), p.211, noting an unsuccessful parliamentary attempt in March 1852 to secure state support towards an Oban-Glasgow route estimated to cost £500,000 compared to the £973,000 provided from public funds for Irish railways.

These hill people have been too long accustomed to draw on the public treasury for the expenses of all their local improvements – it is now high time they should cease praying to Hercules and put their own shoulder to the wheel.⁶⁶

With no state support in prospect, Joseph Mitchell wrote in 1841 to James Grant, later Provost of Elgin, to suggest a line from the port of Lossiemouth to Elgin. The route was surveyed by Mitchell and a contractor identified, but 'the public did not seem then to appreciate the advantages of the proposed scheme'.⁶⁷ Nevertheless, both Mitchell and Grant were later to play important roles in the development of the railway system of northern Scotland, and the Lossiemouth route provided the first railway north of the Glasgow-Aberdeen axis when opened in 1852.

No new Scottish schemes were proposed in 1838-43, but national economic conditions curtailed railway development in this period. Economic recovery in 1842 produced some English railway dividends of ten percent or more, whilst Scottish companies paid between four and five percent, still attractive compared to rates paid on government stock.⁶⁸ By 1843, England had 1,852 miles of railway; Scotland had just 227 (table 4).⁶⁹ The Scottish system remained small and disconnected. Strategic gaps in the system persisted; for example, only in 1844 was the one mile link made between the Edinburgh-Glasgow main line and the Slamannan railway, which allowed coal to reach Edinburgh without the need for trans-shipment to canal.

⁶⁶ *Railway Times*, 10 April 1841.

⁶⁷ J Mitchell, *Reminiscences of My Life in the Highlands*, vol. II, pp.150-51.

⁶⁸ CJA Robertson, *The Origins of the Scottish Railway System 1722-1844*, p.338.

⁶⁹ J Thomas, *A Regional History of the Railways of Great Britain*, vol.6 *Scotland (the Lowlands and Borders)*, (Newton Abbot, 1984), pp.24-25.

Table 4: Scottish railways authorised 1824-43

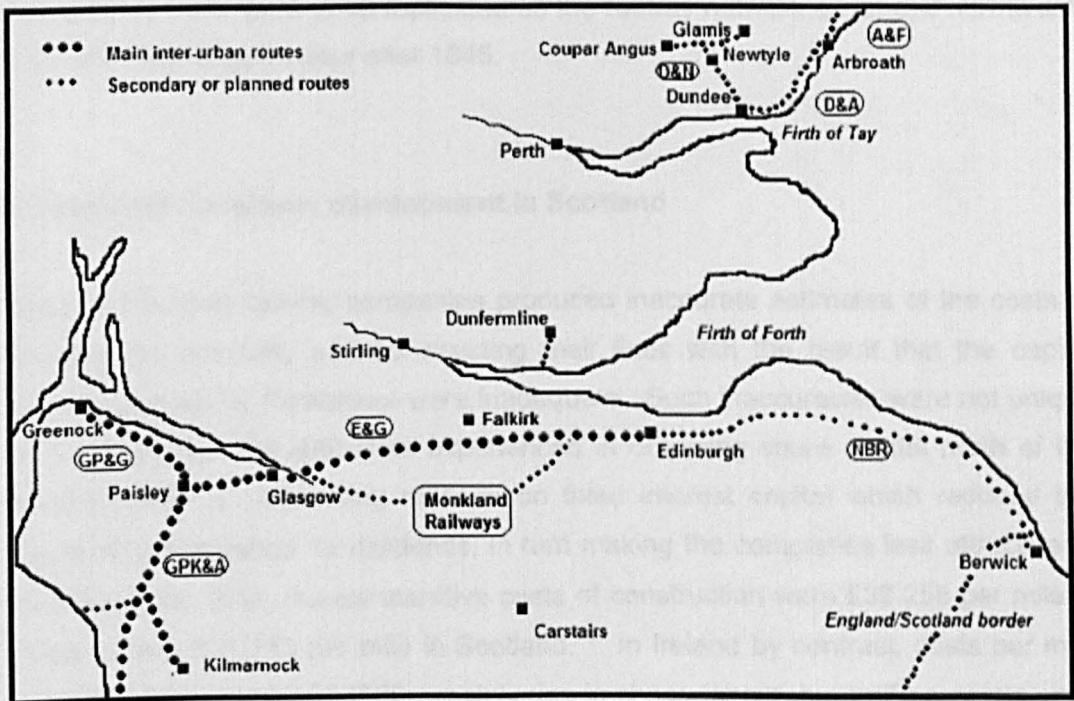
	Date of first Act	Gauge	Mileage	Cost per mile (£)
Monkland and Kirkintilloch	17.05.1824	4'6"	10.78	4058 (actual)
Ballochney	19.05.1826	4'6"	5.00	3614 (estimate)
Edinburgh and Dalkeith	25.05.1826	4'6"	13.06	15294-17647 (circa)
Dundee and Newtyle	26.05.1826	4'6½"	10.50	9525 (circa)
Glasgow, Garnkirk and Coatbridge	26.05.1826	4'6"	8.18	12044 (actual)
Ardrossan	14.06.1827	4'6"	22.50	4182 (estimate)
Wishaw and Coltness	21.06.1829	4'6"	11.03	5893 (estimate)
Polloc and Govan	29.05.1830		1.19	9412 (estimate)
Slamannan	03.07.1835	4'6"	12.49	10000 (circa)
Paisley and Renfrew	21.07.1835	4'6"	3.00	10000 (circa)
Newtyle and Coupar Angus	21.07.1835	4'6½"	4.82	2373 (estimate)
Newtyle and Glamis	30.07.1835	4'6½"	6.61	2222 (estimate)
Dundee and Arbroath	19.05.1836	5'6"	16.75	9140 (actual)
Arbroath and Forfar	19.05.1836	5'6"	15.25	8964 (actual)
Edinburgh Leith and Granton	13.08.1836	4'8½"	5.00	62000 (actual)
Glasgow, Paisley and Greenock	15.07.1837	4'8½"	22.56	41068 (actual: note 1)
Glasgow, Paisley Kilmarnock and Ayr	15.07.1837	4'8½"	55.00	21908 (actual: note 1)
Edinburgh and Glasgow	04.07.1838	4'8½"	44.75	22370 (actual: note 2)
Wilsontown, Morningside and Coltness	21.06.1841		8.65	9408 (actual)
Drumpellar	04.07.1843		0.86 (3)	13622 (estimate)
Total mileage			227.98	
Source: CJA Robertson, <i>The Origins of the Scottish Railway System 1722-1844</i> , table 12, pp.52-54 and table 25, pp.101-102.				
(1): The construction costs for the joint Glasgow-Paisley line are divided equally between the Greenock and Ayr lines.				
(2): The Edinburgh and Glasgow Railway received powers on 4 July 1844 to extend from its Haymarket terminus eastwards to North Bridge, Edinburgh to make connection with the North British Railway, also authorised on the same day to construct a line from Edinburgh to Berwick which linked south to the Newcastle and Berwick Railway.				
(3): The Drumpellar Railway was authorised to build 1.82 miles of line, but only 0.86 miles was constructed.				

By the eve of the 1845 railway mania, the English system was well-developed, likened by Simmons to a St Andrew's cross intersecting at Birmingham, whereas the Scottish system remained embryonic.⁷⁰ Glasgow was linked to Edinburgh, Ayr, Kilmarnock and Greenock by standard gauge lines. Dundee was linked to Arbroath and Forfar by two lines built to a wider gauge, but the three lines of the Newtyle system, serving the hinterland of Dundee, were built to a narrower gauge. Two of these, the short Coupar Angus and Glamis⁷¹ branches, were rebuilt during the next decade to form part of the new national route to the north.

⁷⁰ J Simmons, *The Railway in England and Wales, 1830-1914*, p.29.

⁷¹ The town of Glamis was more usually designated 'Glamis' in the nineteenth century.

Map 2: Inter-urban railways in Scotland, 1844



Key:

- A&F: Arbroath and Forfar Railway
- D&A: Dundee and Arbroath Railway
- D&N: Dundee and Newtyle, Newtyle-Glamis, and Newtyle-Coupar Angus Railways
- E&G: Edinburgh and Glasgow Railway
- GP&G: Glasgow, Paisley and Greenock Railway
- GPK&A: Glasgow, Paisley, Kilmarnock and Ayr Railway
- NBR: North British Railway (authorised 1844 and opened 1846)

Scotland was a poorer country than England, but the reasons for requiring a railway network were similar, namely national markets, regional economic specialisation and the need for a faster, cheaper and comprehensive system of transport to support economic growth.⁷² The contrast between the railway systems of Scotland and England in 1844 was, however, stark. It was not just that Scottish lines remained unconnected with England; they were still not connected to each other. Three gauges were in use and cross-border routes to England awaited the authorisations of the east-coast route via the North British Railway in 1844 and the west-coast route

⁷² D Turnock, *An Historical Geography of Railways in Great Britain and Ireland* (Aldershot, 1998), p.27; CJA Robertson, *The Origins of the Scottish Railway System 1722-1844*, p.315.

of the Caledonian Railway in 1845.⁷³ Many of the factors that contributed to this disparity by 1844 were to be replicated as the railway network advanced northwards from the Forth-Clyde valley after 1845.

Constraints on railway development in Scotland

Most of the early railway companies produced inaccurate estimates of the costs of forming the company and constructing their lines with the result that the capital powers granted by Parliament were inadequate. Such inaccuracies were not unique to Scotland, but the difficulties experienced in obtaining share capital north of the border forced an increasing reliance on fixed interest capital which reduced the availability of revenue for dividends, in turn making the companies less attractive to investors. By 1851, the comparative costs of construction were £38,258 per mile in England and £32,113 per mile in Scotland.⁷⁴ In Ireland by contrast, costs per mile were £16,000 by the mid-1850s, mainly due to cheap labour, but traffic receipts were only two-fifths of the English average.⁷⁵ Cost inaccuracies were also prevalent in Ireland: the directors of the Great South and Western Railway acknowledged 'as mercantile men ...we must admit in a certain degree to ignorance of an infant institution of this kind'.⁷⁶ Nevertheless, the Irish experience suggested the feasibility of constructing routes into sparsely-populated districts, akin to those of northern Scotland.

Some faults in railway estimates were attributable to inaccurate or unrealistic mathematics. The 1836 parliamentary estimate of £99,844 for the Dundee and

⁷³ 8&9 Vic. cap.167, 31 July 1845, An Act for making a Railway from Carlisle to Edinburgh and Glasgow and the North of Scotland to be called 'The Caledonian Railway': the title of this Act specifically identified the objective of connecting the trunk route with the north of Scotland.

⁷⁴ CJA Robertson, 'The Cheap Railway Movement in Scotland: the St Andrews Railway Company', *Transport History*, 7, No.1 (March 1974), p.2.

⁷⁵ J Lee, 'The construction costs of Irish railways', *Business History*, IX, No.2 (July 1967), p.95 and p.103 : Lee estimates that construction costs in Ireland were £10,000 per mile lower than in England due to cheaper labour.

⁷⁶ J Lee, 'The construction costs of Irish railways', p.108.

Arbroath Railway omitted £36,281 required for parliamentary, legal, plant and station costs, which, with other increases, raised the cost to £143,533 by 1841, 44 percent above the estimate.⁷⁷ Escalating costs of railways were often the result of unexpected engineering difficulties and a substantial scale of construction. By 1847, all the established inter-urban Scottish lines had incurred capital costs well above estimate (tables 5 and 6).

Table 5: Capital costs per mile of Scottish railways 1842-47

Railway	Length (miles)	Date of account	Estimate per mile (£)	Actual per mile (£)	% increase over estimate
Arbroath and Forfar	15.25	04.1842	4115	8964	117.8
Dundee and Arbroath	16.75	01.1842	5241	9140	74.4
Edinburgh, Leith and Granton	5.00	07.1847	20000	61024	205.1
Glasgow, Paisley and Greenock	22.56	01.1844	17022	41068	141.3
Glasgow, Paisley, Kilmarnock and Ayr	55.00	07.1843	11562	21908	89.5
Edinburgh and Glasgow	47.00	01.1845	18994	36548	92.4
Source: CJA Robertson, <i>The Origins of the Scottish Railway System 1722-1844</i> , table 33, p.165.					
(1): CJA Robertson tabulates the increase over estimate for the Edinburgh and Glasgow Railway as 89.2%.					

Table 6: Construction and land costs of the three main Scottish inter-urban lines

Railway	Date of account	% of capital: construction and engineering	% of capital: land	Overall cost
Glasgow, Paisley and Greenock	01.1844	60.0	18.1 (note 1)	78.1%
Glasgow, Paisley, Kilmarnock and Ayr	07.1843	71.2	12.4 (note 1)	83.6%
Edinburgh and Glasgow	01.1845	71.6	13.0	84.6%
Source: CJA Robertson, <i>The Origins of the Scottish Railway System 1722-1844</i> , tables 41 and 42, p.187 and p.189.				
(1): The land costs for the Greenock and Ayr lines exclude the cost of the jointly operated Glasgow-Paisley section.				

By 1849, the twelve largest railway companies in England operating 2,672 route miles had cost £85.8 million, of which 69 percent had been spent on construction and engineering and 15 percent on land, totalling 84 percent of capital.⁷⁸ The overall costs for the three inter-urban lines in Scotland approved in 1837-38 were not significantly different from these English costs, although there was some variation in the cost of land.

⁷⁷ CJA Robertson, *The Origins of the Scottish Railway System 1722-1844*, table 44, p.205: in table 45, p.206, Robertson also shows expenditure by 1846 on the neighbouring Arbroath and Forfar Railway to be 95.1% above the 1836 parliamentary estimate.

⁷⁸ J Simmons, *The Railway in England and Wales, 1830-1914*, pp.44-45 giving data drawn from PP (House of Lords), 1849, XVI and 1850, XV.

- the acquisition of land

The high cost of land attracted the attention of press and public as the early railways were under construction. The state endowed incorporated railway companies with powers to acquire land by compulsory purchase under the Land Clauses Consolidation Act of 1845 if the landowner refused to negotiate, but that same Act gave balancing power to landlords by requiring arbitration or a jury to decide the level of compensation in cases of dispute.⁷⁹ The legislation aroused strong criticism:

Had the wolves sat in judgement upon the lambs, they could not have framed a document more calculated to foster extortion and injure the railways, than this notable Act does.⁸⁰

The process of land acquisition could be very slow and affect severely the progress of constructing a railway. To overcome resistance, companies often negotiated private agreements with landowners, frequently at considerable expense. The *Railway Gazette* claimed in 1848 that of the £4 million spent on land, £3 million had been obtained by '... naked extortion'.⁸¹ In England, the London and Birmingham Railway paid £537,596 for land valued at £250,000.⁸² Scotland was not immune from this phenomenon: land costs were nearly twice the estimate for the Glasgow,

⁷⁹ 8 Vic. cap.18, 1845, The Land Clauses Consolidation Act and 8 Vic. cap.19, 1845, The Land Clauses Consolidation (Scotland) Act; RW Kostal, *Law and English Railway Capitalism 1825-1875* (Oxford, 1994), p.152.

⁸⁰ *Herapath's Railway Journal*, 25 March, 1848, p.350.

⁸¹ *Railway Gazette*, 5 May 1849, quoted in R Kostal, *Law and English Railway Capitalism 1825-1875*, p.172; JR Kellett, *The Impact of Railways on Victorian Cities* (London, 1969), p.392, argues that the impact of railway development caused a marked rise in land prices and the most expensive land purchases were not over until the late 1860s; G Channon, *Railways in Britain and the United States, 1830-1940* (Aldershot, 2001), pp.196-97, suggests that, while there is validity in the view that some landowners were not in favour of railways and that consequent land and promotional costs of railways were high, there were also many supportive landowners who were active in railway investment and management and, furthermore, agricultural and urban rents and land values were buoyant in the 1850s and 1860s, which would have driven up the cost of land for railways (p.201).

⁸² H Pollins, 'A note on Railway constructional costs', *Economica*, new series, 19, No.76 (1952), p.404.

Paisley and Greenock Railway.⁸³ Although the Greenock line faced strong opposition, its land costs of over £7,234 per mile were significantly greater than for the other two 1837-38 inter-urban lines: the Edinburgh and Glasgow Railway cost £4,761 per mile while the Glasgow, Paisley, Kilmarnock and Ayr line, running through rural areas for much of its route, cost £2,511 per mile.⁸⁴ Overall, by 1854, Scottish inter-urban land costs varied between 12.1 percent and 19.8 percent of capital expenditure.⁸⁵

Shareholder inquiries into the financial problems of the Caledonian and Scottish Central Railways identified the scale of land costs. By the end of 1849, the Caledonian Railway had paid £389,979 for land that had been estimated to cost £173,000.⁸⁶ The Scottish Central inquiry in 1850 identified claims of £236,232 for land estimated to cost £80,000.⁸⁷ However, not all large land claims against railway companies were successful. A claim brought by the Glasgow Lunatic Asylum against the Edinburgh and Glasgow Railway for £44,000 in 1839 (representing over £2 million on a 2007 price base⁸⁸) resulted in an award of just £873, which prompted press speculation that the claim had been made by the inmates and not the directors.⁸⁹ In England, some juries considering land cases favoured railways

⁸³ TR Gourvish, *Mark Huish and the London and North Western Railway: a study of management* (Leicester, 1972), p.93.

⁸⁴ CJA Robertson, *The Origins of the Scottish Railway System 1722-1844*, table 41, p.187.

⁸⁵ CJA Robertson, *The Origins of the Scottish Railway System 1722-1844*, tables 36-39, pp.170-73: land costs as a percentage of capital expenditure by 1845 for inter-urban lines comprised 12.1% on the Arbroath and Forfar Railway, 13.0% on the Edinburgh and Glasgow, 13.2% on the Glasgow, Paisley, Kilmarnock and Ayr Railway, and 19.8% on the Glasgow, Paisley and Greenock Railway.

⁸⁶ Report of the Committee of Investigation to the Shareholders of the Caledonian Railway Company, 1849, NAS/BR/CAL/1/98, and Accounts of the Caledonian Railway Company, 1849, NAS/BR/RAC(S)/1/3.

⁸⁷ Report of Investigation Committee of the Shareholders of the Scottish Central Railway, 19 April 1850, engrossed in minutes of the Scottish Central Railway, NAS/BR/SCC/1/2, p.2 of report; Accounts of the Scottish Central Railway, NAS/BR/RAC(S)/1/35, published the cost of land by July 1851 as £166,211; Appendix, table 19(a).

⁸⁸ See Glossary entry on 'price base'.

⁸⁹ *Chambers Edinburgh Journal*, 28 December 1839, quoted in CJA Robertson, *The Origins of the Scottish Railway System 1722-1844*, p.185.

because the lines raised land values and thus increased the parish tax base.⁹⁰ Landowners tended to oppose early railways in England whereas many in Scotland favoured them; for example, Lord Panmure gave much of the land for the Dundee and Arbroath Railway in 1835-36 at a nominal feu duty and remitted even that during his lifetime.⁹¹ Land costs had to be met from the capital budgets of railway companies and inaccurate estimates were one of the important causes of the capital constraints on railway development by 1844.

- constraints of capital

The increasing scale of railways in Scotland exacerbated the problems of raising capital. With inaccurate estimates for early Scottish lines, it was inevitable that these relatively unknown railway companies would find increasing difficulty in securing new sources of finance in competition with other established companies as mounting costs exceeded their authorised capital. The growth of the Scottish system was slow but steady (table 7).

Table 7: Scottish railway mileage and capital, 1840-1859

Scotland	Total paid up share capital (£000s)	Route mileage
1840	1960	137
1844	3839	282
1849	19324	872
1854	22560	1062
1859	28358	1418
Source: W Vamplew, 'Sources of Scottish railway share capital before 1860', p.425.		

In 1836, when the Arbroath and Forfar Railway of only fifteen miles was able to raise nine-tenths of its finance locally, major English companies such as the London and

⁹⁰ RW Kostal, *Law and English Railway Capitalism 1825-1875*, p.156; G Channon, *Railways in Britain and the United States, 1830-1940*, p.33.

⁹¹ CJA Robertson, *The Origins of the Scottish Railway System 1722-1844*, p.124: *Railway Times*, 6 April 1844, p.417, reporting landowner support for the proposed Scottish Central Railway: 'A few years ago, landowners ... were, generally speaking, in declared hostility to railways; now we find one proposed under the auspices of nearly all the great landowners of the Counties of Stirling and Perth'; see Glossary entry on 'feu duty'.

Birmingham, the Stockton and Darlington and the Eastern Counties were obtaining more than half their capital from Lancashire and Cheshire.⁹² None of the Scottish lines authorised in 1824-36 had capital in excess of £140,000, whereas the capital for the three major inter-urban lines approved in 1837-38 was considerably larger.

Table 8: Initial authorised capital of Scottish railways 1824-38

	Length (miles)	Date of Act	Authorised Capital (£)
Early Scottish Railways			
Monkland and Kirkintilloch Railway	10.78	17.05.1834	£42,000 in shares and loans
Dundee and Newtyle Railway	10.50	26.05.1826	£40,000 in shares and loans
Garnkirk and Glasgow Railway	8.18	26.06.1826	£28,497 in shares only
Wishaw and Coltness Railway	11.03	21.06.1829	£80,000 in shares and loans
Newtyle and Coupar Angus Railway	4.82	21.07.1835	£20,200 in shares and loans
Newtyle and Glamis Railway	6.61	30.07.1835	£26,600 in shares and loans
Dundee and Arbroath Railway	16.75	19.05.1836	£140,000 in shares and loans
Arbroath and Forfar Railway	15.25	19.05.1836	£105,000 in shares and loans
Edinburgh, Leith and Granton	5.00	13.08.1836	£140,000 in shares and loans
Main inter-urban Railways			
Glasgow, Paisley and Greenock Railway	22.56	15.07.1837	£533,333 in shares and loans
Glasgow, Paisley, Kilmarnock and Ayr Railway	55.00	15.07.1837	£833,300 in shares and loans
Edinburgh and Glasgow Railway	44.75	04.07.1838	£ 1,200,000 in shares and loans
Source: CJA Robertson, <i>The Origins of the Scottish Railway System 1722-1844</i> , table 12, pp.52-54 and table 25, pp.101-102.			

Table 8 shows the route length and capital of nine early Scottish railways, all of which played a part in the development of the railway network to the north, contrasted with the three inter-urban lines of 1837-38. The size of capital required for these inter-urban lines, however, was dwarfed by the £2.1 million share capital authorised for the Caledonian Railway in 1845.⁹³ Capital requirements for main routes had swiftly moved far beyond local sourcing. Nevertheless, economic conditions and local circumstances were to retain local financing as a fundamental component of railway capital for later development in northern Scotland, illustrated particularly in chapters 6 and 9.

⁹² SGE Lythe, 'The early days of the Arbroath and Forfar Railway', *Railway Magazine*, 99 (1953), pp.56-57; N Ferguson, *The Arbroath and Forfar Railway* (Usk, 2000), p.18; CJA Robertson, *The Origins of the Scottish Railway System 1722-1844*, p.153; TR Gourvish and MC Reed, 'The financing of Scottish railways before 1860 - a comment', p.214.

⁹³ 8&9 Vic. cap.162, 31 July 1845, An Act for making a Railway from Carlisle to Edinburgh and Glasgow and the North of Scotland to be called 'The Caledonian Railway': the act authorised capital of £2.1 million in £50 shares and borrowing powers of £700,000.

As shareholder records have not survived, the subscription contracts for these three inter-urban railways provide the only evidence that English capital was attracted north of the border. Subscription contracts can only indicate immediate investment interest rather than longer-term shareholding, not only because railway companies wished to demonstrate a high degree of local support when seeking parliamentary approval, but also because this early scrip was often sold when authorisation was obtained. Some Scottish supporters of substance occasionally used English addresses on the subscription list, giving further difficulty in drawing conclusions on the proportions of capital obtained from the two countries. With this caution acknowledged, Vamplew indicates that the Edinburgh and Glasgow Railway had 280 subscribers from England and 156 from Scotland; the Glasgow, Paisley, Kilmarnock and Ayr Railway had 300 Scottish subscribers and 35 English, but the Glasgow, Paisley and Greenock list showed just one English subscriber against 423 Scottish.⁹⁴ However, Gourvish and Reed demonstrate from company minutes that there was a much closer English (and specifically Liverpool) interest in the Greenock company from its inception than the subscription list would suggest.⁹⁵ The Greenock line obtained two-fifths of its subscriptions from England, principally from Liverpool, whereas the Ayrshire line raised five-sixth of its subscriptions from Scotland.⁹⁶

Lancashire capital, accumulated from an economically successful region, played a large part in railway investment throughout Britain and its placement was often seen as an indicator of potential premiums.⁹⁷ Lancashire capital was subscribed to all three of the 1837-38 inter-urban railways in Scotland,⁹⁸ but, to give added confidence to investors from England, there was an increased use of English engineers to

⁹⁴ W Vamplew, 'Sources of Scottish railway share capital before 1860', p.429.

⁹⁵ TR Gourvish and MC Reed, 'The financing of Scottish railways before 1860 - a comment', *Scottish Journal of Political Economy*, 18 (1971), p.210.

⁹⁶ MC Reed, 'A note on subscriptions to the Glasgow, Paisley and Greenock Railway', *Transport History*, 6, No.3 (November 1973), p.270; CJA Robertson, *The Origins of the Scottish Railway System 1722-1844*, p.156.

⁹⁷ MC Reed, *Investment in Railways in Britain, 1820-1844*, p.266; SA Broadbridge, *Studies in Railway Expansion and the Capital Market in England, 1825-1873* (London, 1970), p.164.

⁹⁸ CJA Robertson, *The Origins of the Scottish Railway System 1722-1844*, table 30, p.156-57, showing that Lancashire supplied 9.8% of subscription capital to the Ayr line, 29.6% to the Greenock line and 42.1% to the Edinburgh-Glasgow line.

oversee Scottish development; for example, George Stephenson was employed on the Ayrshire line and Joseph Locke by the Greenock company in preference to the Scottish engineers Miller and Grainger.⁹⁹ The scale of the new cross border lines required English capital. England provided 77.8 percent of the subscriptions in the Caledonian and 42.2 percent in the North British.¹⁰⁰ Of the £4.3 million offered by subscribers providing £2,000 or more to Scottish lines in 1846, £1.6 million came from England, but, of this, £680,000 was invested in established lines.¹⁰¹ Scottish returns were, however, variable; in 1851, the *Railway Times* reported that of the 800 miles of railway in Scotland, only 300 produced a profit.¹⁰²

It is not surprising that a significant amount of this new capital was directed to established Scottish companies, albeit recently incorporated, because their lines formed part of the cross-border chain of railways that offered the prospect of attractive returns to investors. With the spread of knowledge about railways and investment through specialist weekly journals, blind investment in railways became more informed, thus improving the efficiency of the capital market.¹⁰³ Nevertheless, the difficulties that arose in establishing new routes to the north of Scotland's central valley in the aftermath of the 1845 railway mania were not solely the result of the emergence of a more perfect capital market and the national economic depression of the late 1840s, as the next two chapters illustrate.

⁹⁹ CJA Robertson, *The Origins of the Scottish Railway System 1722-1844*, p.191 and p.194. Stephenson was consulting engineer on the Ayr line to which Miller was engineer, but Locke replaced Grainger as engineer on the Greenock line where costs escalated; Robertson notes that Locke 'already had a reputation for accuracy'.

¹⁰⁰ CJA Robertson, *The Origins of the Scottish Railway System 1722-1844*, p.334.

¹⁰¹ W Vamplew, 'Sources of Scottish railway share capital before 1860', pp.432-33, noting that approximately £680,000 was invested in the Caledonian and North British Railways. Vamplew calculated that, of the £1.6 million English capital offered in 1846 to Scottish railways that were built by 1850, £1.3 million was subscribed by railway company directors.

¹⁰² *Railway Times*, 26 April 1851, p.435: 'Out of 800 miles of railway, there are not 300 which produce any profit on the ordinary shares of the corporations that have constructed and that work them'.

¹⁰³ Examples of special journals include: *Bradshaw's Railway Gazette*, *Railway Times*, *Railway Chronicle*, *Herapath's Railway Journal* and *Bradshaw's Railway Almanack, Director and Shareholder's Guide and Manual*.

The previous chapter indicated the importance of bank lending to early Scottish railways.¹⁰⁴ Banks were able to provide short term liquidity and to ease any sudden contraction in credit availability.¹⁰⁵ Scottish banks lent £437,000 to local railways between 1826 and 1840,¹⁰⁶ but such loans were confined to short- and medium-term debt with limited renewal,¹⁰⁷ which therefore did not resolve any structural instability in the finances of a railway company. Bank lending continued after the 1845 speculation: in 1846, the Caledonian Railway held £151,436 in bank loans and, by December 1849, that debt had risen to £168,495.¹⁰⁸ Such lending was virtually risk-free to the banks because railway directors were usually held personally responsible for the debt.¹⁰⁹ This acceptance of personal responsibility for bank credit was to become a cornerstone of the financial strategy adopted in 1854-74 by directors of the Inverness railway companies, many of whom were landowners of substance.

- constraints of revenue

Once capital had been raised by shares and loans, the servicing of the capital account required a secure stream of revenue to pay interest on fixed interest debt before dividends could be offered to shareholders. Early railways were designed primarily for freight haulage, but new inter-urban routes in Britain provided an

¹⁰⁴ TR Gourvish and MC Reed, 'The financing of Scottish railways before 1860 - a comment', p.216.

¹⁰⁵ SG Checkland, *Scottish Banking, a History 1695-1973*, p.347 and p.422; TL Alborn, *Conceiving Companies: joint stock politics in Victorian England* (London, 1998), p.173.

¹⁰⁶ G Borthwick, 'The financing of Scottish Railways in the 1840s' (unpublished MA dissertation, University of York, 2000), p.31.

¹⁰⁷ W Vamplew, 'Banks and railway finance: a note on the Scottish experience', *Transport History*, 4, No.2 (July 1971), pp.168 and p.179.

¹⁰⁸ SG Checkland, *Scottish Banking, a History 1695-1973*, p.421; Accounts of the Caledonian Railway Company, 1845-68, NAS/BR/RAC(S)/1/3.

¹⁰⁹ W Vamplew, 'Sources of Scottish railway share capital before 1860 - a reply', *Scottish Journal of Political Economy*, 18 (1971), p.223; and W Vamplew, 'Banks and railway finance: a note on the Scottish experience', p.178.

unexpected surge in passenger traffic;¹¹⁰ passenger revenue provided 69 percent of gross receipts in 1842-43, although this had fallen to 57 percent by 1848.¹¹¹ Scotland's inter-urban railways showed a similar pattern (table 9).

Table 9: Passenger and freight revenue on Scotland's inter-urban railways, 1840-44

Railway	Period of data	% receipts passengers	% receipts goods	% receipts other
Arbroath and Forfar	1839-1845	38.2	56.2	5.6
Dundee and Arbroath	1841-1844	74.4	24.9	0.7
Edinburgh and Glasgow	1842-1845	72.0	24.7	3.3
Glasgow, Paisley and Greenock (excluding the joint Glasgow-Paisley line)	1841-1845	72.1	25.9	2.0
Glasgow, Paisley, Kilmarnock and Ayr (excluding the joint Glasgow-Paisley line)	1839-1845	67.3	30.6	2.0
Glasgow and Paisley Joint Line	1840-1845	92.4	5.5	1.1
Source: CJA Robertson, <i>The Origins of the Scottish Railway System 1722-1844</i> , tables 60-65, pp.231-33.				
(1): The percentage figures for the Arbroath and Forfar Railway in table 9 have been recalculated from CJA Robertson's data.				

Scotland's railways, however, experienced a much greater demand for third class travel than in England, which affected passenger revenue. Many English railway companies placed a deliberate emphasis on first class travel and were reluctant to provide adequate third class trains at reasonable times, even following the 1844 Regulation of Railways Act.¹¹² By 1844, 54.4 percent of journeys on Scotland's inter-urban railways were third class, compared to 35.6 percent in Britain.¹¹³ A typical Scottish feature was that many who could pay more chose not to do so:

¹¹⁰ HJ Dyos and DH Aldcroft, *British Transport* (3rd edition, Harmondsworth, 1974), p.118, describe passenger traffic on the Liverpool and Manchester Railway as 'creating a demand that had been thought not to exist'.

¹¹¹ BR Mitchell, 'The coming of the railway and United Kingdom economic growth', p.318, noting that passengers provided £3.1 millions of the £4.5 millions collected in receipts in 1842-43 (68.9%) and £5.6 millions out of £9.8 millions collected in receipts in 1848 (57.1%). The passenger share of receipts was not overtaken by the freight share until 1852.

¹¹² 7&8 Vic. cap.85, 1844, The Regulation of Railways Act; TR Gourvish, *Mark Huish and the London and North Western Railway: a study of management*, p.36.

¹¹³ CJA Robertson, *The Origins of the Scottish Railway System 1722-1844*, table 67, p.238 showing that over the period 1841-44, 9.6% of passengers on Scottish inter-urban lines travelled first class, 36.0% second class and 54.4% third class; also p.239, Select Committee on Railways, fifth report, PP 1844 (318) XI, appendix II, which identified that the 'average United Kingdom railway' carried 18% of passengers first class, 46.0% second class and 35.6% third class. These average United Kingdom data contrast with 1842-43 data for Britain quoted by D Lardner, *Railway Economy* (London, 1850), p.273, in which the share of

There would be no need for first class carriages if it depended upon Glasgow men. The money takers know you as a stranger if you ask for a first class ticket ... Three causes, thin population, comparative poverty, and more economical habits in the rich, combine to prevent passenger railways in Scotland paying so well as the English.¹¹⁴

High dividends in England in the 1840s were maintained by first class passenger traffic and high tariff freight.¹¹⁵ This type of traffic would not have kept the early Scottish lines solvent. Virtually all Scottish trains carried third class passengers before the 1844 Act and Scottish fares per mile were lower than in England.¹¹⁶ Scottish passenger traffic was highly responsive to price and had to be built on quantity rather than quality: for example, higher first and second class fares introduced on the Greenock line in 1844 resulted in a large shift to third class travel.¹¹⁷ In addition, the railway passenger duty tended to have a more than proportionate effect in Scotland, taking between ten and seventeen percent of receipts.¹¹⁸ Most Scottish passenger traffic was second and third class and, as the

first class travel was stated to be 44.58%, second class 41.83% and third class 13.59% (quoted in TR Gourvish, *Mark Huish and the London and North Western Railway: a study of management*, p.36).

¹¹⁴ *Railway Times*, 22 October 1842, p.1094.

¹¹⁵ TR Gourvish, 'Railway Enterprise', in R Church (ed.), *The Dynamics of Victorian Business: Problems and Perspectives to the 1870s* (London, 1980), p.129, and quoted in CJA Robertson, *The Origins of the Scottish Railway System 1722-1844*, p.310.

¹¹⁶ CJA Robertson, *The Origins of the Scottish Railway System 1722-1844*, pp.239-40.

¹¹⁷ CJA Robertson, *The Origins of the Scottish Railway System 1722-1844*, p.243.

¹¹⁸ CJA Robertson, *The Origins of the Scottish Railway System 1722-1844*, p.250: passenger duty absorbed between 10 and 17% of gross passenger receipts in Scotland in the early 1840s, compared to 4.7% - 5.8% on English main lines; TR Gourvish, *Mark Huish and the London and North Western Railway: a study of management*, p.39, notes an average of 14% of passenger receipts taken in duty on smaller railways, 'especially Scottish companies ...'.

duty was levied on a rate per mile based on passenger numbers, there was a relatively smaller revenue base from which to pay the duty than in England.¹¹⁹

Although the numbers of passengers travelling on the Ayrshire line rose by 30 percent in 1841-44 and by 37 percent between Edinburgh and Glasgow in 1842-44,¹²⁰ the large proportion of passengers travelling third class and the need to keep fares competitive offered less scope to Scottish railways to secure additional revenue from passengers than on many main lines in England. These features of revenue were to be compounded in the more remote regions of northern Scotland by the distinctly seasonal nature of the traffic, illustrated in chapter 6.

The consequences for the northern railway network

This chapter has shown the unpromising characteristics of much of northern Scotland for railway investment. Any prospect of returns from a new system of railways appeared to be dependent upon traffic from the trading centres of Aberdeen, Dundee, Perth and the rich agricultural hinterland of Aberdeenshire. Inverness, the capital of the highlands, held a strategic location for regional trade, but the serious consequences of the highland clearances had exposed the weakness of the northern economy and the destitution of many highlanders. Despite the prevailing ideology of *laissez-faire*, the state had intervened, albeit reactively, to try to open up the region and reduce emigration by funding the entire cost of the Caledonian Canal and providing financial contributions towards land drainage, roads, and bridges. Further state funding for northern Scotland thereafter was considered to be unrealistic. However, the chapter has also identified the arrival of a new type of northern landowner, bringing wealth earned from industry and commerce into the region in the wake of the highland clearances, a group that was to combine with long-established proprietors in providing a major source of capital and strategic direction for new northern railways, as later chapters will explain.

¹¹⁹ G Alderman, *The Railway Interest* (Leicester, 1973), p. 83; G Alderman, 'The politics of the railway passenger duty', *Transport History*, 3, No.1 (March 1970), p.2; CJA Robertson, *The Origins of the Scottish Railway System 1722-1844*, table 67, p.238 and table 72, p.254.

¹²⁰ CJA Robertson, *The Origins of the Scottish Railway System 1722-1844*, table 67, p.238.

The railway network in Scotland in 1844 remained largely confined to the industrial areas of the central belt. The new inter-urban routes of 1837-38 demonstrated the increased scale of capital needed for railway development and the financial consequences of inaccurate estimates, replicating the English experience of capital finance for railways. Although operating in the more densely populated counties of Scotland, however, these inter-urban companies found that passenger traffic was very responsive to price, a feature of less significance to many of the major English companies, which required a focus on service quantity rather than its quality to maximise revenue. These signals from earlier Scottish railway development posed immediate problems for any railway promotion into the remote northern counties with their sparse population and fragile economy.¹²¹

Any new northern railways had to supply relatively cheaper and more efficient transport than existing modes by land or sea, and offer the potential of some return on capital if they were to attract extra-district investment. However, the burgeoning railway network of England was already competing vigorously for the investment funds that were available. The cost per mile for construction of Scottish lines by 1851 was 16 percent below that for England, but traffic and revenue expectations were lower for Scottish lines, which removed much of this capital advantage.¹²² The prevailing capital cost of over £30,000 per mile made it essential that any railway companies projecting lines into northern Scotland would need to obtain their land at significantly lower cost than established lines had achieved and to construct the routes in a more economical way than the 1837-38 inter-urban lines. In addition, strict financial control over their enterprise was imperative if there was to be any possibility of sustained economic success. Consequently, the principles of the 'cheap railway', particularly seeking economies in land and construction costs, were widely adopted in the north of Scotland; these are examined in chapter 6.¹²³

¹²¹ Table 1 in this chapter identifies the six northern counties of Inverness, Nairn, Moray, Ross and Cromarty, Sutherland and Caithness.

¹²² CJA Robertson, 'The Cheap Railway Movement in Scotland: the St Andrews Railway Company', p.2.

¹²³ See Glossary entry on the 'cheap railway'.

The next chapter investigates a further and fundamental intervention of the state in Scotland, which presented a coherent framework for railway extension to the north of the Forth-Clyde valley, but without any capital injection from government. Thereafter, subsequent chapters will show that the development of the railway system of northern Scotland and its burdens of capital acquisition and financial control rested upon the principal landowners and some key entrepreneurs and local interests, supported both willingly and, at times, unwillingly by the banking sector.

Chapter 3: The state and Scottish railways

Although national economic policy favoured free-market capitalism, the previous chapter has shown that the severe economic and social conditions in the northern counties of Scotland had induced the state to provide financial assistance. That intervention was reactive, but this chapter focuses on an example of strategic planning by the state that set out a blueprint for a Scottish railway network, which runs counter to the general historiographical view of the detached stance of government towards railway development in Britain. The chapter opens with a review of the report of the commission established to recommend cross-border railway routes in 1839-41, the first prime example of state intervention in the development of a Scottish railway system. It then explains the coherence and significance of the report of the Railway Board of the Board of Trade on Scottish railway bills proposed for the 1845 parliamentary session, which had a far-reaching influence on the shape of the future Scottish network. The consequences of the acceptance by the legislature of its executive's recommendations are illustrated by the serious financial instability of the Caledonian Railway that had sought control of the state's authorised route to the north; the Caledonian experience provides a financial benchmark for successive chapters of this thesis. Finally, the chapter considers the proposals for northern railways in 1845-46, identifying the distinct regional interests of Aberdeen and Inverness, which set the parameters for the strategic planning of railways in northern Scotland throughout the period of this study.

Early state involvement in Scottish railways

The opening chapter identified policy conflicts that arose in nineteenth century government between the reliance on *laissez-faire* capitalism to regulate markets and the increasing pressure for state intervention to address the consequences of the rapid economic and social change that free enterprise had wrought. The state's philosophical fear of monopoly power was epitomised by the potential of new large-scale enterprises, of which railway companies were foremost examples, to frustrate

the operation of the price mechanism. An increased concentration of market power and territorial control in the hands of fewer companies followed the 1845 railway mania through amalgamations, leases and working agreements with the many smaller new companies that struggled to prosper independently thereafter.

The Board of Trade recommended in 1845 that railway amalgamations should only be approved if a continuous route was formed.¹ The 1846 Select Committee, however, approved the principle of amalgamation provided facilities were improved and expenses reduced, but offered no proposals to control working agreements that might act against the public interest.² In 1853, the Cardwell Committee warned against amalgamation unless 'the true and only object of such amalgamation is improved economy of management, and consequent advantage to the public'.³ Cardwell noted that railways had grown up haphazardly 'rather than upon any system of well-devised legislation',⁴ but Cardwell's committee simply restated the law – that railway companies could not amalgamate without parliamentary sanction.⁵

The opportunities for combination and the vacillation of Parliament provided ideal conditions to stimulate growth in the Scottish railway system and, unwittingly, the state also provided two important catalysts that assisted this evolution, the Smith-Barlow Commission (1839-41) and the Railway Board within the Board of Trade (1845). The Smith-Barlow Commission marks the first significant involvement of the state in the development of Scottish railways. One of its terms of reference was to advise on cross-border routes following an unsuccessful motion in Parliament in

¹ Board of Trade reports on Schemes for extending Railway Communication and on Proposed Amalgamations of Railways, 1845, paragraph 19, p.243: 'amalgamations should only be allowed ... when two or more lines form continuous portions [of] one great line of communication ...'.

² Select Committee on Railway and Canal Amalgamation, 8 April 1846, first report, p.4.

³ Select Committee on Railway and Canal Bills, 1853, 5th report, p.21; Bradshaw's *Railway Almanack*, 1853, p.440.

⁴ Hansard, 3rd series, Vol.132, Col. 585, 6th April 1854, quoted in PS Bagwell, *The Transport Revolution 1770-1985*, (London 1974, revised 1988), p.164.

⁵ WA Robertson, *Combination among Railway Companies* (London, 1912), p.18.

1838 for an inquiry to consider the engineering of such lines.⁶ Earlier schemes included a proposal for a line from Edinburgh to Dunbar in 1836 and rival routes from Glasgow to Carlisle via Annandale and Nithsdale projected between 1835 and 1839. The Commissioners' fourth report of 1841 displayed their frustration with the inadequacy of the plans for the sixteen schemes presented for Anglo-Scottish routes.⁷ The mile-and-a-half gap between Gateshead and Newcastle in Robert Stephenson's east-coast plan prompted the Commissioners to favour an inland route from Gateshead via Hexham to Edinburgh as the 'eastern' option.⁸ The preferred eastern route was therefore not a coastal route at all, a fact overlooked in most literature.

The Commissioners were explicit in their wish to recommend two routes, selecting an eastern option before considering a route to Glasgow.⁹ They may have been influenced by the evidence of engineer Joseph Locke, who surveyed the Annandale route via Beattock after initially supporting the Nithsdale line. Locke advised the Commission that two cross-border routes would ultimately be required because of the rising population of Scotland,¹⁰ but, with incomplete data and plans available to them, the Commissioners concluded that traffic was unlikely to provide sufficient return on the private capital required for both western and eastern routes. That conclusion conformed to the prevailing philosophy of *laissez-faire* and state policy

⁶ CJA Robertson, *The Origins of the Scottish Railway System 1722-1844* (Edinburgh, 1983), pp.275-77 and p.278.

⁷ Committee appointed by the Lords of the Treasury respecting Railway Communication between London, Dublin, Edinburgh and Glasgow, 4th report by Lt Col Sir Frederick Smith and Professor Peter Barlow, 15 March 1841, p.6.

⁸ Committee appointed by the Lords of the Treasury respecting Railway Communication between London, Dublin, Edinburgh and Glasgow, 4th report, 15 March 1841, p.17: the Commissioners complimented the engineer for selecting a route 'through an exceedingly difficult country in a skilful and able manner'.

⁹ Committee appointed by the Lords of the Treasury respecting Railway Communication between London, Dublin, Edinburgh and Glasgow, 4th report, 15 March 1841, p.8.

¹⁰ Evidence of Joseph Locke to the Smith-Barlow Commission, reproduced in G Graham, *The Caledonian Railway, account of its origin and completion* (Glasgow, 1888), p.47: 'The Beattock line is not what, as an engineer, I would call a favourable one, but it is by no means impracticable ... My own conviction rather is, however, that two coast lines will be ultimately required for the accommodation of the rapidly increasing population of Scotland ...'.

that railways should be promoted by those with available capital.¹¹ A western route providing a line to both Glasgow and Edinburgh was seen as the best compromise at that time. Historiography has tended to concentrate on perceived ambiguity in the recommendation of the Smith-Barlow Commission for the west-coast route and has largely ignored the important consequences of the Commission's work.¹² In fact, the Commissioners presented their recommendations very clearly: the Lancaster-Carlisle line should be built before, or simultaneously with, the west-coast route from Carlisle into Scotland, otherwise:

... should this not be the case, and parties should be found to construct the line from Darlington to Edinburgh, then the western route ought to be abandoned for the present, and in that event we should award the preference to the East Coast route over the Hexham line.¹³

The Commissioners' recommendation for the west-coast route was not ambiguous, but it was open-ended; it set clear conditions and recommended an alternative should these not be met. However, national economic depression caused significant delay: the Caledonian route from Carlisle to Edinburgh and Glasgow was not authorised until 1845 and the Lancaster-Carlisle Railway was not completed until 1846.¹⁴ Lack of activity resulted in the *Railway Times* concluding in 1843 that the west-coast route was moribund.¹⁵ English east-coast companies seized the

¹¹ Select Committee on Standing Orders for Railroad Bills, report 1836, PP 1836 (511), XXI, which reported '... it appears decidedly best to leave Railways in Great Britain, like all other undertakings, to be decided upon according to the judgement and interest of those who are willing to embark capital in them ...', quoted in CJA Robertson, *The Origins of the Scottish Railway System 1722-1844*, p.277.

¹² OS Nock, *The Caledonian Railway* (London, 2nd edition 1964), p.15; OS Nock, *Scottish Railways* (Edinburgh 1950, reprinted 1961), p.5; J Thomas, *The North British Railway*, vol.1 (2 volumes, Newton Abbot, 1969 and 1975), p.18; G Dow, *First Railway across the Border* (LNER, 1946), p.6.

¹³ Committee appointed by the Lords of the Treasury respecting Railway Communication between London, Dublin, Edinburgh and Glasgow, 4th report, 15 March 1841, p.8.

¹⁴ 8&9 Vic. cap.162, 1845, An Act for making a Railway from Carlisle to Edinburgh and Glasgow and the North of Scotland to be called 'The Caledonian Railway'.

¹⁵ *Railway Times*, 2 September 1843, p.968: "...we foresaw that the east-coast line of communication must be carried. We have always preferred the west-coast route, but all efforts to effect it seem now to have ceased".

opportunity caused by west-coast delays and supported the North British Railway financially in November 1843 to promote an Edinburgh-Berwick line, which, when authorised in 1844, created the first approved cross-border route, one that had not reached the final shortlist of the Commission just three years previously.¹⁶ Nevertheless, private capital was now available and the Board of Trade reported in 1845 that estimates for the proposed cross-border routes 'showed ample return on the estimated capital'.¹⁷

The dilatory Caledonian Railway, expecting a monopoly of the Anglo-Scottish route as a result of the Smith-Barlow recommendations, held its first provisional committee meeting in February 1844 and sought state assurance that the North British Act would not prejudice its own bill.¹⁸ In response, Gladstone, then President of the Board of Trade, confirmed the reliance of the state on competition: '... nothing was said by the Commissioners to prejudice the formation of more than one line'.¹⁹

Robertson contends that the Commission left 'enough qualifications and loopholes to permit continuing debate'.²⁰ The Commission, however, sparked more than debate. By recommending the west-coast route with qualifications, the Commissioners inadvertently stimulated not only vigorous competition for the subsequent rapid expansion of the Scottish network, but also the evolution of strategic planning within and between companies for the capture and defence of key railway routes, of which

¹⁶ CJA Robertson, *The Origins of the Scottish Railway System 1722-1844*, p.293: George Hudson and the York and North Midland Railway offered £50,000 to the promoters of the North British Railway in May 1843, who then proposed that their line should meet Hudson's proposed Newcastle and Berwick Railway at Berwick; J Thomas, *The North British Railway*, vol.1 (Newton Abbot, 1969), p.18 and p.21; MC Reed, *The London and North Western Railway* (Penryn, 1996), p.28.

¹⁷ Board of Trade report on Schemes for extending Railway Communication in Scotland, 1845, paragraphs 58-59.

¹⁸ Minutes of the Caledonian Railway, 19 February 1844, NAS/BR/CAL/1/7, p.1, and 6 March 1844, p.7.

¹⁹ *Railway Times*, 20 April 1844, p.465, quoting WE Gladstone, President of the Board of Trade, in the House of Commons: '... it was admitted [in the Commissioners' report] that there ought to be but one line of railway communication with Scotland, and that that should be the north west line, but nothing was said by the Commissioners to prejudice the formation of more than one line'.

²⁰ CJA Robertson, *The Origins of the Scottish Railway System 1722-1844*, p.278.

the trunk route to the north was a prime target. The Commissioners' report encouraged more than one cross-border route and promoters were not slow to seek an advantage; three Anglo-Scottish routes were open within a decade of the report, all funded by private capital.²¹

By December 1845, 115 sets of plans for new Scottish railways had been deposited with the Board of Trade, fuelled by a rising national expectation of strong returns.²² Kostal describes the parliamentary process for railway bills as 'arcane and cumbersome', with the investigating select committees sitting for only four or five half-days per week for four or five months in each parliamentary year.²³ Such a complicated system provided rich returns for lawyers. Charles Austin, who led the case for the Great North of Scotland Railway in 1846 against the competing scheme of the Perth and Inverness Railway, was reported to have earned £40,000 in the 1847 session.²⁴ His partner, James Hope-Scott, bought a Scottish estate worth £24,000 in 1855 and re-emerged in the history of northern railway development in 1863 as a principal promoter of the proposed railway from Fort William to the Inverness and Perth line at Newtonmore, thus ironically seeking a link with a railway route his practice had earlier condemned.²⁵

²¹ These three routes were: the east-coast route via Berwick operated in Scotland by the North British Railway, the west-coast route via Annandale and Beattock operated in Scotland by the Caledonian Railway, and the Nithsdale route between Glasgow and Carlisle via Kilmarnock operated by the Glasgow, Dumfries and Carlisle Railway and the Glasgow, Paisley Kilmarnock and Ayr Railway, which amalgamated in 1850 to form the Glasgow and South-Western Railway.

²² W Vamplew, 'Sources of Scottish railway share capital before 1860', *Scottish Journal of Political Economy*, 17 (1970), p.426.

²³ RW Kostal, *Law and English Railway Capitalism 1825-1875* (Oxford, 1994), p.118: Kostal also notes 'The labyrinthine complexity and critical importance of pre-hearing documentation made petitioning private railway bills forbidding to all but the most expert lawyers and parliamentary agents', p.115.

²⁴ RW Kostal, *Law and English Railway Capitalism 1825-1875*, pp.123-24.

²⁵ J McGregor, *The West Highland Railway; Plans, Politics and People* (Edinburgh, 2005), Appendix 1, pp.43-44: the Fort William Railway was proposed in October 1863 to join Fort William to Newtonmore on the Inverness and Perth Junction Railway, which had opened in September 1863; see also chapter 7, 'The direct line: the Inverness and Perth Junction Railway'.

The state maintained its policy of providing no funding and accepting no responsibility for the management of railways.²⁶ In the aftermath of the 1845 railway mania, however, private capital was difficult to attract, especially to new Scottish railways where returns were uncertain. Share prices reflected investors' perceptions of security and yield. In September 1846, shares in the well-established London and Birmingham and Grand Junction companies in England traded at over twice par-value, well above the premiums shown by the main companies in operation in Scotland (table 10).

Table 10: Share prices of Scottish railway companies, September 1846

	Opening dates	Par value of Share (£)	Market price (£) (September 1846)	Price as % of par value
Scottish railway companies (in operation)				
Glasgow, Paisley, Kilmarnock and Ayr	1839-40	50	75½	151
Glasgow, Paisley and Greenock (Amalgamation pending with the Caledonian)	1840-41	25	--	--
Edinburgh and Glasgow	1842	50	72	144
Edinburgh, Leith and Granton	1842-46	20	16¼ (August)	84
North British	1846	25	38½	154
Scottish railway companies (newly incorporated in 1845) (paid up)				
Caledonian	1847-48	50 (20)	16	32
Edinburgh and Northern	1847-48	25 (10)	10	40
Scottish Central	1848	25 (12½)	20½	82
Scottish Midland Junction	1848	25 (10)	6¼ (August)	26
English railway companies				
Grand Junction	1837	100	224	224
London and Birmingham	1837-38	100	208	208

Source: Tuck's *Railway Shareholder's Manual*, 1847.

The Railway Board and Scottish railways, 1845

Following Gladstone's Select Committee, the Railway Department of the Board of Trade was re-organised in August 1844 into a Railway Board to provide advice to Parliament on whether bills should be passed, postponed or rejected in order to manage the increased volume of proposed legislation.²⁷ Previously, any similar

²⁶ J Simmons, *The Railways of Britain* (London 1961, 2nd edition, London, 1968), p.7.

²⁷ H Parris, *Government and the Railways in Nineteenth-Century Britain* (London, 1965), p.61 and p.71: Parris records that 248 railway bills had been deposited by November 1844.

proposal for such direct involvement would have been seen as interference by the state in private enterprise and, ultimately, that conviction prevailed and the Board survived only until July 1845.²⁸ *Blackwood's Edinburgh Magazine* concluded that the work of the Railway Board had been impossible:

....no body of five men, however intelligent, could by possibility be expected to form an accurate judgement upon such an enormous mass of materials and conflicting statements ...²⁹

Nevertheless, the Railway Board in its brief life had a deeply significant influence on the development of the Scottish railway system. The Board's efficacious secretary, Samuel Laing, expressed his view in a report to the Board of Trade in 1844 that railways in Britain would form between six and eight large systems and, because monopoly was therefore seen as inevitable, proper regulation was required.³⁰ Accordingly, he advocated a system based on through routes.³¹ Laing was a primary author of the Board's 1845 report on the Scottish railway bills presented to Parliament and so these principles are woven within its concise and coherent analysis of the proposed schemes. The report not only set out a logical blueprint for the formation of a Scottish railway network, predicated on a continuous trunk route to the north, but it provided the foundation and stimulus for the subsequent development of the railway system of northern Scotland:

²⁸ M Casson, *The Evolution of the British Railway Network, 1825-1914*, Economic and Social Research Council Report, R000239586 (January 2005), pp.7-8; CJA Robertson, *The Origins of the Scottish Railway System 1722-1844*, p.296; H Parris, *Government and the Railways in Nineteenth-Century Britain*, p.84: Parris also notes (p.87) that by December 1845, 788 bills had been deposited, three times the volume of the previous year, with no parliamentary mechanism to replace to Railway Board.

²⁹ *Blackwood's Edinburgh Magazine*, 'The Railways', 58 (November 1845), p.640.

³⁰ WE Simnett, *Railway Amalgamation in Great Britain* (London, 1923), p.8.

³¹ WA Robertson, *Combination among Railway Companies* (London, 1912), p.3, quoting Laing's report to the Board of Trade: '... where a great line of communication is broken up into several links, each in the hands of an independent Company, the through passenger is not only exposed to loss of time and inconvenience, but frequently pecuniary losses in having to stay at some stage of his journey for several hours, or proceed by a more expensive class'.

It is evident that a consideration of these lines raises the whole question of deciding on the best permanent system of railway communication for Scotland generally.³²

The Board's statement on monopoly power and the need for continuous routes is reflected consistently throughout its systematic consideration of individual Scottish bills:

The term "monopoly" cannot be applied with any justice to such a combination of the different consecutive links of a great line of railway communication as tends to ensure the whole being worked as one concern for the purposes of the through traffic ... amalgamation, especially if of a permanent nature, ought to be scrutinized with extreme jealousy; but the case appears to us to be very different as regards lines which constitute portions of what ... must be considered as properly one system.³³

The Board's report on Scottish bills evaluated the potential contribution of individual lines to the strategic development of a Scottish network by continuous routes to the south and north of the Forth-Clyde valley, setting a key objective to establish a 'great trunk line for the north', a term also adopted by railway promoters.³⁴ The report methodically examined, and recommended or rejected, rival schemes measured against its criteria for the achievement of a northern trunk route, taking an over-view of the whole network that had been impracticable previously when evidence for each individual bill was contested by legal competition before a parliamentary committee

³² Board of Trade report on Schemes for extending Railway Communication in Scotland, 1845, paragraph 8.

³³ Board of Trade reports on schemes for extending Railway Communications and on Amalgamation of Railways, 1845, paragraph 30, specifically applied to consideration of the Newcastle and Berwick Railway Bill.

³⁴ Board of Trade report on Schemes for extending Railway Communication in Scotland, 1845, paragraphs 15 and 16; Minutes of the Scottish Central Railway, 12 March 1844, NAS/BR/SCC/1/1, pp.2-3, quoting 'a grand trunk railway' and 'an unbroken chain of Railway Communication from Scotland to the South'; Prospectus of the Scottish Central Railway Company, 1844, NAS/BR/PROS(S)/1/16; Prospectus of the Caledonian Railway, 1844, NAS/BR/PROS(S)/1/2.

of local members.³⁵ Furthermore, the Board advised the legislature that railway development in Scotland might be feasible even when economic conditions were unpromising.³⁶

Table 11: Railway bills presented to Parliament in 1845 relating to Scottish routes

1845 railway bills relating to Scotland	Value £m	
Railway Board reported in favour of these schemes		
Newcastle and Berwick	0.700	Continuous trunk route
Caledonian	1.800	Continuous trunk route
Scottish Central	1.800	Continuous trunk route
Aberdeen	1.000	Continuous trunk route
Clydesdale Junction	0.400	Trunk route access to Glasgow
Edinburgh and Northern	0.500	Northern route via Fife and ferries
Glasgow, Barrhead and Neilston	0.125	
Scottish Midland Junction	0.300	Continuous trunk route
Dundee and Perth	0.250	Link to continuous trunk route
Extension of Edinburgh and Dalkeith to Hawick	n/a	Through route to Carlisle rejected
	£6.875m	
Railway Board reported against these schemes		
Northumberland (atmospheric principle)	1.000	Alternative to Newcastle - Berwick
Glasgow and Ayrshire (Barrhead and Neilston)	0.080	Alternative to Barrhead - Neilston
Glasgow, Dumfries and Carlisle	1.300	Alternative to Caledonian
Extension of Edinburgh and Glasgow to Stirling	n/a	Alternative to Scottish Central
	£2.380m	
Railway Board did not report on these schemes in 1845		(Board abolished July 1845)
Glasgow Harbour Union	0.015	
Glasgow, Dumbarton and Loch Lomond	0.300	
Inverness and Elgin	0.300	
Great North of Scotland	1.100	Northern extension of trunk route
Edinburgh and Perth	0.600	Alternative to Edinburgh & Northern
Perth and Inverness	1.200	Alternative northern extension
Caledonian Extension Railway	1.500	
Dunblane and Doune	0.080	
West Highland and Forth and Clyde Valley Junction	0.600	
Edinburgh, Glasgow and Dumbartonshire	0.350	
Stirling, Dunfermline and Queensferry	0.400	
	£6.445m	
Total value of schemes proposed	£15.700m	
Source: Board of Trade report on Schemes for extending Railway Communication in Scotland, 1845, paragraph 3.		

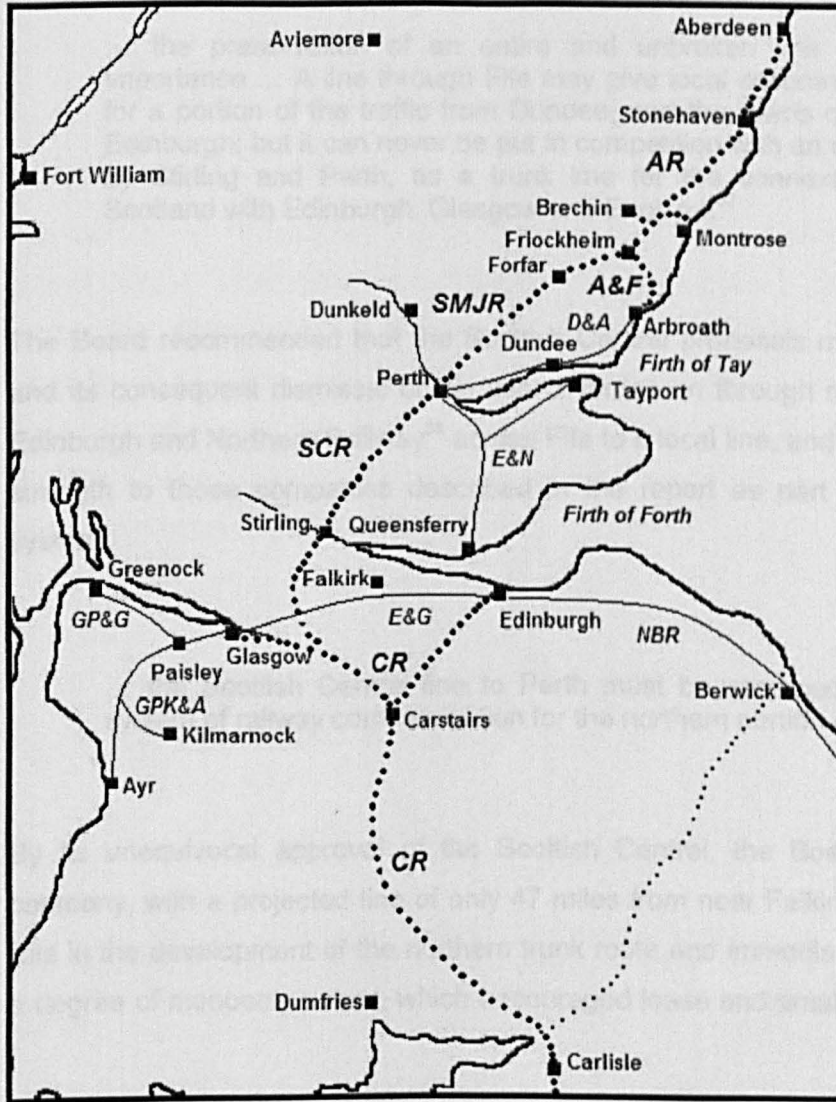
Not all of the Scottish bills presented to Parliament in 1845 could be considered by the Board before it was abolished, amongst which were the key proposals to connect

³⁵ H Parris, *Government and the Railways in Nineteenth-Century Britain*, p.21, describes the former role of the committee as an 'umpire in a contest between private parties, not as guardian of the public interest'.

³⁶ Board of Trade report on Schemes for extending Railway Communication in Scotland, 1845, paragraph 63: 'There are some facts connected with the experience of existing railways in Scotland, which would make us hesitate in concluding that railways, if constructed with economy, may not be supported even in localities where the existing traffic appears insufficient for that purpose'.

Inverness with the expanding railway network. The Board did survive sufficiently long, however, to report on the trunk route to Aberdeen.

Map 3: The route to the north recommended by the Railway Board, 1845



<p>The route to the North: A&F: Arbroath and Forfar Railway AR: Aberdeen Railway CR: Caledonian Railway SCR: Scottish Central Railway SMJR: Scottish Midland Junction Railway</p>	<p>Other railways: D&A: Dundee and Arbroath Railway E&G: Edinburgh and Glasgow Railway E&N: Edinburgh and Northern Railway GP&G: Glasgow, Paisley and Greenock Railway GPK&A: Glasgow, Paisley and Kilmarnock Railway NBR: North British Railway</p>
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The principal test applied by the Board in selecting this northern route was the strategic importance of Stirling and Perth as the navigable limits of the rivers Forth and Tay: The report stressed that:

... the preservation of an entire and unbroken line is a point of vital importance ... A line through Fife may give local accommodation to be used for a portion of the traffic from Dundee, and the towns on the east coast to Edinburgh; but it can never be put in competition with an unbroken inland line by Stirling and Perth, as a trunk line for the connexion of the north of Scotland with Edinburgh, Glasgow and England.³⁷

The Board recommended that the Scottish Central proposals met those conditions and its consequent dismissal of the use of ferries on through routes relegated the Edinburgh and Northern Railway³⁸ across Fife to a local line, and gave added market strength to those companies described in the report as part of the 'Caledonian system':

... the Scottish Central line to Perth must be assumed as the basis of a system of railway communication for the northern portion of Scotland.³⁹

By its unequivocal approval of the Scottish Central, the Board gave this small company, with a projected line of only 47 miles from near Falkirk to Perth, a pivotal role in the development of the northern trunk route and immediately endowed it with a degree of monopoly power, which encouraged lease and amalgamation proposals

³⁷ Board of Trade report on Schemes for extending Railway Communication in Scotland, 1845, paragraphs 10, 11, 15 and 16.

³⁸ The Edinburgh and North Railway was authorised in 1845 as an isolated line across Fife, but its attempt to establish a through route to the north was signalled by its amalgamation with the Edinburgh, Leith and Granton Railway in 1847, under 10&11 Vic. cap. 239, The Edinburgh and North Railway Act. Its route, however, relied on a ferry crossing of the Firth of Forth.

³⁹ Board of Trade report on Schemes for extending Railway Communication in Scotland, 1845, paragraphs 12, 32, 70 and 83.

from other companies even before it was constructed.⁴⁰ The 1845 report then examined in detail the competing schemes to the south that might connect with the Scottish Central and concluded that:

... a decided preponderance of advantage to Scotland is afforded by the Caledonian scheme in connexion with the Scottish Central, as giving a better trunk communication for all the most important streams of traffic ...⁴¹

The Caledonian Railway, with share capital of £2.1 million and 123 route miles, was one of largest undertakings yet authorised in a single Bill.⁴² With approval of the Caledonian proposals, the Railway Board advised against the rival Glasgow, Dumfries and Carlisle route because of insufficient traffic.⁴³ Given the decisions in favour of the Caledonian and Scottish Central, the Board then recommended the Scottish Midland Junction and the Aberdeen Railways to complete a continuous route to Aberdeen, commenting:

... the Aberdeen line is a proper and necessary part of that system ... The Scottish Midland line appears thus to be necessary as an integral portion of the northern line of communication ...⁴⁴

⁴⁰ Minutes of the Scottish Central Railway Company, 19 April 1844, NAS/BR/SCC/1/1, p.36; Letter from the Caledonian Railway to the Scottish Central Railway dated 11 April 1844, recorded in Scottish Central Railway minutes on 19 April 1844, p.36, but not similarly recorded in the Caledonian Railway minutes (NAS/BR/CR/1/7) during that period.

⁴¹ Board of Trade report on Schemes for extending Railway Communication in Scotland, 1845, paragraph 52.

⁴² 8&9 Vic. cap.162, 1845, The Caledonian Railway Act; HG Lewin, *The Railway Mania and its Aftermath, 1845-52* (London, 1936, reprinted Newton Abbot, 1968), p.461; OS Nock, *The Caledonian Railway*, p.19.

⁴³ Board of Trade report on Schemes for extending Railway Communication in Scotland, 1845, paragraph 27.

⁴⁴ Board of Trade report on Schemes for extending Railway Communication in Scotland, 1845, paragraphs 71 and 80.

The Board expressed regret that a through coastal line via Dundee and Arbroath was not feasible for geographical reasons and because of discontinuity between existing lines in both towns.⁴⁵ It therefore favoured the inland Scottish Midland Junction route due to its 'remarkably easy construction', but recommended a connecting line from Dundee to Perth to provide a connection with the 'general railway system of the Kingdom'.⁴⁶ Centres of population and trade were prime considerations in the Board's recommendations and, significantly, the report also augured the 1846 authorisation of a continuous route to Inverness via Aberdeen:

The importance of this line [the Aberdeen Railway] is increased by the consideration that a cheap and easy line, traversing a district of considerable population and local traffic, is stated to have been surveyed between Aberdeen and Inverness. Should this be the case, it seems not impossible that railway communication to the more northern counties may be extended in this direction.⁴⁷

Although the plans for the Great North of Scotland Railway and the Perth and Inverness and Inverness and Elgin Railways were deposited in 1845, the Board did not survive to report specifically on these rival projects. Nevertheless, the 1845 report suggested the logic of an extension of the route northwards from Aberdeen, which was reflected in the relative share prices when those schemes were scrutinized in Parliament in 1846.⁴⁸

⁴⁵ Board of Trade report on Schemes for extending Railway Communication in Scotland, 1845, paragraphs 76 and 77; M Casson, *The Evolution of the British Railway Network, 1825-1914*, annex 2, table 3, identifies this route via Dundee and Arbroath as the main northern trunk route in his counterfactual model of a railway network to meet the requirements of the United Kingdom economy.

⁴⁶ Board of Trade report on Schemes for extending Railway Communication in Scotland, 1845, paragraphs 79-81.

⁴⁷ Board of Trade report on Schemes for extending Railway Communication in Scotland, 1845, paragraph 72.

⁴⁸ *Railway Chronicle*, 29 March 1845, p.365, reporting the Great North's bill for the proposed route to Inverness: 'This line is the result of the Board of Trade's decision in favour of the Aberdeen line ...'; see also table 24 showing share prices in the final section of this chapter.

The advice of the Railway Board must have been of considerable value to the legislature; Parliament accepted over ninety percent of the Board's recommendations for proposed railways in Britain.⁴⁹ As the Board's report was only one factor in the state's decisions, however, its precise influence remains uncertain. Yet, in a short and cogent text, the Railway Board as executive of the state indirectly, perhaps even intentionally given the known political predilection for *laissez-faire*, presented the legislature with a plan for a Scottish network predicated upon a continuous through route from the south to Aberdeen. Identifying the critical location of the Scottish Central, it systematically expanded the trunk route north and south from that line. The strategic planning in its report effectively steered Parliament into acceptance of a set of incorporations which substantially defined the framework of the Scottish railway network.

Competition for control

Although it existed only briefly, the Railway Board had an important influence on Scottish railway development in the north which lasted for over a decade after its demise. Its 1845 report presented an apparent conformity to the tenets of free enterprise and private capital in railway promotion, but the underlying plan for a national network in Scotland through linked and trunk routes foreshadowed the need for companies to be of sufficient size to develop the system and achieve economies of scale, reflecting the principles proposed by Laing in 1844.⁵⁰ Laing resigned from the Board of Trade when the Railway Board was abolished, developed a legal practice and served as chairman of the London, Brighton and South Coast Railway in 1848-55 before becoming Minister of Finance in India. He re-emerged in the history of the northern railways of Scotland as a director of the ill-fated Caithness Railway while serving as the Liberal Member of Parliament for Wick in 1865-68.⁵¹

⁴⁹ H Parris, *Government and the Railways in Nineteenth-Century Britain*, p.83-84.

⁵⁰ WE Simnett, *Railway Amalgamation in Great Britain*, p.8; WA Robertson, *Combination among Railway Companies*, p.3.

⁵¹ *Railway News*, 7 March 1874, p.336, giving a biography of Samuel Laing MP; Laing had previously been MP for Wick in 1852-57 and 1859-60; see also chapter 9, 'The Far North lines: ownership and control'.

The Railway Board report, quoted by promoters of new companies as a means by which to justify their schemes, kindled the contest between the west-coast and east-coast alliances to secure control of the approved northern trunk route to Aberdeen. It gave enhanced market value and strategic importance to some small Scottish companies and assisted the establishment of territorial control in the northern half of Scotland. The effect of this state-endowed market power is exemplified by the early history of the Scottish Central Railway, authorised to link the two key towns of Stirling and Perth, which was quickly the subject of attractive overtures from larger established companies.⁵²

Although the Scottish Central Railway was not formed until 1844, its origins began in 1840 when a provisional committee chaired by the Marquis of Breadalbane commissioned a report on routes between Perth and Stirling from JE Errington, the assistant of eminent English engineer Joseph Locke. The cost of that early route was estimated at £450,000, including land, with an expected return on capital of six percent.⁵³ Anticipating the results of the Smith-Barlow Commission, in progress at the time, Errington's report identified the strategic importance of the route:

... it forms another link of the chain of Railway communication extending from the Metropolis to the north. From the efforts now making, and the favourable report of the Commissioners, it can hardly be doubted that one unbroken line of Railway communication will ultimately be formed, joining London and Perth, and making at the utmost, a journey of 24 hours.⁵⁴

⁵² Minutes of the Scottish Central Railway Company, 29 August 1845, NAS/BR/SCC/1/1, p.93, reporting that Royal Assent to the act of incorporation was granted on 31 July 1845.

⁵³ Report on the 'Proposed Railway from Perth to Stirling [and] to Edinburgh and Glasgow', dated 21 February 1841, NAS/BR/RAC(S)/1/35, p.7.

⁵⁴ Report on the 'Proposed Railway from Perth to Stirling [and] to Edinburgh and Glasgow', dated 21 February 1841, NAS/BR/RAC(S)/1/35, p.8 (the 4th report of the Smith-Barlow Commission was dated 15 March 1841).

Breadalbane was a wealthy landowner in the district.⁵⁵ He wrote to Errington in 1841 to support the plans and identified the weakness of proposed routes to the north passing through Fife because of the need to cross the Firths of Forth and Tay, reasons later advanced by the Railway Board.⁵⁶ The recommendation of the Railway Board in 1845 to reject the use of ferries on through routes reduced the Fife lines from trunk to district railways and significantly affected their performance.⁵⁷ The East Coast of Scotland Railway, promoted in 1846 as the 'Great Eastern Trunk line' linking the North British, the Edinburgh and Northern, and the Dundee and Arbroath railways, was to extend northwards to joint the Aberdeen Railway at Stonehaven. However, it launched its prospectus at a time when investors shunned railway shares following the mania and the company was wound up in 1849 after deposits had been paid on only one-quarter of its shares.⁵⁸ The Edinburgh and Northern Railway, authorised in 1845, crossed Fife and required ferry crossings of the Forth and Tay.⁵⁹ Its potential impact was weakened by the predatory purchase of the Tay ferries by the Scottish Central that same year.⁶⁰ To reach Edinburgh, the Edinburgh and Northern entered into an expensive guarantee with the Edinburgh,

⁵⁵ J Mitchell, *Reminiscences of My Life in the Highlands, vol. I* (private publication, 2 volumes, London, 1883 and 1884, reprinted Newton Abbot, 1971 p.121, indicating Breadalbane's annual income of £60,000 circa 1834; CJA Robertson, 'Railway Mania in the Highlands: The Marquis of Breadalbane and the Scottish Grand Junction Railway', in R Mason and N Macdougall (eds.), *People and Power in Scotland* (Edinburgh, 1992), pp.190-91: Breadalbane spent £42,762 on improvements on his estate between 1834 and 1848 and, by 1883, the Marquis had become the second most extensive landowner in Scotland with 438,358 acres, although this estate represented just one-third of the acreage owned by the Duke of Sutherland.

⁵⁶ Letter of 29 October 1841, written from the Marquis of Breadalbane to JE Errington, NAS/BR/RAC(S)/1/15: 'We have heard, certainly, of proposals for Railways being carried though the County of Fife, and these have been brought forward as likely to form general lines of communication between the south and the north of Scotland. But when it is considered that on these Lines two wide arms of the Sea are to be crossed, namely, the Frith [*sic*] of Forth and the Frith of Tay, it must be at once seen that the inconvenience arising from the crossing of these two difficult ferries, must form a formidable interruption to a continuous and general line of Railway Communication'. The term 'Firth' is now used for 'Frith'.

⁵⁷ Board of Trade report on Schemes for extending Railway Communication in Scotland, 1845, paragraph 15.

⁵⁸ *Railway Chronicle*, 25 October 1846, p.1745, and 17 November 1849, p.791.

⁵⁹ 8&9 Vic. cap.158, 1845, The Edinburgh and Northern Railway Act.

⁶⁰ Minutes of Directors and Shareholders of the Scottish Central Railway, 19 and 26 September 1845, NAS/BR/SCC/1/1, p.109.

Leith and Granton Railway in 1847.⁶¹ Renamed the Edinburgh, Perth and Dundee Railway in 1849, the company ran into serious financial difficulties mainly as a consequence of the local status conferred by state acceptance of the Railway Board's recommendations. With debts of £841,106, including arrears in guaranteed payments by 1852, the company had to seek Parliamentary legislation to restructure its affairs to regain solvency.⁶²

The Scottish Central Railway, promoted by the main landowners of Stirlingshire and Perthshire, held the key strategic section of the northern trunk route.⁶³ Its share capital was twice over-subscribed within a week of publication of its prospectus in March 1844.⁶⁴ Although only £2.10s had been called as deposit on its shares by July 1845 when the Scottish Central was incorporated, the market price stood at £6.15s; thirty percent of the company's stock was held in England.⁶⁵ In October 1845, the Edinburgh and Glasgow offered amalgamation to the Scottish Central on a

⁶¹ 10&11 Vic. cap.239, 1847, The Edinburgh and Northern Railway Act under which the Edinburgh and Northern Railway amalgamated with the Edinburgh, Leith and Granton Railway.

⁶² Minutes of meetings of shareholders of the Edinburgh, Perth and Dundee Railway, 29 September 1852, NAS/BR/EPD/1/1, pp.16-19 and pp.34-41; CJA Robertson, 'The Cheap Railway Movement in Scotland: the St Andrews Railway Company', *Transport History*, 7, No.1 (March 1974), p.14; 16&17 Vic. cap.153, 1853, The Edinburgh, Perth and Dundee Railway (Arrangements) Act, which stated that the company owed £833,420 on debenture loans and interest 'amounts to a very large Sum, and the available Revenue of the Company is totally inadequate and insufficient for the payment thereof in full, and there is a large Arrears of Interest, Dividend and annual Payments due ...'. Interest on debentures was cut to 3½ %, preference guarantees were reduced from 5% to 4%, and preference stock was issued for interest arrears at a rate of £30 of stock for £1,000 of debt; additionally, directors were appointed specifically to represent the interests of the various holders of guaranteed shares and debentures.

⁶³ Minutes of Directors and Shareholders of the Scottish Central Railway, 26 August 1846, NAS/BR/SCC/1/1, p.261: 'The advantageous position occupied by the railway ... its high standing in public estimation ... combine to attach a high value to the Central Railway'.

⁶⁴ Prospectus of the Scottish Central Railway, 30 March 1844, NAS/BR/PROS(S)/1/16; J Mitchell, *Reminiscences of My Life in the Highlands*, vol.II, p.153.

⁶⁵ 8&9 Vic. cap.161, 1845, The Scottish Central Railway Act with authorised capital of £850,000 and borrowing powers of £283,333; PF Marshall, *The Scottish Central Railway* (Witney, 1998), p.30; CJA Robertson, *The Origins of the Scottish Railway System 1722-1844*, p.334.

5.5 percent guarantee.⁶⁶ Parliament rejected both this proposal and a subsequent 7 percent offer from the west-coast alliance of Caledonian, Lancaster-Carlisle and London and North Western Railways because the railway system was 'not sufficiently developed to decide upon the amalgamation most suited to the various schemes'.⁶⁷ However, there was no state rejection of the principle of these early proposed amalgamations.

Vigorous competition between the Edinburgh and Glasgow and the Caledonian Railways ensued, resulting in guarantees offered to the Scottish Central reaching 9 percent.⁶⁸ The economic unreality of such competitive bids was identified by *Herapath's Railway Journal*:

Unhappily, our friends in Scotland have latterly got up wonderfully in their estimates of the value of their railway property ... They are all looking forward to be leased; and lines which a few months ago it was thought would not pay 2 percent are now suddenly becoming 10 percent lines.⁶⁹

This intense competition to extend control contributed to the poor dividends paid by the Caledonian and North British Railways in 1850-54, although average Scottish returns in 1853 were not much below those of England (tables 12 and 13). ED

⁶⁶ Minutes of Directors and Shareholders of the Scottish Central Railway, 7 October 1845, NAS/BR/SCC/1/1, p.121.

⁶⁷ Minutes of Directors and Shareholders of the Scottish Central Railway, 26 October 1846, NAS/BR/SCC/1/1, p.281; Minutes of Directors and Committees of the Caledonian Railway, 14 June 1846, NAS/ BR/CAL/1/7, p 337; PF Marshall, *The Scottish Central Railway*, p.46.

⁶⁸ Minutes of Directors and Shareholders of the Scottish Central Railway Company, special meeting of shareholders, 20 July 1847, NAS/BR/SCC/1/1, p.368, recording a 9% offer from the Edinburgh and Glasgow Railway; Reports and accounts of the Caledonian Railway, Extra-ordinary General Meeting, 10 November, 1848; NAS/BR/RAC(S)/1.3, pp.3-5, at which the Caledonian also offered a 6% guarantee to the Scottish Midland Junction, which held the authorisation for the next stage of the northern route to Aberdeen.

⁶⁹ *Herapath's Railway Journal*, 16 January 1847, p.67; *Herapath's Railway Journal*, 12 February 1848, p.161, commenting on dividends of 6, 7 or 8 percent 'when, if the truth were told, they could not pay 2'.

Chattaway, a shareholder in the North British Railway, concluded in 1855 that poor returns had resulted from 'recklessly guaranteeing' other railways.⁷⁰

Table 12: Half-yearly dividends of the main Scottish railway companies, 1850-54

Year	Half Year	Caledonian (£)	North British (£)	Edinburgh and Glasgow (£)	Glasgow and South-Western (£)	Scottish Central (£)
Dividends paid half-yearly on £100 par value of ordinary stock in each company						
1850	Jan	0.0.0	1.0.0	1.10.0	1.5.0	0.0.0
	July	0.0.0	0.0.0	1.5.0	1.5.0	0.0.0
1851	Jan	0.0.0	0.0.0	1.10.0	1.2.6	1.0.0
	July	0.0.0	0.0.0	1.10.0	1.0.0	0.12.0
1852	Jan	0.5.0	0.0.0	1.10.0	1.0.0	1.8.0
	July	0.6.0	0.0.0	1.10.0	1.0.0	1.10.0
1853	Jan	1.5.0	0.0.0	1.10.0	1.0.0	2.0.0
	July	1.0.0	0.0.0	1.10.0	1.10.0	2.0.0
1854	Jan	1.10.0	0.7.6	1.10.0	1.5.0	2.0.0
	July	1.10.0	0.0.0	1.10.0	1.15.0	2.0.0

Source: *Railway Times*, 20 September 1862, pp.1399-1402.
 (1): Units are given in pounds, shillings and pence and for each half year.

Table 13: Half-year data for railways in Scotland and England, June 1853

	Miles of route	Construction costs per mile (£)	Working expenses as % of receipts	Average dividend per annum
Scotland	943	30000	47	3.0%
England	5176	39872	49	3.3%

Source: Bradshaw's *Railway Almanack*, 1853, p.443.

The scramble to obtain influence and control of the new northern trunk route, exemplified by the escalating financial inducements offered to the Scottish Central, was a direct consequence of the free enterprise doctrine of the state. The wider and substantial guarantees offered by the inexperienced management of the Caledonian Railway to secure the whole of the Anglo-Scottish route recommended by the Railway Board caused severe financial instability within the company by 1849, which required state legislation for its resolution.

⁷⁰ ED Chattaway, *Railways: their capital and dividends with statistics of their working in Great Britain and Ireland*, (London, 1855-56), pp.24-25, data to 30 June 1853.

The 'Caledonian system'

By the time the Caledonian Railway was incorporated in 1845, the influence of the west-coast alliance of English companies operating through the embryo company was already apparent.⁷¹ State authorisation of the system of lines forming the northern trunk route meant that capital requirements for construction were well beyond Scottish sources; three-quarters of subscriptions in the Caledonian, seen as the line supported both by government and the major English companies, came from England.⁷² The *Railway Times* reported:

The Grand Junction and other Railway Companies on the western route have subscribed liberal sums towards the Caledonian ... This is the Government Commissioners' line.⁷³

OS Nock conjectured that the Caledonian network was 'part of a single master plan for which the Grand Junction Railway was largely responsible'.⁷⁴ Certainly Locke had surveyed a route to Glasgow on behalf of the Grand Junction in 1835, but Acworth gives greater weight to local influence, concluding that '... the lairds of Dumfriesshire conceived and carried out the Caledonian Railway', a view that minutes of the Caledonian board substantiate.⁷⁵ Nevertheless, there is evidence of

⁷¹ 8&9 Vic. cap. 162, 31 July 1845, An Act for making a Railway from Carlisle to Edinburgh and Glasgow and the North of Scotland to be called "The Caledonian Railway"; Report of the Investigation Committee of the Shareholders of the Scottish Central Railway, 19 April 1850, NAS/BR/RAC(S)/1/35, p.1, which reported that 'From the time this Company was projected, the influence of the Southern Companies was exerted to secure the Scottish Central as a link in the long chain for Western traffic from London to Aberdeen'.

⁷² CJA Robertson, *The Origins of the Scottish Railway System 1722-1844*, p.334, noting that 77.8% of Caledonian subscriptions came from England; Herapath's *Railway Journal*, 26 August 1848 and 4 November 1848, estimated that, by 1848, 90% of Caledonian shares were held in England, quoted in W Vamplew, 'Sources of Scottish railway share capital before 1860', p.431.

⁷³ *Railway Times*, 16 March 1844, p.330.

⁷⁴ OS Nock, *The Caledonian Railway*, p.41.

⁷⁵ WM Acworth, *The Railways of Scotland* (London, 1890), p.30; Minutes of Directors and Committees of the Caledonian Railway, 6 March 1844, NAS/BR/CAL/1/7, pp.12-14; CJA Robertson, *The Origins of the Scottish Railway System 1722-1844*, p.276; MC Reed, *The*

English influence within Scottish companies to try to gain strategic control of key Scottish routes almost immediately from their conception, which presages the state's network blueprint of 1845. The report of the Smith-Barlow Commission had boosted the status of the west-coast companies and their Scottish ally, the Caledonian, formed in February 1844. However, the Scottish Central, also formed in February 1844, demonstrated its independence in April 1844 by appointing James Walker, President of the Institution of Civil Engineers, as its engineer because he was '... wholly unconnected with any of the competing lines to the south ...'.⁷⁶ Yet only two weeks later, after one of its own executive committee had written without authority to the Caledonian inviting them to build the line, which prompted the Caledonian to offer to pay parliamentary expenses if the Scottish Central agreed to become the 'Caledonian Extension',⁷⁷ the Central rescinded their engineer's appointment and recruited Locke and Errington, engineers to the Caledonian and west-coast companies, on the grounds that they had already surveyed the Stirling-Perth route.⁷⁸ The Scottish Central must have recognised the potential power of the west-coast companies for their minute refers to '... very great difficulties, nay danger to the whole undertaking ...' unless their decision was reversed.⁷⁹

Neither Central nor Caledonian minutes offer further explanation, but Joseph Mitchell, superintendent of Highland Roads and Bridges, who re-surveyed the route for the Scottish Central's provisional committee and served as resident engineer until Locke and Errington's appointment, later wrote that the Central committee 'coolly

London and North Western Railway: a history (Penryn, 1996), p.49, notes that the London and North Western company held approximately 7 percent of Caledonian ordinary share capital in 1850.

⁷⁶ Minutes of Directors and Shareholders of the Scottish Central Railway, 9 April 1844, NAS/BR/SCC/1/1, pp.25-26.

⁷⁷ Minutes of Directors and Shareholders of the Scottish Central Railway, 19 April 1844, NAS/BR/SCC/1/1, pp.35-36; Minutes of the Directors and Committees of the Caledonian Railway, NAS/BR/CAL/1/7, 6 April 1844, pp.23-24.

⁷⁸ Report on the 'Proposed Railway from Perth to Stirling [and] to Edinburgh and Glasgow', dated 21 February 1841, in accounts of the Scottish Central Railway, NAS/BR/RAC(S)/1/35, p.7.

⁷⁹ Minutes of Directors and Shareholders of the Scottish Central Railway, 18 April 1844, NAS/BR/SCC/1/1, p.31-32; Minutes of Directors and Committees of the Caledonian Railway, 6 April 1844, NAS/ BR/CAL/1/7, p.23-24.

dismissed' Walker because of 'agitation' in Stirlingshire by agents of the Caledonian.⁸⁰ Mitchell had initially planned a line between Perth and the Edinburgh and Glasgow Railway at Falkirk, but the strategists of the west-coast alliance quickly identified the key value of the new Scottish Central in the route to Aberdeen and assisted its infant Caledonian ally to try to secure it. Within the year, their unsuccessful early attempt was overshadowed by the intense competition for control of the northern route that followed its authorisation in 1845.

The act of incorporation identified the Caledonian's northerly ambitions for 'making a Railway from Carlisle to Edinburgh and Glasgow and the North of Scotland ...'.⁸¹ The term 'Caledonian system' was quickly appropriated by the Caledonian directors to support their vigorous and ambitious policy of acquiring other companies, advertising the approval given to their route as '... the first section of the National lines to Scotland recommended by the Government Commissioners'.⁸² The inaugural meeting of Caledonian shareholders was informed that the Board of Trade had 'aptly designated "the Caledonian System" of railway communication within Scotland...', and that capital was available '... for extending the Caledonian system into every part of Scotland'.⁸³ Shareholders were also advised of a new northern ally, 'the Perth and Inverness Railway Company – whose object is to construct a direct Line, in continuation of the Caledonian and Scottish Central Lines between the above places'.⁸⁴

A complicated web of lines, gauges and companies were in the sights of the Caledonian in 1845 to secure the route northwards to Aberdeen (table 14). Engineer

⁸⁰ J Mitchell, *Reminiscences of My Life in the Highlands*, vol.II, p.154-55.

⁸¹ 8&9 Vic. cap. 162, 31 July 1845, An Act for making a Railway from Carlisle to Edinburgh and Glasgow and the North of Scotland to be called 'The Caledonian Railway'.

⁸² Board of Trade report on Schemes for extending Railway Communication in Scotland, 1845, paragraphs 32 and 57; Prospectus of the Caledonian Railway, 1844, NAS/BR/PROS(S)/1/2; Minutes of the Caledonian Railway, 19 February 1844, NAS/BR/CAL/1/7, p.1.

⁸³ Minutes of the first Ordinary General Meeting of the Caledonian Railway, 27 August 1845, NAS/BR/RAC(S)/1/3, p.1.

⁸⁴ Minutes of the first Ordinary General Meeting of the Caledonian Railway, 27 August 1845, NAS/BR/RAC(S)/1/3, p.3; WM Acworth, *The Railways of Scotland*, p.36-37.

Joseph Locke cautioned the Caledonian board on the 'danger in the Caledonian Company appearing to monopolise too many of the lines about it ...',⁸⁵ but the Caledonian continued its exponential expansion

Table 14: The 'Caledonian System' to the north

Route	Original company	Gauge	Note
Carlisle to Garriongill	Caledonian	Standard	1845 Caledonian main route
Garriongill to Coatbridge	Wishaw and Coltness	4'6"	1845 Caledonian main route
Coatbridge (Gartsherrie) to Garnqueen	Monkland and Kirkintilloch	4'6"	1845 Caledonian main route
Garnqueen to Castlecary	Caledonian	Standard	1845 Caledonian main route
Castlecary to Perth	Scottish Central	Standard	Amalgamation in 1865
Perth to Coupar Angus (3)	Scottish Midland Junction	Standard	Amalgamation in 1866
Coupar Angus to Newtyle (1)	Newtyle and Coupar Angus	4'6"	Purchased by Scottish Midland
Newtyle to Glamis (1)	Newtyle and Glamis	4'6"	Purchased by Scottish Midland
Glamis to Forfar	Scottish Midland Junction	Standard	Amalgamation in 1866
Forfar to Guthrie (2)	Arbroath and Forfar	5'6"	Amalgamation in 1866
Guthrie to Aberdeen (3)	Aberdeen Railway	Standard	Amalgamation in 1866
Sources: Bradshaw's <i>Railway Almanack</i> , annual volumes for 1846-51; OS Nock, <i>The Caledonian Railway</i> , p.19; G Graham, <i>The Caledonian Railway: account of its origin and completion</i> , p.87.			
(1): The Scottish Midland Junction purchased the Newtyle and Coupar Angus (£13,965) and the Newtyle and Glamis (£20,563) as part of its authorised route between Perth and Forfar (Accounts of the Scottish Midland Junction Railway, 1850-1856, NAS/BR/SCM/1/1-3). The town of Glamis is now more usually designated as Glamis.			
(2): The Arbroath and Forfar Railway was leased by the Aberdeen Railway in 1848 (N Ferguson, <i>The Arbroath and Forfar Railway</i> (Usk, 2000), pp.55-56; Bradshaw's <i>Railway Almanack</i> , 1848 and 1850, which gives details of the lease).			
(3): The Scottish Midland Junction and Aberdeen Railways amalgamated in 1856 to form the Scottish North-Eastern Railway (Minutes of the Joint Committee of the Scottish Midland Junction and Aberdeen railways, 25 April 1856, NAS/BR/SCM/1/5; 19&20 Vic. cap.134, 1856, The Scottish North-Eastern Railway Company's Act).			

- strategic intent and financial strain

Rapid action was needed by the infant Caledonian to obtain control of the strategically important Scottish Central for the west-coast companies. With routes in Fife demoted to the status of local lines, the Caledonian held an initial advantage in the north, but it faced immediate challenges to its southern territory and traffic. Therefore, even before the Caledonian line was opened in 1848, it took control of the Glasgow, Paisley and Greenock Railway by guaranteed dividend under an Act of

⁸⁵ Minutes of Directors and Committees of the Caledonian Railway, 12 February 1846, NAS/BR/CAL/1/7, p.302, reporting Locke's advice: 'I can ... see much danger in the Caledonian Company appearing to monopolise too many of the lines about it and I would rather see it standing aloof from a competition just now, than mixing in it by which it will be sure to lose largely in popularity before Parliament'.

1847, which led to subsequent censure by Caledonian shareholders.⁸⁶ Nevertheless, by so doing, it confined the Glasgow and South-Western Railway, formed from the Ayr and Dumfries lines in 1850, within a defined territory.

Acworth quotes twenty parliamentary Acts to show the speed and extent of Caledonian appropriation.⁸⁷ With the vacuum of state policy on railways, Parliament indirectly assisted the predatory and monopolistic expansion of the Caledonian. not just to secure territory identified within its 1844 Act but in seeking control of the northern route. By 1847, *Herapath's Railway Journal* was predicting catastrophe:

Another thing which is calling loudly for the interference of the Government is the system of guarantees now going on. If this is not prevented, ere long some of our large Companies will be brought to a standstill ... This Company [Caledonian] has been entering into leases, amalgamations and purchases to the extent of nearly half the railways of Scotland...⁸⁸

The extent of the Caledonian's commitment to guaranteed dividends is illustrated in tables 15 and 16, showing those paid to secure the route to Glasgow and those shared with the west-coast companies for the route to the north.

⁸⁶ Minutes of the Caledonian Railway, NAS/BR/CAL/1/7, p.23-24; Report of the Committee of Investigation to the Shareholders of the Caledonian Railway, 1849, NAS/ BR/CAL/1/98, p.6; 10&11 Vic. cap.169, 1847, The Caledonian and Glasgow, Paisley and Greenock Railways Amalgamation Act.

⁸⁷ WM Acworth, *The Railways of Scotland*, p.35, quoting specifically the parliamentary session 9 & 10 Victoria (1848-49).

⁸⁸ *Herapath's Railway Journal*, 8 May, 1847, p.577 and p.582.

Table 15: Guarantees given by the Caledonian Railway, 1849

Company	Miles	Company Capital (£)	Dividend guaranteed	Amount of guarantee to be paid by the Caledonian (£)
Clydesdale Junction	18	450,000	6%	27,000
Wishaw and Coltness	13	240,000	10½%	25,200
Glasgow, Garnkirk and Coatbridge	12	156,355	8%	12,508
Glasgow, Paisley and Greenock	22½	150,000 500,000	6% 4%	29,000
Loan capital of these four companies		250,000		12,500
	65½	1,746,355		106,208 (per annum)
Sources: Report of the Committee of Investigation to the Shareholders of the Caledonian Railway, 1849, NAS/BR/CAL/1/98; Reports and accounts of the Caledonian Railway, 1845-68, NAS/BR/RAC(S)/1/3; Bradshaw's <i>Railway Almanack</i> , 1849, p.51.				

Table 16: Guarantees of the Caledonian Railway in partnership with west-coast companies for the route to the north, 1849

Company	Miles	Company Capital (£m)	Guaranteed Dividend (%)	Dividend to be paid (£)	Proportion to be paid by the Caledonian (£)
Scottish Central	45	1.020	7%	71400	17850
Scottish Midland Junction	33	0.500	6%	30000	22500
Dundee, Perth and Aberdeen	47	0.530	8%	42400	31800
	125	2.050		143800	72150 (per annum)
Sources: Bradshaw's <i>Railway Almanack</i> , 1849, p.52; Report of the Committee of Investigation to the Shareholders of the Caledonian Railway, 1849, NAS/BR/CAL/1/98; Reports and accounts of the Caledonian Railway, 1845-68, NAS/BR/RAC(S)/1/3.					
(1): Bradshaw shows the capital of the Scottish Midland Junction on which the Caledonian guarantee was made as £500,000 (p.82), although its authorised capital under 9&10 Vic. cap.75, 1846, was £600,000. (2): Mileages are quoted from Bradshaw's <i>Railway Almanack</i> , 1849, p.52. However, HG Lewin, <i>The Railway Mania and its Aftermath, 1845-52</i> , pp.57-58, gives the authorised mileages for the Scottish Central and Scottish Midland Junction lines as 45 and 30½ respectively, but subsequently states these to be 45½ and 32½ on opening in 1848 (pp.388-391), while PF Marshall, <i>The Scottish Central Railway</i> , p.27, quotes the Scottish Central mileage to be 47. The Dundee, Perth and Aberdeen mileage includes the Dundee and Newtyle line, leased in 1846.					

The inability of the infant Caledonian to manage this scale and speed of expansion proved to be disastrous for the company. The weakness in the Caledonian's policy of securing control of companies and routes was symbolised by the 10½ percent dividend it guaranteed to the Wishaw and Coltness Railway, only eleven miles long but forming part of its route to Glasgow; this company had only paid a dividend in three half-years during 1838-44 and its gross revenue justified 4 percent at most.⁸⁹ With a further guarantee proposed to gain access to Kilmarnock,⁹⁰ the Caledonian's

⁸⁹ CJA Robertson, *The Origins of the Scottish Railway System 1722-1844*, p.77; J Butt and JT Ward, 'The promotion of the Caledonian Railway Company', *Transport History*, 3, No.3 (November 1970), p.227.

⁹⁰ Report of the Committee of Investigation to the Shareholders of the Caledonian Railway, 1849, NAS/BR/CAL/1/98, pp.4-5, gives the yearly guarantee for the Glasgow, Barrhead and

annual commitment of guarantees in 1849 was £194,858.⁹¹ Unsurprisingly, no ordinary dividend was paid in July 1849.

A shareholders' inquiry was established in 1849 which estimated an annual loss of £66,164 to capital as a result of the guarantees to the Coltness, Garnkirk, Clydesdale, Greenock and Neilston lines in addition to the revenue loss sustained in working each of these lines.⁹² The inquiry discovered that the working agreement with the Scottish Central required an annual payment of £71,400, shared with the Lancaster and Carlisle and London and North Western companies, but, for the first half-year, the Caledonian's proportion of the loss sustained was £14,149, £6,000 more than the entire traffic receipts from the line.⁹³

Estimated floating debt of £670,744 and liabilities of £853,762 backed by only £510,609 of assets summarised the dire financial state of the Caledonian in 1849.⁹⁴ When these debts and liabilities were identified, the Edinburgh and Glasgow Railway withdrew from negotiations on amalgamation with the Caledonian. The inquiry report was blunt:

Neilston line as £16,500 with 8% on £150,000 of capital and 6% on the remaining £150,000; Bradshaw's *Railway Almanack*, 1849, p.51.

⁹¹ Report of the Committee of Investigation to the Shareholders of the Caledonian Railway, 1849, NAS/BR/CAL/1/98, pp.4-5: the guarantees of £106,208 and £72,150 recorded in tables 15 and 16 above, coupled with the £16,500 to gain access to Kilmarnock over the Glasgow, Barrhead and Neilston Railway, produce the estimated annual total of guarantees of £194,858.

⁹² Minutes of the Caledonian Railway, 27 September 1849, NAS/BR/RAC(S)/1/3; Report of the Committee of Investigation to the Shareholders of the Caledonian Railway, 1849, NAS/BR/CAL/1/98, pp.6-7.

⁹³ NAS/BR/CAL/1/98, Report of the Committee of Investigation to the Shareholders of the Caledonian Railway, 1849, p.6; see also chapter 4, 'The route to the North'.

⁹⁴ NAS/BR/CAL/1/98, Report of the Committee of Investigation to the Shareholders of the Caledonian Railway, 1849, p.14: liabilities to banks (£214,668), to other creditors (£166,669), on bills (289,406) and for outstanding claims on construction work (£183,018) exceeded assets comprising capital not yet received or raised (£510,609) by £343,152 (*shillings and pence have been rounded down*). Floating debt due to banks, creditors and on bills was reported to be £670,744.

... the conduct of the Directors indicate a want of judgement and discretion ... With a capital barely sufficient for the original undertaking, their over-zeal induced them to embark on schemes and speculation in an extent seriously compromising the safety of the Company.⁹⁵

The overwhelming desire of the Caledonian to secure territorial control, stimulated by the state approval of the Scottish system of routes in 1845, had led to its insolvency within four years of incorporation. With strong backing from English shareholders, a new board of directors was appointed in February 1850 to attempt a rescue of the company. One new director was John Duncan, an advocate from Aberdeen, who served as chairman of the Caledonian in 1850-52 and was later destined to tackle the financial collapse of a northern monopoly, the Great North of Scotland Railway.⁹⁶ The Caledonian chairman told shareholders in 1851 that '... any body of men who could keep a company like this afloat must have had some nerve as well as energy'.⁹⁷

The state approved a complex restructuring of the Caledonian in 1851, which re-incorporated the leased Greenock, Clydesdale and Wishaw companies.⁹⁸ Four directors were appointed specifically to the Caledonian to safeguard the interests of those three companies and the Neilston line until the Caledonian re-established its solvency. Previously agreed fixed dividends and guaranteed dividend increases were cancelled under the 1851 Act and new, more realistic fixed payments

⁹⁵ NAS/BR/CAL/1/98, Report of the Committee of Investigation to the Shareholders of the Caledonian Railway, 1849, p.7 and p.18: '... there has been a want of economy in the management of the affairs of the Company ...'.

⁹⁶ Half yearly report to the Ordinary General Meeting of the Caledonian Railway, 28 March 1851, NAS/BR/RAC(S)/1/3, p.2 of printed report, stating the election of John Duncan 'who is among the largest holders of [Caledonian] Ordinary Stock in Scotland' as chairman from December 1850: reports for ordinary general meetings on 30 September 1851, 13 March 1852 and 22 September 1852 are signed by Duncan as chairman, but the next report for 22 March 1853, is signed by William Baird as chairman. See also chapter 8, 'Northern regional monopolies and their finances, 1865-74'.

⁹⁷ *Railway Times*, 26 April 1851, p.431.

⁹⁸ 14&15 Vic. cap.134, 1851, An Act to sanction certain Arrangements entered into between the Caledonian Railway Company and the Holders of guaranteed and preferential interests in the Company, and to enable the Company to raise a further Sum of Money, The Caledonian Railway Company Arrangements Act.

substituted. Additional borrowing powers were granted specifically to meet arrears of dividend and to reduce outstanding debts and liabilities. By the time the four directors representing the subsidiary companies stood down in 1854, fixed interest payments still absorbed two-fifths of revenue.⁹⁹

The 1851 Act authorised the Caledonian to continue to hold £142,475 of shares in five other companies, including £96,175 in the Scottish Midland Junction and £17,250 in the Scottish Central, but required disposal of £596,872 of shares held in four other companies.¹⁰⁰ This previous investment of nearly £¾ million in these nine railway companies illustrates the scale of the Caledonian's bid for dominance, but the approved revised shareholding ensured that the Caledonian retained a significant interest in the Scottish Central and Midland companies on the northern route to Aberdeen. The *Times* reported the complexity of the Caledonian's affairs:

The Caledonian Railway Company, the work of neither lawyers, nor of old women, nor spendthrifts, but of shrewd middle-aged mercantile men, is just such a tangle as one might dream of after supping on lobster salad and champagne.¹⁰¹

Attempting to disentangle the financial affairs of the Caledonian continues to present similar challenges to modern researchers, not least because the surviving accounts make disaggregation of the original Caledonian scheme from the complicated web of purchased and leased companies particularly difficult. Nevertheless, the Caledonian

⁹⁹ Bradshaw's *Railway Almanack*, 1855, p.30, reporting that the guarantee representatives had left the Caledonian Board in September 1854 and that, for the half-year to December 1854, £90,143 was paid on fixed interest debt from revenue of £228,218 (39.5%).

¹⁰⁰ 14&15 Vic. cap.134, 7 August 1851, The Caledonian Railway Arrangements Act, schedule E, approved a revised Caledonian shareholding of 690 £25 shares (£17,250) in the Scottish Central Railway and 3847 £25 shares (£96,175) in the Scottish Midland Junction Railway. However, these revised shareholdings represented approximately half of the shares previously held on 31 December 1849, when £35,198 had been paid by the Caledonian for Scottish Central stock and £195,656 for of Scottish Midland stock, representing par values of £41,265 and £231,071 respectively (NAS/BR/CAL/1/98, p.8): this par value of Scottish Midland shares formed 38.5% of the Scottish Midland Junction's authorised share capital.

¹⁰¹ *The Times*, 30 August 1850, quoted in J Butt and JT Ward, 'The promotion of the Caledonian Railway Company', *Transport History*, 3, No.3 (November 1870), p.250.

experience provides a benchmark against which to evaluate the financial stability of later railway companies in the north of Scotland.¹⁰²

- Caledonian finances

The Caledonian was the largest Scottish railway company in 1849 and its financial collapse was a significant milestone in the history of Scottish railways. Land and construction costs for the Caledonian Railway were 122 percent and 24 percent respectively above the parliamentary estimate, which placed immediate strain on the capital account.¹⁰³ Inaccurate cost estimates and the high levels of committed guarantees undermined the company's financial stability, even though gross revenue rose steadily once the line opened throughout in 1848. The 1849 shareholder inquiry reported that revenue was insufficient to meet guarantee and preference commitments and the liabilities of the company exceeded its assets; the Caledonian was therefore insolvent.¹⁰⁴

Although share price data must be treated with caution, the comparative performance of Caledonian shares against its main Scottish rival, the North British, illustrates that, even with the depressed state of share trading in 1846-48 when the Caledonian was expanding rapidly, the market showed concern by marking its shares proportionately lower than those in the North British (table 17).

¹⁰² See chapter 1, 'Sources and financial indicators', for details of the derivation of financial indicators.

¹⁰³ Report of the Committee of Investigation to the Shareholders of the Caledonian Railway, 1849, NAS/BR/CAL/1/98, and Accounts of the Caledonian Railway, 1845-68, NAS/BR/RAC(S)/1/3.

¹⁰⁴ Report of the Committee of Investigation to the Shareholders of the Caledonian Railway, 1849, NAS/BR/CAL/1/98, p.7 in which the Committee identify that if all guarantees and preferences were sustained, 'the entire earnings of the lines will not be sufficient to meet them ...'; also p.14 where the Committee show current liabilities to be £853,762 and assets £510,609 and the capital account to be £494,698 in deficit, while amounts still outstanding to be paid from capital exceeded the amount of capital still available to be raised by £343,152; *Railway Times*, 5 September 1868, p. 921, reviewing the financial progress of the Caledonian since its insolvency in 1851'; see also chapter 1, 'sources and financial methodology'.

Table 17: Weekly share prices during the period of Caledonian expansion, 1846-48

Date	Caledonian Railway				North British Railway			
	No of shares	Par (£)	Amount paid (£)	Price range in week (£)	No of shares	Par (£)	Amount paid (£)	Price range in week (£)
10.10.1846	36000	50	25	26 7/8 - 27 1/3	36000	25	25	32 1/2 - 33
26.12.1846	36000	50	30	29 - 29 5/8	36000	25	25	36 1/4 - 37 3/8
03.04.1847	36000	50	30	26 - 26 1/4	36000	25	25	33 - 33 1/8
01.05.1847	36000	50	30	23 1/2 - 24 1/4	36000	25	25	31 - 31 1/2
02.10.1847	36000	50	40	29 1/2 - 37 7/8	36000	25	25	25 - 26 1/2
18.12.1847	36000	50	50	36 1/4 - 37 3/8	36000	25	25	26 1/4 - 26 7/8
29.01.1848	36000	50	50	35 7/8 - 36 1/8	36000	25	25	26 1/4 - 27 1/4
01.04.1848	36000	50	50	26 - 28 1/4	36000	25	25	20 1/2 - 21 1/4
24.06.1848	36000	50	50	30 - 31	36000	25	25	21 7/8 - 22
01.07.1848	36000	50	50	29 - 30	36000	25	25	21 1/4 - 21 1/2

Source: *Herapath's Railway Journal*, October 1846 - July 1848.

(1): By July 1848, the price of Caledonian shares was 60% of par value, while the North British share price was 86% of par value.

The financial instability of the Caledonian can be shown by the gearing of gross revenue to its fixed interest debt, which requires the inclusion of any 'hidden' debt. Table 18 identifies the total amount of fixed interest debt comprising authorised debenture loans and floating debt set against the annual gross revenue for the period 1848-52. The accounts of the Caledonian at 31 December 1849 show £696,220 of 'hidden' debt held under the line in the general balance sheet, including £168,495 owed to banks, on which interest had to be paid.¹⁰⁵ In December 1849, authorised loans represented 24.5 percent of total capital raised by the Caledonian, almost identical to the level found by Broadbridge on the Lancashire and Yorkshire at that date.¹⁰⁶ However, with considerable hidden debt in the Caledonian, the total debt requiring interest payments comprised 39.3 percent of total capital raised,¹⁰⁷ which suggests a weakness in the company's financial structure.

¹⁰⁵ Accounts of the Caledonian Railway, 31 December 1849, NAS/BR/RAC(S)/1/3.

¹⁰⁶ SA Broadbridge, *Studies in Railway Expansion and the Capital Market in England, 1825-1873* (London, 1970), p.71, table 9, showing that, in 1849, 24% of Lancashire and Yorkshire capital comprised authorised loans.

¹⁰⁷ Table 18 shows that the total debt of the Caledonian Railway to 31 December 1849 was £1,854,404 and capital raised was £4,720,064; debt therefore represented 39.3% of capital funds raised.

Table 18: Revenue and debt of the Caledonian Railway, 1848-52

(£)	30.06.1848	31.12.1848	30.06.1849	31.12.1849
Floating debt in general balance sheet – including:	(4)	483446	572577	696220
- Bills outstanding			291269	335432
- Debts outstanding		451185	162654	192293
- Claims by bankers		32261	118654	168495
Debenture loans		968185	1154877	1158184
Total debt		1451631	1727454	1854404
Committee of Inquiry established				27 09.1849
Inquiry report published				24.12.1849
Gross revenue for ½ year (6)	93857	130968	136198	164925
Cumulative yearly revenue	-	224825	267166	301123
Total capital raised	3655838	4307530	4654621 (5)	4720064
Total share capital paid up (3)	2706532	3339345	3499744	3561880
Total authorised loans raised	949305	968185	1154877	1158184
Ratio of authorised loans to total capital raised		0.225	0.248	0.245
Ratio of debt to capital funds raised		0.337	0.371	0.393
Ratio of gross revenue to floating debt		0.465	0.467	0.433
Ratio of gross revenue to total debt		0.155	0.155	0.162
Source: Accounts of the Caledonian Railway, 1848-52, NAS/BR/RAC(S)/1/3.				
(1): shillings and pence have been rounded down; totals may not always match precisely the sum of the component items.				
(2): the accounting periods vary slightly in length over the period 1849-52.				
(3): share capital data include small sums for transfer fees and receipts from sale of forfeited shares.				
(4): the first general balance sheet was published for the half year ending 31 December 1848.				
(5): to 30 June 1849, capital receipts amounted to £4,654,621 and capital expenditure £5,149,319, a deficit of £494,698.				
(6): the line between Carlisle and Beattock opened on 10 September 1847; the remainder of the main line to Glasgow opened on 15 February 1848; the connecting line to Castlecary and Greenhill to connect with the Scottish Central Railway opened on 7 August 1848.				

(£)	30.06.1850	31.12.1850	31.07.1851	31.01.1852	31.07.1852
Arrangements Act			07.08.1851		
Debt in general balance sheet (floating debt)	594247	636727	611511	502902	70162
<i>Including:</i>					
Claims against the Co (account No.1)	200137	338428	335529	237268	98836
Claims against the Co (account No.2)	246954	146788	125437	148296	37137
Claims by bankers	147156	151511	150544	117338	- 65809 (cr)
Debenture loans	1292012	1288032	1287182	1651324	1959414
Total debt	1886259	1924759	1898693	2154226	2029576
Gross revenue for ½ year	151225	176361	188781	220062	211763
Cumulative yearly revenue	316150	327586	365142	408843	431825
Ratio of gross revenue to total debt	0.168	0.170	0.192	0.190	0.213

It is the comparison of gross revenue to total debt, however, that presents the starkest indication of the Caledonian's desperate financial position. The gearing ratio of gross revenue to total debt in December 1849, when the company was insolvent, was 0.162. A simple indicative calculation demonstrates that, at that 1849 level of gross revenue, after deducting a notional figure of 50 percent of gross revenue for operating costs, which was commonly applied for working agreements,

net revenue would have been insufficient by nearly 30 percent to meet even its committed guarantees without any other calls being made on revenue.¹⁰⁸ As a result of its serious monetary difficulties, the Caledonian had to obtain new legislation that restructured its affairs to establish a realistic financial base from which to begin its recovery.¹⁰⁹

The Caledonian debt gearing showed a slow improvement in 1850-52, principally due to growth of gross revenue as the traffic on its main trunk route developed. In fact, overall debt rose in this period because authorised loans were increased under the 1851 Arrangements Act to assist the re-ordering of the company's finances. By 1851, the Caledonian capital account remained in deficit, with £4.925 million raised and £5.218 million spent.¹¹⁰ Its share price was quoted at £11 on a £50 share in July 1851 when £100 London and North Western shares were trading at £123.¹¹¹ The Caledonian did recover, but only as revenue rose and as its restructuring legislation took effect; a small dividend was restored in 1852.¹¹² The state approved the necessary legislation for, had it not done so, one of the largest companies in Scotland at that time would have failed. Once again, the state had to abandon temporarily its adherence to the principles of the free market and approve action for the wider benefit of the Scottish economy.

¹⁰⁸ Table 18 shows that the annual revenue of the Caledonian to 31 December 1849 was £301,123. Deducting a notional 50% of gross revenue to meet working expenses, the £150,562 remaining would be insufficient to meet the £194,858 committed on guarantees to other companies (29.4% shortfall) even without any other calls being made on revenue. To meet committed guarantees and operational costs, annual gross revenue would have needed to yield £345,420 (i.e. £150,562 for operations and £194,858 for guarantees), which is 14.7% more than was earned in 1849 (£301,123). Furthermore, even that level of revenue would have been insufficient to service its authorised loan capital or provide any ordinary dividend.

¹⁰⁹ 14 & 15 Vic. cap.134, 1851, 'An Act to sanction certain Arrangements entered into between the Caledonian Railway Company and the Holders of guaranteed and preferential Interests in the Company, and to enable the Company to raise a further Sum of Money', The Caledonian Railway Company Arrangements Act.

¹¹⁰ Accounts of the Caledonian Railway to 31 July 1851, reported to the Ordinary General Meeting held on 30 September 1851, NAS/BR/RAC(S)/1/3.

¹¹¹ *Railway Times*, 5 July 1851, p.662: share prices quoted for Thursday 3 July 1851 (The Caledonian Railway Arrangements Act was passed in Parliament on 7 August 1851).

¹¹² *Railway Times*, 20 September 1862, pp.1399-1402: dividend of 5 shillings per share was paid in January 1852 and 6 shillings in July 1852. Dividend in January 1853 was £1.5s and £1.0s in July 1853. In January and July of 1854 and 1855, dividend was 3%.

Any appraisal of a company's financial situation must balance data against the broader circumstances faced by that company. Nevertheless, the insolvency of the Caledonian suggests that any railway company in the mid-nineteenth century with a gearing of gross revenue as a proportion of total debt below the Caledonian's 1849 level of 0.162, even if its gross revenue was rising, was financially unsound. The relatively high proportion of Caledonian funds that required guaranteed payments, illustrated by the ratio between its debt and capital raised, also indicates the company's financial instability. Furthermore, given the need to obtain new legislation in order to survive and restructure, the Caledonian experience implies that any company with a weaker debt gearing and without rising levels of revenue would be unlikely to recover independently. These indicators, coupled with data showing that Caledonian liabilities were greater than its assets and that it was unable to meet its guarantees, provide benchmarks against which the performance of later railway companies in the north can be evaluated.

The aftermath of the Railway Board in northern Scotland, 1845-46

When the Railway Board was abolished in July 1845, a large number of proposed railway schemes for Scotland awaited examination in Parliament or were about to be deposited, including bills to extend railways north to Inverness.¹¹³ The parliamentary timetable prevented the promotion and authorisation of any railway company within one session so the schemes recommended by the Railway Board had already been in gestation for some time before the onset of the 1845-46 mania.

Although the Board was purely advisory, Parris considers that its abolition in July 1845 removed any restraint on speculation; by December 1845, 788 bills awaited

¹¹³ Bills deposited in 1845 included the Great North of Scotland, the Perth and Inverness, the Inverness and Elgin and the Aberdeen, Banff and Elgin Railways, all of which intended to provide a new route to Inverness; see tables 20(a) and (20(b) in this chapter.

parliamentary scrutiny.¹¹⁴ Indeed, the ability of Parliament to manage this volume of legislation without preliminary investigation was questioned:

The private business of this country, if conducted on the ancient plan, must utterly swamp the consideration of public affairs, and the member of parliament dwindle into a mere arbiter between hostile surveyors ... We do think, therefore, that it is high time for the legislature to interfere ...¹¹⁵

Many railway schemes collapsed in the wave of speculation, but, of the estimated £701 million capital required for railways proposed by October 1845, just 3.2 percent was intended for Scottish schemes; of the £71 million subsequently raised for railways that were constructed, only 6.2 percent was directed to Scotland.¹¹⁶ In many respects, therefore, the shape of Scottish railway development in 1845-46 was influenced more by the Railway Board's report than the speculative railway mania:

The new railways in Scotland possess all the characteristics and elements of bona fide undertakings ... There may be one or two schemes the prospects of which are unfavourable – but it cannot be said even of these that the plans were impracticable, or that the promoters are men of little substance or character.¹¹⁷

During the mania, Professor Aytoun described the 'epidemic' of seeking to grow rich as 'a disease which infests the nation whenever capital, in consequence of the success of trade and prosperous harvests, becomes abundant'.¹¹⁸ A poor harvest,

¹¹⁴ H Parris, *Government and the Railways in Nineteenth-Century Britain*, p.87: the 788 railway bills submitted by December 1845 represented three times the level of submission in the previous year.

¹¹⁵ WE Aytoun, 'Railways', *Blackwood's Edinburgh Magazine*, 58 (November 1845), pp.639-40.

¹¹⁶ WF Spackman in *The Times*, 17 November 1845, quoted in J Simmons, *The Railway in England and Wales*, vol.1 (Leicester, 1978), p.41, footnote 7.

¹¹⁷ *Railway Times*, 29 November 1845, p.2308.

¹¹⁸ WE Aytoun, 'Railways', *Blackwood's Edinburgh Magazine*, 58 (November 1845), p.634.

the arrival of potato blight and a rise in interest rates prompted a wave of share selling. By December 1845, over 500 provisionally registered British railway companies had disappeared.¹¹⁹ New legislation was approved to attempt to control the purchase and lease of railways, which did arrest the battle for control of the Scottish Central, and to allow the dissolution of railway companies.¹²⁰

Many of the schemes for railways into the north of Scotland awaiting parliamentary attention soon required that facility of dissolution. Railway promotions to the west highlands in 1845-46 encroached upon plans for railways to the highland capital of Inverness (table 19), but only the Scottish Grand Junction, the target of Aytoun's influential *Glenmutchkin* lampoon,¹²¹ gained authorisation only to collapse for lack of capital. By June 1846, its £25 shares on which £2 10s had been paid stood at only 15s.¹²²

¹¹⁹ *The Times*, 9 January 1846, quoted in RW Kostal, *Law and English Railway Capitalism 1825-1875*, pp.40-41.

¹²⁰ 8&9 Vic. cap. 96, 1845, An Act to restrict the powers of selling or leasing Railways contained in certain Acts of Parliament relating to such railways: this Act required the proposed purchase or lease of railways to be approved in new parliamentary powers; 9&10 Vic. cap.28, 1846, An Act to facilitate the dissolution of certain Railway Companies.

¹²¹ WE Aytoun, 'How we got up the Glenmutchkin Railway and how we got out of it', *Blackwood's Edinburgh Magazine* 58 (November 1845), 453-466.

¹²² *Bradshaw's Railway Gazette*, 13 June 1846, p. 1230.

Table 19: Railway plans in the west and north-west highlands of Scotland, 1845-46

West and North-West Highland companies	
Scottish Grand Junction	Planned as a line from Stirling to Oban with a branch to connect to the Perth and Inverness at Dalwhinnie, but incorporated on 3 July 1846 as a reduced scheme between Oban and Crianlarich, with a branch to Loch Lomond. The promotion was ultimately abandoned in 1852 (1).
Scottish (North) Western	A rival scheme to the Scottish Grand Junction for a line from Glasgow to Oban. The company agreed to be bought out by the Scottish Grand Junction before the bills were considered in Parliament (2).
Caledonian Canal and Great North and West of Scotland	A line projected to run along the Canal banks, providing locomotives to assist ships through the canal and either to connect at its southern end with the Scottish Grand Junction or to run to Glasgow (3).
Caledonian Northern Direct	A rival scheme to the Scottish Grand Junction for a line from Glasgow to Crianlarich (4).
<p>Sources:</p> <p>(1): Bradshaw's <i>Railway Almanack</i>, 1850, p.131 and 1852, p.162; J McGregor, <i>The West Highland Railway: Plans, Politics and People</i> (Edinburgh, 2005), p.3; HG Lewin, <i>The Railway Mania and its Aftermath, 1845-52</i>, p.228; CJA Robertson, 'Railway Mania in the Highlands: The Marquis of Breadalbane and the Scottish Grand Junction Railway', in R Mason and N Macdougall (eds.), <i>People and Power in Scotland</i>, pp.198-211.</p> <p>(2): Bradshaw's <i>Railway Gazette</i>, 29 October 1845, p.398; HG Lewin, <i>The Railway Mania and its Aftermath, 1845-52</i>, p.229; CJA Robertson, 'Railway Mania in the Highlands: The Marquis of Breadalbane and the Scottish Grand Junction Railway', in R Mason and N Macdougall (eds.), <i>People and Power in Scotland</i>, p.201 and pp.203-204.</p> <p>(3): Bradshaw's <i>Railway Gazette</i>, 3 January 1846, p.1055; CJA Robertson, 'Railway Mania in the Highlands: The Marquis of Breadalbane and the Scottish Grand Junction Railway', in R Mason and N Macdougall (eds.), <i>People and Power in Scotland</i>, p.201.</p> <p>(4): J McGregor, <i>The West Highland Railway: Plans, Politics and People</i>, p.3; CJA Robertson, 'Railway Mania in the Highlands: The Marquis of Breadalbane and the Scottish Grand Junction Railway', in R Mason and N Macdougall (eds.), <i>People and Power in Scotland</i>, p.201 and pp.205-207.</p> <p>(1): Capital for the Scottish Grand Junction was initially set at £1,000,000, and was oversubscribed during the mania. The Grand Junction formed one of the largest Scottish railway schemes of 1845, but its capital was reduced to £350,000 for its truncated Crianlarich-Oban line of 1846.</p>	

Parliament continued the Railway Board's methodology of weighing the balance of competing schemes. The Group 4 Select Committee met in March 1846 to consider the bills relating to lines in the Aberdeen and Inverness areas,¹²³ shown emboldened in the three tables below; the rival companies listed failed to produce bills by the due date.

¹²³ HG Lewin, *The Railway Mania and its Aftermath, 1845-52*, pp.226-27.

Table 20 (a): Railway plans in the north of Scotland based on Inverness, 1845-46

Inverness and far north companies	
Inverness and Elgin	Planned to join the Aberdeen, Banff and Elgin to form an Aberdeen-Inverness route, but amalgamated in 1846 with the Perth and Inverness to form a direct route to the south (1).
Perth and Inverness	The trunk line promoted from Inverness to the south to connect with the Scottish Midland Junction and Scottish Central Railways (2). An agreement was made with the Scottish Midland that their Dunkeld branch bill would be withdrawn if the Perth-Inverness bill was passed, with the Perth and Inverness to pay the Scottish Midland's promotional costs (3).
Inverness and Ross	A line north of Inverness with capital of £500,000; no bill was lodged (4).
Wick and Thurso	A local line to connect the two far north towns with proposed capital of £120,000; no bill was lodged (5).
Sources: (1): Prospectus of the Inverness and Elgin Railway, 1845, NAS/BR/PYB(S)/1/477/1. (2): Prospectus of the Perth and Inverness Railway, 1845, NAS/BR/PYB(S)/1/477/1. (3): Law papers of the Perth and Inverness Railway, 1845-46, NAS/BR/PYB(S)/1/477/2. (4): Bradshaw's <i>Railway Gazette</i> , 13 December 1845, p.843; 7 January 1846, pp.1090-92. (5): Bradshaw's <i>Railway Gazette</i> , 13 December 1845, p.843; 7 January 1846, pp.1090-92; D McConnell, <i>Rails to Wick and Thurso</i> (Dornoch, 1990), p.7.	

Table 20 (b): Railway plans in the north of Scotland based on Aberdeen, 1845-46

Aberdeen companies	
Aberdeen, Banff and Elgin	A rival to the Great North of Scotland, intended to link with the Inverness and Elgin, but weakened by the amalgamation of the Inverness and Elgin with the Perth and Inverness (1).
Great North of Scotland	Authorised in 1846 as the sole route north to Inverness (2).
Great North of Scotland (Western Extension)	A proposed line from Inverurie on the Great North of Scotland route to Banff; its bill was not presented to Parliament (3).
Great North of Scotland (Eastern Extension)	Routes authorised in 1846 to Peterhead and Fraserburgh, but powers lapsed (4).
Deeside	Authorised in 1846; reincorporated 1852 (5).
Alford Valley	Authorised in 1846 but powers expired; new powers gained in 1856 (6).
Sources: (1): Bradshaw's <i>Railway Gazette</i> , 13 December 1845, p.843. (2): Minutes of the Great North of Scotland Railway Company, 7 July 1846, NAS/BR/GNS/1/1, p.99, reporting that Royal Assent was given to the Great North's Act on 26 June 1846. (3): <i>Aberdeen Journal</i> , 22 October 1845; K Fenwick, 'Genesis of the Great North', Part 3, <i>Great North Review</i> , 33, No.140 (August 1996), p.306. (4): Bradshaw's <i>Railway Gazette</i> , 8 October 1845, p.10, reporting the prospectus of the Great North of Scotland Extension Railway; K Fenwick, Great North of Scotland Railway legislation, Great North of Scotland Railway Association abstract No.26 (September 1994). (5): K Fenwick, Great North of Scotland Railway legislation, Great North of Scotland Railway Association abstract No.26 (September 1994). (6): Bradshaw's <i>Railway Gazette</i> , 13 December 1845, p.843; K Fenwick, Great North of Scotland Railway legislation, Great North of Scotland Railway Association abstract No.26, (September 1994).	

Table 20 (c): Railway plans in the north of Scotland: independent companies, 1845-46

Small independent companies	
Morayshire	Authorised in 1846 but the southern section was abandoned by warrant of the Railway Commissioners in 1851 leaving the Lossiemouth–Elgin section extant (1).
Banffshire	A rival scheme to the Morayshire with proposed capital of £120,000 to build a line from Dufftown north to Port Gordon on the Moray Firth. The company was wound up in 1846 (2).
Direct Northern	Proposed line from Coupar Angus on the Scottish Midland line to Elgin and Inverness (3).
Great Northern Central	Proposed line from Perth to Elgin with various branches to Moray Firth settlements (4).
Perth and Northern Counties	Proposed line from Coupar Angus to Keith on the Great North of Scotland Railway and Rothes on the Morayshire Railway (5).
Strathtay and Breadalbane	Approved unopposed in August 1846 to connect Aberfeldy to the Perth and Inverness Railway. The Perth and Inverness bill failed and a Scottish Midland branch to Dunkeld, proposed in 1846 and again in 1852, that offered the prospect of a connection was not progressed. The Strathtay was left isolated and no construction was begun (6).
Sources:	
(1): Minutes of the Morayshire Railway Company, 1846, 5 September 1851, NAS/BR/MOR/1/1.	
(2): Bradshaw's <i>Railway Gazette</i> , 13 December 1845, p.843; 25 April 1846, p.947; <i>Railway Chronicle</i> , 25 April 1846, p.417.	
(3): K Fenwick, 'Genesis of the Great North', Part 2, <i>Great North Review</i> , 33, No.129 (May 1996), p.290.	
(4): K Fenwick, 'Genesis of the Great North', Part 2, p.290.	
(5): K Fenwick, 'Genesis of the Great North', Part 2, p.290.	
(6): H Tuck, <i>Railway Shareholder's Manual</i> (1847), p.213, reported that the Strathtay and Breadalbane Act was approved on 3 August 1846 with capital powers of £120,000 and borrowing powers of £30,000; <i>Railway Chronicle</i> , 31 July 1847, p.727, reported additional capital powers of £150,000 and borrowing powers of £50,000 granted to the Strathtay and Breadalbane Railway to extend its line to the Scottish Midland Junction Railway at Dunkeld; Minutes of the Scottish Midland Junction Railway, 28 December 1852, NAS/BR/SMJJ/1/1, p.290; NT Sinclair, <i>The Highland Main Line</i> (Penryn, 1998), p.17; CJA Robertson, 'Railway Mania in the Highlands: The Marquis of Breadalbane and the Scottish Grand Junction Railway', in R Mason and N Macdougall (eds.), <i>People and Power in Scotland</i> , pp.198-200, notes that the two attempts by the Strathtay and Breadalbane Railway to extend its line in 1847 and 1848 were unsuccessful.	

Inverness was the key strategic centre for traffic to and from the highlands and was therefore the focus of the main railway promotions to the north in 1845-46. The Great North of Scotland Railway proposed an extension to Inverness from the Aberdeen Railway, already authorised as the last link in the 1845 national trunk route.¹²⁴ Its Aberdeen rival, the Aberdeen, Banff and Elgin Railway, intended to extend from Aberdeen via Turriff and Banff to Elgin, there to join the Inverness and Elgin Railway to reach Inverness.¹²⁵ In competition, the Perth and Inverness Railway, planned by Joseph Mitchell and promoted from Inverness, presented a bold

¹²⁴ Prospectus of the Great North of Scotland Railway, 1845, NAS/BR/PYB(S)/1/477/1; 8&9 Vic. cap.153, 1845, The Aberdeen Railway Act.

¹²⁵ Report of the provisional committee of the Inverness and Elgin Railway, *Railway Chronicle*, 8 March 1845, p.276; K Fenwick, 'Genesis of the Great North', Part 2, p.284.

scheme to leave the Inverness and Elgin line at Nairn and cross the Grampian mountains on a direct route to Perth and the south, avoiding the considerable detour via Aberdeen (table 21).¹²⁶

Table 21: Distances given to Parliament for the Great North and Perth and Inverness schemes, 1846

	Via the Perth and Inverness line	Via Aberdeen and the Great North line
Perth-Inverness	130 miles	197 miles
Perth-Elgin	138 miles	160 miles
Perth-Nairn	116 miles	181 miles
Source: Written evidence of Joseph Mitchell to the Parliamentary Select Committee, 1846, NAS/BR/PYB(S)/1/477/1.		

Not surprisingly, support for rival schemes became polarised. The *Inverness Courier* announced: 'It is thus quite apparent that the local feeling is against our Aberdeen friends pushing their claims beyond Elgin'.¹²⁷ The Perth and Inverness and Great North made an attempt to avoid an expensive parliamentary contest, but the tone of the conference between these rivals at Elgin in October 1845 indicated the depth of division. The Perth and Inverness offered 'the most favourable terms' to the Great North to use their line to Inverness if that company would stop at Elgin: the Great North responded:

This was wholly out of the question as the Great North of Scotland would on no account surrender this part of the Coast line ...¹²⁸

The Great North offered to allow the Perth and Inverness to build their own separate stations on their line against the advice of their own engineer. The final response of

¹²⁶ Prospectus of the Perth and Inverness Railway, 1845, NAS/BR/PYB(S)/1/477/1.

¹²⁷ *Inverness Courier* quoted in Bradshaw's *Railway Gazette*, 7 January 1846, p.1083.

¹²⁸ Conference between the Great North of Scotland and Perth and Inverness Railway companies at Elgin, 21 October 1845, NAS/BR/PYB(S)/1/477/2.

the Perth and Inverness committee, however, clearly set the parameters for future relationships between Inverness and Aberdeen:

The line between Elgin and Inverness fell naturally to be under the management of parties interested in the Northern Counties and that the assumption of it by parties in Aberdeen was an Act of aggression ...¹²⁹

The population of Inverness wanted control of railways to and from their town and defended that strategic principle resolutely throughout the remainder of the century.

The issue of the validity of data drawn from subscription lists has already been raised in connection with early railways in Scotland.¹³⁰ The surviving subscription lists for the Perth and Inverness and Inverness and Elgin Railways are subject to the same caveats, but they provide a sharp contrast between the locations of scrip holders (tables 22 and 23). Mitchell recalled that the full 48,000 shares advertised in the Perth and Inverness prospectus were taken within a week of publication,¹³¹ and the £1.2 million share capital of the prospectus was amended to £1.4 million in the published parliamentary bill.¹³²

¹²⁹ Conference between the Great North of Scotland and Perth and Inverness Railway companies at Elgin, 21 October 1845, NAS/BR/PYB(S)/1/477/2.

¹³⁰ W Vamplew, 'Sources of Scottish railway share capital before 1860', *Scottish Journal of Political Economy*, 17 (1970), p.429; TR Gourvish and MC Reed, 'The financing of Scottish railways before 1860 - a comment', *Scottish Journal of Political Economy*, 18 (1971), pp.213-16.

¹³¹ J Mitchell, *Reminiscences of My Life in the Highlands, vol.II*, pp159-60, recorded that the first prospectus of the Perth and Inverness Railway was issued on 9 April 1845 and that the 48,000 shares were subscribed within a week with £120,000 from deposits placed in the bank. Mitchell also noted (p.159) that 'It was deemed prudent to engage Mr Locke as our consulting engineer', which suggests that the promoters aimed to attract English interest; Prospectus of the Perth and Inverness Railway, 1845, NAS/BR/PYB(S)/1/477/1.

¹³² Session 9&10 Vic., 1846, A Bill for making a Railway from Perth to Inverness with branches to Nairn to be called 'The Perth and Inverness Railway', NAS/BR/PYB(S)/1/477/1.

Table 22: Capital sources from the subscription list of the Perth and Inverness Railway, 1845-46

£25 shares	Subscribers	Proportion of subscribers	Shares allocated	Proportion of shares	Average shareholding	Value of shareholding
English addresses	535	38.3%	28754	58.8%	53.7	£1343
Scottish addresses	862	61.7%	20147	41.2%	23.4	£ 585
Total	1397		48901		35.0	£ 875

Source: Law papers of the Perth and Inverness Railway, 1845-46, NAS/BR/PYB(S)/1/477/1.

Two-fifths of the Perth and Inverness subscribers had English addresses, but they held three-fifths of the shares allocated; the average English shareholding was over twice the shareholding of Scottish subscribers. This English proportion was smaller than that held in the cross-border railway companies, but the data supports the pre-mania evidence identified earlier that English capital was attracted to main routes in Scotland.¹³³ Complaints were made in Edinburgh about the 'great amount of shares ... given to parties in London, Liverpool, and other parts of England'.¹³⁴ A large majority of the English subscribers were from London and its environs, while the Scots were principally from Inverness, Edinburgh and Glasgow, with some from Perth. The importance of banks in Scottish railway finance prior to 1845 has also been identified earlier.¹³⁵ One of the Perth and Inverness committee was Charles Waterston, appointed manager of the new Caledonian Bank formed in Inverness in 1838, who subscribed £800 to the Inverness and Elgin and was to play a key role in the future Inverness web of railway companies.¹³⁶

¹³³ W Vamplew, 'Sources of Scottish railway share capital before 1860', p.430; TR Gourvish and MC Reed, 'The financing of Scottish railways before 1860 - a comment', p.211.

¹³⁴ *Scottish Railway Gazette*, 19th April 1845, reporting dissatisfaction in Edinburgh over the allocation of Perth and Inverness shares, quoted in RH Campbell and JBA Dow, *Source Book of Scottish Economic and Social History*, pp.273-74.

¹³⁵ TR Gourvish and MC Reed, 'The financing of Scottish railways before 1860 - a comment', p.216-17.

¹³⁶ CW Munn, 'The emergence of Edinburgh as a financial centre', in AJG Cummings and TM Devine (eds.), *Industry, Business and Society in Scotland since 1700* (Edinburgh, 1994), p.133: the Caledonian Bank, formed in 1838 in Inverness, was one of the eight provincial joint-stock banks in Scotland able to issue notes to a value of £53,000 within the £3,085,000 note issue allowed for Scotland in 1845: SG Checkland, *Scottish Banking, a History 1695-1973* (Glasgow, 1975), p.349; J Mitchell, *Reminiscences of My Life in the Highlands, vol.II*, p.69: Mitchell was a promoter and director of the Caledonian Bank; Law papers of the Inverness and Elgin Railway, 1845-46, NAS/PYB(S)/1/477/3.

The subscription list for the allied Inverness and Elgin Railway shows a much more localised interest, substantiating the conclusions of Vamplew, Gourvish and Reed that Scottish capital financed local feeder lines.¹³⁷ Nearly half of the subscribers lived in Inverness and three-fifths came from the district immediately served by the proposed line; just eleven had English addresses. Only fourteen subscribers offered £2000 or more, five of which were English - three from London and two from Liverpool.

Table 23: Details of subscribers to the Inverness and Elgin Railway, 1845-46

Inverness and Elgin Railway			
District address of subscribers		Shareholders with a Scottish address	
Number of subscribers	248	Number of subscribers	248
Comprising:		Including:	
Inverness and Elgin area	203	Inverness address	114*
Other areas of Scotland	34	Elgin address	5*
England	11	Forres address	2*
		Nairn address	24*
		Dingwall address	13
		Beaully address	2
		Tain address	4
Total of all shares allocated	£129160	Perth address	19
Average shareholding: shares	26 shares	Edinburgh address	12
Average shareholding: value	£521	Proportion in Inverness	46.0%
Value of each share	£ 20	Proportion living on the route (*)	58.5%
Source: Law papers of the Inverness and Elgin Railway, 1845-46, NAS/BR/PYB(S)/1/477/3.			

This short local railway thus continued the earlier Scottish tradition of securing capital from small subscribers living in the immediate district of the proposed line, in contrast to the trunk line to the south which attracted over half its subscriptions from England. The average shareholding in the Inverness and Elgin was £521 compared to £875 in the Perth and Inverness line.¹³⁸ The contrast between English and Scottish interest in these two Inverness lines revives the question posed by Gourvish and Reed – why were the Scots prepared to finance local lines rather than cross-border and trunk lines? The hypothesis must remain that it was due to the scale of

¹³⁷ W Vamplew, 'Sources of Scottish railway share capital before 1860 – a reply', *Scottish Journal of Political Economy*, 18 (1971), p.222; TR Gourvish and MC Reed, 'The financing of Scottish railways before 1860 - a comment', pp.218-19.

¹³⁸ Data from table 22 and table 23.

investment required in main routes and the perception of the immediate local benefits that each line would provide because, despite the increased interest in all railways due to the 1845 speculation, the English proportion of subscriptions in both Inverness companies was markedly different.¹³⁹ This strong local element of capital, identified by Vamplew as important in the short, early Scottish lines,¹⁴⁰ remained a key feature of the later Inverness lines, as chapters 6 and 9 will show.

The Great North of Scotland received applications for 75,000 shares even before the London and Glasgow lists were opened.¹⁴¹ Drawing upon the experience of its parent, the Aberdeen Railway, where there had been a shortfall of payments on shares allotted, the Great North's provisional committee allotted 27,776 shares instead of the 22,000 advertised in the prospectus 'so that deposits produce the sum of money required', but deposits were paid on 27,415 shares.¹⁴² The proposed share capital in the prospectus of £1.1 million was subsequently raised to £1.5 million in the act of incorporation, which legitimised the committee's action.¹⁴³ Using bank loans for some of the deposits, a portion of stock was held back by the promoters for themselves, perhaps as a reserve given the over-allocation but leaving scope for speculative gain; Mitchell claimed this amount exceeded £300,000 and

¹³⁹ 535 (38.3%) of subscribers to the Perth and Inverness Railway gave English addresses (table 22), but only 11 subscribers (4.4%) to the Inverness and Elgin Railway gave English addresses (table 23).

¹⁴⁰ W Vamplew, 'Sources of Scottish railway share capital before 1860' pp.428-30 and p.439.

¹⁴¹ Minutes of the Great North of Scotland Railway, 30 March 1845, NAS/BR/GNS/1/1. p.24: the prospectus had advertised 22,000 shares at £50 each to raise share capital of £1.1 million.

¹⁴² Minutes of the Great North of Scotland Railway, 1 April 1845 and 4 June 1845, NAS/BR/GNS/1/1. p.26 and p.27; Aberdeen Journal, 9 April 1845, p.2, reporting that 200,000 applications had been made for 22,000 Great North shares, quoted in JJ Waterman, *The Coming of the Railway to Aberdeen in the 1840s*, p.28; RC Michie, *Money, Mania and Markets: Investment, Company Formation and the Stock Exchange in Nineteenth Century Scotland* (Edinburgh, 1981), p.95, notes that the Aberdeen, Great North, Deeside and Alford Valley Railways were all oversubscribed 'by six or seven times' during the period of speculation.

¹⁴³ Prospectus of the Great North of Scotland Railway, 1846, NAS/BR/PYB(S)/1/477/1; 9&10 Vic. cap.103, 1846, The Great North of Scotland Railway Act, authorising share capital of £1,500,000 and borrowing powers of £500,000.

that eight directors alone subscribed for £170,000 of stock.¹⁴⁴ Five directors and the manager of the North of Scotland Bank, who were also both Aberdeen and Great North Railway directors, held £82,500 of local railway stock in 1845, but, in the financial crisis of 1847-48 when the Bank lost over half its capital, it was discovered that bank funds had been drawn for individual speculation without adequate security.¹⁴⁵ When the share peak passed, these and other speculative holders not only were unable to realise any profit, they lacked funds to meet calls on shares and could not sell the stock at a price to recoup their outlay. Consequently, the Great North could not raise sufficient capital to begin construction until market conditions improved. The impact of these events on the development of the railway system to the north of Aberdeen is considered in Chapter 5.

The 1845 Railway Board report had identified the sagacity of extending northwards from the Aberdeen Railway, thereby giving early indirect encouragement to Aberdeen-based schemes.¹⁴⁶ When trading began, shares in the Great North showed an early substantial premium. By the time the select committee began hearing evidence in March 1846, share prices were lower, reflecting post-mania selling. Nevertheless, prices quoted for the Great North almost matched the amount already paid whereas shares in the Perth and Inverness were well below (table 24).

¹⁴⁴ Minutes of the Great North of Scotland Railway, 4 June 1845, NAS/BR/GNS/1/1. p.27, reporting the allotment of 27,776 shares and payment of the deposit on 27,415 of these shares; J Mitchell, *Reminiscences of My Life in the Highlands*, vol.II, p.168; M Barclay-Harvey, *A History of the Great North of Scotland Railway* (London, 2nd edition 1949, reprinted Shepperton, 1998), p.6.

¹⁴⁵ A Keith, *The North of Scotland Bank Ltd, 1836-1936* (Aberdeen, 1936), pp.49-51, showing £60,000 of local railway stock was held in 1845 in the names of North of Scotland bank directors Adam, Anderson, T Blaikie, Jopp and Thompson (all holding both Aberdeen and Great North Railway directorships) and £22,500 in the name of Paterson, manager of the Bank (also a director of both the Aberdeen and Great North Railways); A Keith, *A Thousand Years of Aberdeen* (Aberdeen, 1972), p.475; see also chapter 4, table 27, showing Aberdeen directorships.

¹⁴⁶ Board of Trade report on Schemes for extending Railway Communication in Scotland, 1845, paragraph 72.

Table 24: Share prices quoted for the Great North of Scotland, Perth and Inverness, and Inverness and Elgin Railways, 1845-46

Date	Exchange	Great North of Scotland	Inverness and Elgin	Perth and Inverness
		£50 shares (£2.10s paid)	£20 shares (£1 paid)	£25 shares (£2 10s paid)
27.09.1845	Liverpool	£4 0s 0d	£1 12s 6d	n/a
08.10.1845	Liverpool	£4 5s 0d	£1 17s 6d	n/a
01.11.1845	Liverpool	£4 17s 6d	£1 10s 0d	n/a
31.12.1845	Liverpool	£4 0s 0d	n/a	n/a
21.01.1846	Liverpool	£4 0s 0d	£2 5s 0d (£2 now paid)	n/a
	Manchester	£4 0s 0d	n/a	
04.02.1846	Liverpool	£4 0s 0d	£2 5s 0d	n/a
	Manchester	£4 0s 0d	n/a	n/a
	Glasgow	n/a	n/a	£1 13s 0d
21.02.1846	Edinburgh	£6 4s 6d	n/a	£1 16s 0d
	Glasgow	n/a	n/a	£1 15s 6d
28.03.1846	Liverpool	£2 10s 0d	£1 10s 0d	n/a
	Manchester	£2 10s 0d	£1 10s 0d	n/a
08.04.1846	Glasgow	£2 7s 6d	£1 10s 0d	£1 5s 0d
09.05.1846	Glasgow	n/a	£1 2s 0d	£1 11s 6d
	Liverpool	£2 7s 6d	n/a	n/a
16.05.1846	Edinburgh	n/a	£1 0s 6d	n/a
	Liverpool	£2 7s 6d	n/a	n/a

Source: Bradshaw's *Railway Gazette*, vol.I, 1845, and vol.II, 1846.

Early in 1846, the Aberdeen, Banff and Elgin company was weakened by legal argument over its finances and the loss of its northern partner following the amalgamation of the Inverness and Elgin with the Perth and Inverness.¹⁴⁷ Both Inverness company bills, however, were rejected by the select committee on 12 May 1846. The Aberdeen, Banff and Elgin bill was withdrawn the next day after the select committee intimated that '... they could not view it favourably, as it was not a through line', whereupon the Great North's bill was approved unopposed.¹⁴⁸ That decision not only realised the Railway Board's intimation of a continuous railway route through Aberdeen to Inverness, but the state, in effect, awarded a new and large transport monopoly to Aberdeen, because the Deeside, the Alford Valley, and the Great North of Scotland (Eastern Extension) Railways were also authorised in the same parliamentary session. This new railway network and its shared web of management are examined in the following chapter.

¹⁴⁷ Bradshaw's *Railway Gazette*, 24 January 1846, p.134; *Railway Times*, 18 April, 1846, p.557.

¹⁴⁸ *Railway Times*, 16 May 1846, p.697; Bradshaw's *Railway Gazette*, 16 May 1846, p.1054; Minutes of the Great North of Scotland Railway, 7 July 1846, NAS/BR/GNS/1/1, p.99.

The state's decision to approve the Great North's scheme left a highly significant legacy that was to have a profound effect on the development of the northern railway system over the next two decades. In rejecting the Perth and Inverness bill because of 'the severe gradients of considerable length over great altitudes', the Committee emphasised that they were not 'giving any opinion against the formation of the Perth and Inverness line' should later experience of working railways show its feasibility:

Neither is it the intention of the Committee in any way to prejudice the question – whether if a line be constructed from Aberdeen to Inverness, the northern counties of Scotland are not entitled to the benefit of a second line from Perth to Nairn.¹⁴⁹

The Inverness companies were wound up; the Perth and Inverness was able to repay two-thirds of the deposit paid on shares, although some funds were retained from the Inverness and Elgin.¹⁵⁰ The state had left open the option of a direct route to the highland capital and the Inverness promoters continued to plan to acquire control of railways in their district. The sharp division now apparent in aspirations and policy between Inverness and Aberdeen was to dominate the future strategic planning of railways in the north.

The foundations of development

The framework of a Scottish railway system was set by 1846 and this chapter has shown that the state, whilst preserving its ideological mantle of free enterprise, played an appreciable role in its conception. The 1839-41 Smith-Barlow Commission triggered the competitive drive that saw three cross-border routes open

¹⁴⁹ Report of the House of Commons Select Committee Group 4, published in *Railway Times*, 16 May 1846, pp.697-98.

¹⁵⁰ *Railway Times*, 27 July 1846, p.1017; Minutes of the Inverness and Nairn Railway, 6 October 1853, NAS/BR/INR/1/1, p.18, recording the release of 'unappropriated funds of the Inverness and Elgin Railway' for the new Inverness and Nairn promotion and agreed by Charles Waterston, bank manager of the Caledonian Bank in Inverness, in his capacity as one of the two trustees of the funds.

within the decade. The Railway Board's 1845 report to Parliament presented the blueprint for a Scottish railway network and, by accepting the recommendations of that report, Parliament saw competition propel the creation of the substantial network of lines that it had approved.

The intensity of competition and the scale and speed of development, however, contributed to the insolvency of the Caledonian Railway in 1849, which required state authorisation of its financial restructuring. The Caledonian experience not only contributes indicators of the financial structure and performance of a new large-scale enterprise, but its accounts confirm the significant involvement of banks in Scottish railway finance at this time. Records of the potential Inverness allies of the Caledonian in 1845–46 provide evidence of the importance of English capital in trunk lines of this period and the reliance on local capital to finance local lines, which lends support to the historiographical view of the sources of railway capital for earlier Scottish lines outlined in the previous chapter, although subject to the same caution concerning the validity of subscription contract data. These records also indicate the early emergence of strategic planning in the north to ensure that control of projected railway networks was held locally, a policy principle that was to remain paramount throughout the century.

Without the logic and influence of the Railway Board's report, it is unlikely that any over-view of an inter-linked Scottish network could have been presented within the legislative maelstrom of 1845–46. Parliament had a long and consistent tradition of reacting to events, rather than planning for them. The volume of railway legislation required some executive guidance to Parliament; it would have been surprising had Parliament rejected that advice, even though it represented some interference in free enterprise. Nevertheless, as the next chapter shows, the Railway Board's stated objective in 1845 of achieving a northern trunk route was accomplished by 1850, but with contrasting financial fortunes for the three companies that constructed it and a profound disintegration of northern railway alliances in its aftermath.

To suggest that the legislature provided the impetus for this far-sighted piece of strategic railway planning would be untenable, but the state's executive was given the very brief opportunity in 1845 to influence the shape of the Scottish railway

system. Its officers seized that chance and subsequent events demonstrated the impact of their work. Where difficulties arose in enactment of the state's blueprint, it reflected a lack of entrepreneurial skill within the companies once they were formed¹⁵¹ rather than any strategic weakness in its design. The conclusion is therefore drawn that the development of the Scottish railway system was assisted fundamentally by this intervention of the state.

¹⁵¹ CJA Robertson, 'The Cheap Railway Movement in Scotland: the St Andrews Railway Company', p.1; J Butt and JT Ward, 'The promotion of the Caledonian Railway Company', *Transport History*, 3, No.3 (November 1970), p.249.

Chapter 4: Aberdeen and the northern trunk route, 1845-56

The continuous route from the Anglo-Scottish border north to Aberdeen formed the centre-piece of the state's plan for a Scottish railway system. This chapter investigates the financial difficulties encountered by the three independent companies authorised to construct the Stirling-Aberdeen section of this route, which was the first stage in the realisation of a northern railway system.¹ The widespread inaccuracies in the estimation of costs for railways and the extent of the English influence in Scottish main line railways were discussed in the opening chapter; both themes run throughout this chapter. The first section focuses on the strategic direction and financial management of the Scottish Central and Scottish Midland Junction Railways between 1845 and 1856 and, in particular, it shows the sound financial structure of the latter which serves as an exemplar in the study. The severe financial adversities of the third company on the northern route, the Aberdeen Railway, present a stark contrast in the next section of the chapter, which covers the period up to its full opening in 1850. This section also reveals the monopoly web of railways that the state authorisations of 1845-46 created in the Aberdeen area. The significance of the disintegration of this railway web in 1848-49 and the importance of the English authority within it, which had long-lasting consequences for the further development of a northern railway system, are considered in the following section. The final section identifies the burden of debt accumulated by the Aberdeen Railway and examines how the company achieved its slow financial recovery between 1849 and 1856 before its amalgamation with the Scottish Midland Junction.

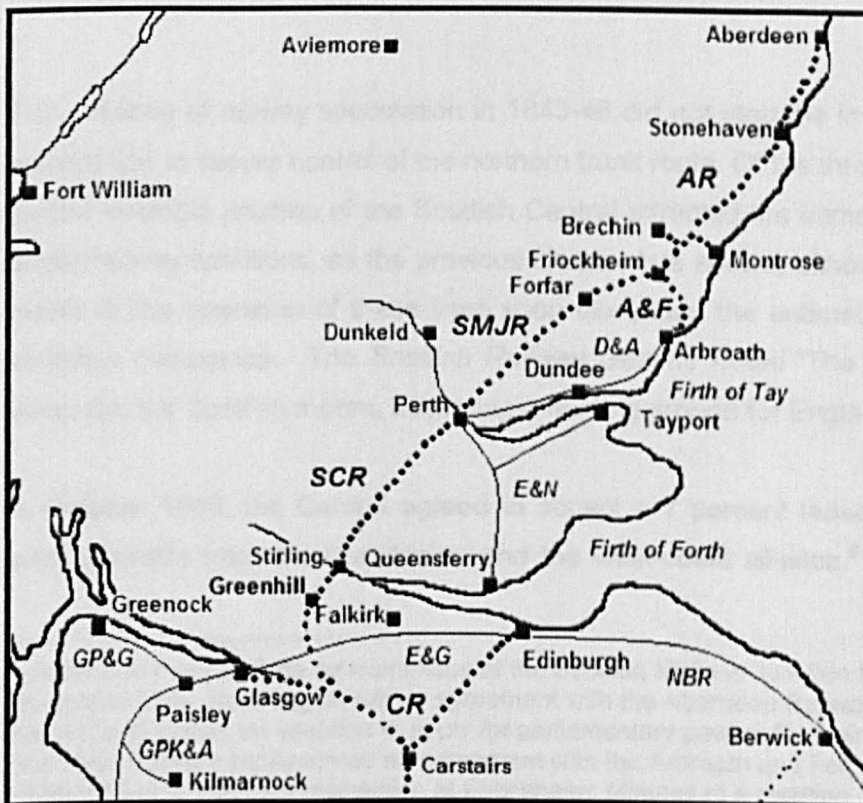
The route to the north: the Scottish Central and Scottish Midland Junction Railways

The west-coast route to the north was extended from a junction with the Caledonian Railway at Greenhill, west of Falkirk in the central valley, running over the Scottish

¹ 8&9 Vic. cap.161, 1845, The Scottish Central Railway Act; 8&9 Vic. cap.170, 1845, The Scottish Midland Junction Railway Act; 8&9 Vic. cap.153, 1845, The Aberdeen Railway Act.

Central Railway through Stirling to Perth where an end-on junction was made with the Scottish Midland Junction Railway, which took the line north-eastwards to Forfar. From Forfar, the route briefly used the line of the Arbroath and Forfar Railway to Friockheim, passing there onto the Aberdeen Railway, which also leased the Arbroath and Forfar from 1848 and thereby preserved future options for west-coast and east-coast outlets from Aberdeen to the south.²

Map 4: The northern trunk route to Aberdeen, 1846-50



<p>The route to the North: A&F: Arbroath and Forfar Railway AR: Aberdeen Railway CR: Caledonian Railway SCR: Scottish Central Railway SMJR: Scottish Midland Junction Railway</p>	<p>Other railways: D&A: Dundee and Arbroath Railway E&G: Edinburgh and Glasgow Railway E&N: Edinburgh and Northern Railway GP&G: Glasgow, Paisley and Greenock Railway GPK&A: Glasgow, Paisley and Kilmarnock Railway NBR: North British Railway</p>
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² N Ferguson, *The Arbroath and Forfar Railway* (Usk, 2000), p.51.

The use by the Aberdeen Railway of the Arbroath and Forfar's route via Friockheim and the proposed junction at Forfar prompted the Scottish Midland Junction to seek its own parliamentary legislation in 1846 to build a line north through Brechin in competition with the Aberdeen Railway, claiming an earlier agreement to follow such a route had been broken, but its bill was rejected.³ The Aberdeen chairman reassured shareholders:

The Aberdeen Railway Company are thus left in possession of the whole important district of country through which their line passes.⁴

The collapse of railway speculation in 1845-46 did not stop the immediate surge of competition to secure control of the northern trunk route. Of the three companies, the pivotal strategic position of the Scottish Central attracted the immediate attention of larger railway coalitions, as the previous chapter has shown, although the economic reality of the operation of these lines soon dissipated the enthusiasm of the larger southern companies. The *Scottish Railway Gazette* noted 'The Scottish railways were, like the Scottish moors, becoming a hunting ground for England'.⁵

In October 1846, the Central agreed to accept a 7 percent lease plus half of any surplus profits from the Caledonian and the west-coast alliance.⁶ The Edinburgh

³ Published minute of the subcommittee of the Scottish Midland Junction Railway, 20 November 1844, reporting an earlier agreement with the Aberdeen Railway on the route via Brechin and stating an intention to apply for parliamentary powers for their own line if the Aberdeen Railway implemented an agreement with the Arbroath and Forfar Railway made on 13 May 1844 to build the connection at Friockheim; Minutes of a meeting of the Subcommittee of the Aberdeen Railway, 15 November 1844, NAS/PROS(S)/1/1, refuting the Scottish Midland Junction Railway's claim of a breach of faith; JJ Waterman, *The Coming of the Railway to Aberdeen in the 1840s* (Aberdeen, 1975), p.5.

⁴ Report of Special General Meeting of the Aberdeen Railway, 30 May 1846, NAS/BR/RAC(S)/1/36.

⁵ *Scottish Railway Gazette*, 21 November 1846, quoted in W Vamplew, 'Sources of Scottish railway share capital before 1860', p.431.

⁶ Minutes of the Scottish Central Railway, 21 October 1846, NAS/BR/SCC/1/1, p.281; Statement of the Scottish Central Railway Board to shareholders, 7 April 1847, NAS/BR/RAC(S)/1/35.

and Glasgow Railway, with a continuous link to the North British Railway and the east-coast route, responded in May 1847 with a 9 percent offer, which caused fractures within the Central boardroom.⁷ In July 1847, Scottish Central shareholders received 'conflicting opinions of counsel' over the legality of the Caledonian lease and, attracted by this higher offer from the Edinburgh and Glasgow, they rejected the west-coast agreement 'by the proxies of absent shareholders'.⁸ While legal argument continued, the Scottish Central and the Scottish Midland Junction made a working agreement in 1847 whereby the Central would work both lines once opened in 1848.⁹ Parliament rejected the Caledonian lease bill,¹⁰ but a working agreement with the west-coast companies was finalised in January 1849.¹¹ The Caledonian, however, was already descending into financial chaos, as the previous chapter has shown, and its shareholders established an inquiry in September 1849.¹² The investigating committee acknowledged the importance of a northerly alliance, but concluded that the agreement had been made without the approval of shareholders and was designed to evade the parliamentary act requiring authorisation of such arrangements.¹³ The committee identified that the revenue of the Scottish Central

⁷ Report of the Special General Meeting of the Scottish Central Railway, 20 July 1847, NAS/BR/SCC/1/1, p. 368, and 20 August 1847, p.426; also report to shareholders to the Special General Meeting of the Scottish Central Railway, 20 July 1847, NAS/BR/RAC(S)/1/35.

⁸ Report of the Special General Meeting of the Scottish Central Railway, 20 July 1847, NAS/BR/RAC(S)/1/35.

⁹ Minutes of the Scottish Central Railway, 15 September 1847, NAS/BR/SCC/1/1. p.433.

¹⁰ Minutes of the Scottish Central Railway, 3 July 1848, NAS/BR/SCC/1/2, p.52, reporting rejection of the Caledonian lease bill but a new proposal for a joint lease of the Scottish Central by the Caledonian and Edinburgh and Glasgow Railways.

¹¹ Report of Investigation Committee of the Shareholders of the Scottish Central Railway, 19 April 1850, NAS/BR/RAC(S)/1/35, p.1, giving the date of the contract for the working agreement as 3 January 1849; Report to the Ordinary General Meeting of the Caledonian Railway, 27 September 1849, NAS/BR/RAC(S)/1/3; Report of the Committee of Investigation to the Shareholders of the Caledonian Railway, 1849, NAS/BR/CAL/1/98, p.6; Bradshaw's *Railway Almanack*, 1850, p.130; PF Marshall, *The Scottish Central Railway* (Witney, 1998), p.103.

¹² Report of the Committee of Investigation to the Shareholders of the Caledonian Railway, 1849, NAS/BR/CAL/1/98, p.1, giving the date of the establishment of the committee as 27 September 1849.

¹³ Report of the Committee of Investigation to the Shareholders of the Caledonian Railway Company, 1849, NAS/BR/CAL/1/98, p.6; 8&9 Vic. cap. 96, 1845, An Act to restrict the

was insufficient to cover the costs of the agreement and advised shareholders to oppose a new Caledonian lease bill, which included the Edinburgh and Glasgow as a partner to remove previous opposition.¹⁴

The Scottish Central resumed operation of its own services from December 1849 when the working agreement collapsed.¹⁵ The Central informed its shareholders of 'the refusal' of the west-coast alliance companies to fulfil the working agreement of January 1849 and sought their response.¹⁶ The Central shareholders set up an investigation into the affairs of their own company, which reported that:

The Southern Companies had been warned that the first fruits of the contract would not be abundant, but it would seem as if they had no sooner succeeded in their object, than they became dissatisfied.¹⁷

powers of selling or leasing Railways contained in certain Acts of Parliament relating to such railways.

¹⁴ Report of the Committee of Investigation to the Shareholders of the Caledonian Railway Company, 1849, NAS/BR/CAL/1/98, pp.6-7; Minutes of the Scottish Central Railway, 3 July 1848, NAS/BR/SCC/1/2, p.52, announcing rejection of the previous lease bill in Parliament and a new proposal for a joint lease of the Scottish Central by the Caledonian and the Edinburgh and Glasgow Railways; Bradshaw's *Railway Almanack*, 1849, p.81, recording the proposal for receipts under a lease of the Scottish Central to be shared between the Caledonian ($\frac{3}{4}$) and the Edinburgh and Glasgow ($\frac{1}{4}$), and 1850, p.130; PF Marshall, *The Scottish Central Railway*, pp.78-79.

¹⁵ PF Marshall, *The Scottish Central Railway*, p.104: the Caledonian had offered to pay its share of traffic receipts to the Scottish Central at £500 per week, but it had been unable to fulfill its promise. Furthermore, the southern companies announced that they were to withdraw from working Scottish Central and Scottish Midland Junction services after 30 November 1849.

¹⁶ Report of the Special General Meeting of the Scottish Central Railway, 22 January 1851, NAS/BR/SCC/1/2, at which shareholders were asked '... what measures ought to be adopted by this Company in consequence of the refusal of the London and North Western, the Lancaster and Carlisle and the Caledonian Railway Companies to continue the working of the Scottish Central line, and fulfill the other obligations undertaken in the Working Agreement entered into with this Company in January 1849'.

¹⁷ Report of the Investigation Committee of the Shareholders of the Scottish Central Railway, 19 April 1850, NAS/BR/SCC/1/2, p.2 of inserted report.

The investigation revealed the scale of inaccurate estimates. Expenditure and liabilities due for the Central's line were £1,494,745, three-quarters more than the estimate of £850,000, which suggest a realised capital cost of £31,803 per mile, comparable to the average for all Scottish lines, but almost double the parliamentary estimate of under £19,000 per mile.¹⁸ Costs and liabilities for land of £236,232 soared above the £80,000 estimate and the committee castigated the company for not securing settlements before gaining parliamentary authorisation, a lesson that was not lost on later promoters in Inverness.¹⁹ Shareholders also criticised the award of the construction contract to Thomas Brassey without competition. The Central's purchase of the Tay ferries, intended to restrict any eastern competition, was judged 'not a wise purchase for a party whose interest could only be remote' and a sale at a 'fair price' was recommended.²⁰ The Scottish Central was not, however, in the same financial straits as its Caledonian lessee. The investigating committee reminded shareholders:

... your central position and influence are strong ... Connected with four lines of Railways, your Line occupies a position in the midst of them; and you have the only continuous land approach to the North and East of Scotland.²¹

¹⁸ Report of the Investigation Committee of the Shareholders of the Scottish Central Railway, 19 April 1850, NAS/BR/RAC(S)/1/35, pp.3-4 of inserted report, noting Locke and Errington's estimate for the line at £800,000 which had been amended in the parliamentary act to £850,000, although the 1844 prospectus (NAS/BR/PROS(S)/1/16) had suggested capital of £700,000 would be required; Appendix, table 19(a): the actual capital cost per mile by January 1850 was £31,573, 74.6% above estimate; CJA Robertson, 'The Cheap Railway Movement in Scotland: the St Andrews Railway Company', *Transport History*, 7, No.1 (March 1974), p.2, quoting average costs per mile in 1851 of £32,113 per mile in Scotland and £38,258 per mile in England.

¹⁹ Report of the Investigation Committee of the Shareholders of the Scottish Central Railway, 19 April 1850, NAS/BR/SCC/1/2 and NAS/BR/RAC(S)/1/35: company accounts, however, show land costs reaching £166,211 by July 1851, a year after the inquiry report, NAS/BR/RAC(S)/1/35 and Appendix, table 19(a); see chapter 6 'The Inverness web' for examples of land negotiation by Inverness promoters.

²⁰ Report of the Investigation Committee of the Shareholders of the Scottish Central Railway, 19 April 1850, NAS/BR/RAC(S)/1/35, p.12 of inserted report.

²¹ Report of the Investigation Committee of the Shareholders of the Scottish Central Railway, 19 April 1850, NAS/BR/RAC(S)/1/35, p.14 of inserted report.

The Central board was replaced, but out-going directors branded the report an 'unfair and uncandid statement'. Their reply claimed that the excess of expenditure was £337,429, not the £644,745 reported, although this lower figure was still 40 percent above estimate.²²

The investigating committee recommended an attempt to resolve the differences with the west-coast companies, but the Central's overtures met no success.²³ The Scottish Central remained an independent company, albeit with a working agreement with the Scottish Midland Junction. The withdrawal of the Caledonian pushed the Central towards alliance with the Edinburgh and Glasgow, but the larger companies were by now much more reluctant to offer guarantees. The east-coast alliance offered mileage bonuses to the Edinburgh and Glasgow and Scottish Central, principally to secure access to Glasgow to compete with the west-coast companies for Anglo-Scottish traffic.²⁴ Traffic for Glasgow and the north of Scotland was subsequently included in the 1856 English-Scotch traffic agreement between west- and east-coast alliances.²⁵

The Scottish Central and Scottish Midland Junction lines opened in 1848, but the most northerly section to Aberdeen was not completed until 1850. Until then, traffic passing over the route was largely local. Nevertheless, the relative performance of both the Central and the Midland Junction companies was stronger than that of the Caledonian. The Central maintained a positive balance on its capital account until 1849 when the account slipped into deficit by 3.4 percent and £60,000 was borrowed

²² Statement by 'The Members of the late Board of Direction of the Scottish Central Railway Company', noted at the Ordinary General Meeting, 26 April 1850, NAS/BR/RAC(S)/1/35.

²³ Report of Ordinary General Meeting of the Scottish Central Railway, 11 October 1850, NAS/BR/SCC/1/2, p.270.

²⁴ G Channon, 'Railway Pooling in Britain before 1900: The Anglo-Scottish traffic', *Business History Review*, 62, No.1 (Spring 1988), p.79.

²⁵ G Channon, *Railways in Britain and the United States, 1830-1940* (Aldershot, 2001), p.113; PS Bagwell, *The Railway Clearing House in the British Economy, 1842-1922* (London, 1968), pp.251-53 and p.260. The traffic agreement was replaced by an English and Scottish rates conference in 1869.

from the Perth Banking Company.²⁶ Additional capital powers were granted in 1851.²⁷ Despite the inaccuracy of the estimates, the Central's land costs by 1851 were 10.9 percent of capital expenditure, slightly lower than the earlier Scottish inter-urban lines.²⁸ There is no evidence of any hidden debt in the accounts that survive; interest was paid from revenue and, by 1853, debt gearing indicated a sound financial structure.²⁹

The Scottish Central's revenue account illustrates why the west-coast companies were reluctant to continue the working agreement.³⁰ In 1849, the revenue balance yielded only two-thirds of the half-year payment due from the west-coast alliance.³¹ Once the Scottish Central resumed operating the services in December 1849, working expenditure rose,³² but the company was financially sound with the prospect of revenue growth because all northern traffic passed over its route. While early operations demonstrated that the traffic did not justify the high guarantees offered, the Central restored a dividend in 1850 and produced shareholder returns above those of its two larger suitors (table 25).

²⁶ Appendix, table 19(a); CW Munn, *The Scottish Provincial Banking Companies 1747-1864* (Edinburgh, 1981), p.209, notes that the Scottish Central borrowed a further £18,000 from the Perth Banking Company in May 1850, both loans secured against debentures.

²⁷ 14 Vic. cap.25, 1851, The Scottish Central Railway Amendment Act, which increased authorised share capital by £250,000, which could be by preference stock not exceeding 5%, but the increase in authorised borrowing was limited to £16,000.

²⁸ Appendix, table 19(a): land costs by 1851 were £166,211, lower than the costs and liabilities of £236,232 projected by the Investigation Committee in 1850, although not all claims may have been settled by this date; CJA Robertson, *The Origins of the Scottish Railway System 1722-1844* (Edinburgh, 1983), pp. 170-73.

²⁹ Appendix, table 19(c): loans represented 25.3% of capital raised in 1853 and 24.8% in 1854; debt gearing strengthened from 0.254 in July 1853 to 0.264 in January 1854, well above the 1849 Caledonian benchmark of 0.162.

³⁰ Appendix, table 19(a) note (2) and table 19(b).

³¹ Appendix, table 19(b): the net revenue balance for the half-year to 31 July 1849 after working expenses and interest were deducted was £23,995, but the half year payment due from the west-coast companies was £35,700, a shortfall of 32.8%.

³² Appendix, table 19(b), showing working expenses for the half year to 31 January 1850 to be £16,980, but £18,182 for the following six months to July 1850, a rise of 7.1%.

Table 25: Dividends paid by the Scottish Central and Scottish Midland Railways, 1849-56

Year	Half year	Scottish Central	Scottish Midland Junction	Edinburgh and Glasgow	Caledonian Railway
Dividends paid half-yearly on £100 par value of ordinary stock in each company					
1848	July	Opened 1848	Opened 1848	3.0.0	Opened 1848
1849	Jan	3.10.0 (2)	- (3)	3.0.0	1.10.0
	July	3.10.0 (2)	- (3)	2.0.0	0.0.0
1850	Jan	0.0.0	-	1.10.0	0.0.0
	July	0.0.0	-	1.5.0	0.0.0
1851	Jan	1.0.0	0.0.0	1.10.0	0.0.0
	July	0.12.0	0.0.0	1.10.0	0.0.0
1852	Jan	1.8.0	0.15.0	1.10.0	0.5.0
	July	1.10.0	0.17.6	1.10.0	0.6.0
1853	Jan	2.0.0	1.2.6	1.10.0	1.5.0
	July	2.0.0	1.2.6	1.10.0	1.0.0
1854	Jan	2.0.0	1.5.0	1.10.0	1.10.0
	July	2.0.0	1.7.6	1.10.0	1.10.0
1855	Jan	2.10.0	1.10.0	1.10.0	1.10.0
	July	2.10.0	1.15.0	1.10.0	1.10.0
1856	Jan	2.10.0	1.15.0	1.0.0	1.0.0
	July	2.10.0	1.15.0	1.0.0	0.10.0
Sources: <i>Railway Times</i> , 20 September 1862, pp.1399-1402; Bradshaw's <i>Railway Almanack</i> , 1858 edition, pp.101-109.					
(1): Units are given in pounds, shillings and pence and for each half year.					
(2): The £3.10s payment by the Scottish Central corresponds to the 7% guarantee specified in the agreement with the west-coast companies. The working agreement was finalised in January 1849, but the arrangement collapsed by the end of the year following the Caledonian's shareholder inquiry of September 1849.					
(3): Although a 6% lease guarantee was approved by the Scottish Midland Junction board on 6 June 1848, the Caledonian did not begin working services until January 1849. No dividend for the Scottish Midland Junction is shown in <i>Railway Times</i> or Bradshaw's <i>Railway Almanack</i> until 1852, which suggests a default in the guaranteed payment due for the first half year of 1849. Scottish Midland Junction minute books do not survive prior to October 1850 and no dividend is recorded for January and July 1851.					

The Scottish Midland Junction Railway furnished the intermediate section in the tripartite link to Aberdeen; its accounts show a financially stable and relatively prosperous company. Although it was worked by other companies from the outset,³³ it produced modest but steady returns. While approximately 30 percent of initial subscriptions in the Scottish Central came from England, the Scottish Midland Junction, which crossed a rural area where local capital was scarce, attracted 78 percent, boosted by the offer to English subscribers that deposits would be returned if the company's bill was rejected.³⁴ Both companies used Locke and Errington of

³³ Minutes of the Scottish Central Railway, 15 September 1847, NAS/BR/SCC/1/1. p.433, recording details of the working agreement between the Scottish Central and Scottish Midland Junction railways; Report of the directors to an Extra-ordinary General Meeting of the Caledonian Railway held to approve the Scottish Central and Scottish Midland working agreements, 10 November 1848, NAS/BR/RAC(S)/1/3, p.5, which included the proposed guarantee of 6% to the Scottish Midland Junction Railway.

³⁴ CJA Robertson, *The Origins of the Scottish Railway System 1722-1844*, p.334; W Vamplew, 'Sources of Scottish railway share capital before 1860', *Scottish Journal of Political*

the west-coast alliance as its engineers, thereby assisting the attraction of blind investment capital.³⁵

The Scottish Midland recognised the potential of the 1846 Perth-Inverness scheme and agreed to cede their proposed Dunkeld branch and grant use of the Midland line into Perth to the promoters if the bill was successful.³⁶ Although the Perth and Inverness bill failed in Parliament, the Scottish Midland planned the Dunkeld branch to link with the Strathtay and Breadalbane Railway, authorised in 1846 but left isolated by the rejection of the Inverness scheme.³⁷ The directors reported the potential of the branch as part of a northern trunk route:

A very few miles of railway are all that are necessary for uniting the Midland Branch with that Line ... and a Local Line extended northwards to Pitlochry,

Economy, 17 (1970), p.431; RC Michie, *Money, Mania and Markets: Investment, Company Formation and the Stock Exchange in Nineteenth Century Scotland* (Edinburgh, 1981), p.84: quoting contemporary reports of 1 November 1844 and 6 December 1844 in the *Dundee Advertiser* that there was 'scant support in the local area' for the Scottish Midland Junction Railway and that 'the assistance of English investors was regarded as the only way of raising finance to construct the line'; MC Reed, *The London and North Western Railway: a history* (Penryn, 1996), p.51: The London and North Western Railway held £90,000 of Scottish Midland Junction Railway capital in 1848-49 in addition to its commitment to sharing, with the Lancaster and Carlisle and Caledonian, the 7 percent guarantee to the Scottish Central Railway.

³⁵ CJA Robertson, *The Origins of the Scottish Railway System 1722-1844*, p.194; W Vamplew, 'Sources of Scottish railway share capital before 1860', p.431 noting 'as the mania gathered momentum, Scottish lines everywhere sought English capital ... English engineers with a reputation for railways were deliberately employed as consultants because English investors would have heard of them'.

³⁶ Report to the 2nd Ordinary General Meeting of the Scottish Midland Junction Railway, 22 February 1846, NAS/BR/RAC(S)/1/37; 9&10 Vic. cap.75, 1846, The Scottish Midland Junction Railway Branches Act, which authorised branches to Dunkeld, Blairgowrie and Kirriemuir and raised company capital by £300,000 with additional borrowing powers of £100,000: previous capital powers under 8&9 Vic. cap.170 of 1845 had been fixed as £300,000 with borrowing powers of £100,000.

³⁷ *Railway Chronicle*, 31 July 1847, p.727, reporting a bill promoted by the Strathtay and Breadalbane Railway to extend its 1846 authorised line to meet the Scottish Midland Junction Railway at Dunkeld with additional capital of £150,000 shares and £50,000 borrowing powers. No calls had been made on the original 4800 shares of £50 each 'as proceeding are at a stand-still until the bill for an extension, now before Parliament, has passed'; see also chapter 3, table 20(c).

... which, besides opening up the district, would be a step towards the Inverness scheme.³⁸

That scheme was not progressed but, in 1852, the Midland Junction proposed to build three branches to secure wider district traffic, one of which was to Dunkeld.³⁹ Land costs were a principal consideration: the eight-mile branch to Dunkeld was estimated to cost £6,500 per mile, but the directors informed shareholders that if 'land cannot be acquired on reasonable terms, then they would not recommend the Branches to be made'.⁴⁰

In December 1852, the Dunkeld bill was withdrawn because of large demands for land compensation.⁴¹ However, planning for a Dunkeld line continued in apparent harmony with promoters in Inverness who were reviving their scheme for a route south. The Scottish Midland Junction was advised of the preferred route to Dunkeld 'as the best for a through line to the north'.⁴² The Inverness scheme had to wait another eight years, but plans for a Dunkeld branch were implemented by the independent Perth and Dunkeld Railway, incorporated in 1854 and worked by the Scottish Midland Junction.⁴³ The strategic role of this small company in the future direct route to the north is examined in chapter 7.

Following the collapse of the west-coast lease of the Scottish Central and Scottish Midland Junction Railways, a wider local alliance was formed. The Aberdeen

³⁸ Report to the 3rd Ordinary General Meeting of the Scottish Midland Junction Railway, 26 August 1846, NAS/BR/RAC(S)/1/37.

³⁹ Powers to build these branches to Dunkeld, Blairgowrie and Kirriemuir had been included in 9&10 Vic. cap.75, 1846, The Scottish Midland Junction Railway Branches Act, which doubled the company's authorised capital to £600,000 with £200,000 borrowing powers.

⁴⁰ Report to the half-year Ordinary General Meeting of the Scottish Midland Junction Railway, 6 September, 1852, NAS/BR/SCM/1/1, pp.250-51, at which the directors reported: 'From the peculiar situation of the Midland Line, very little of the Traffic from Dunkeld, Blairgowrie or Kirriemuir passes over it, although the traffic was expected to form an important item in the Revenue of the Company ... The length of the Dunkeld Line is eight miles ... about £6,500 per mile'.

⁴¹ Minutes of the Scottish Midland Junction Railway, 28 December 1852, p.290.

⁴² Report by Neil Robson CE received by the Scottish Midland Junction Railway board, 26 August 1853, NAS/BR/SCM/1/1, p.362. The Inverness plans are examined in chapter 6.

⁴³ 17&18 Vic. cap.148, 1854, The Perth and Dunkeld Railway Act.

Railway opened throughout in 1850 and a working agreement was established from February 1851, initially for twelve months, whereby the Scottish Central worked the services over the Central, Midland Junction and Aberdeen lines to achieve economies for the benefit of all three companies.⁴⁴ By January 1853, amalgamation between the Central and Midland Junction was proposed, stimulated by implied criticism of the working agreement by a parliamentary select committee.⁴⁵ A joint committee of the two companies recommended a working agreement for 21 years under one committee of management.⁴⁶ Receipts were to be divided with three-quarters passing to the Central and one-quarter to the Midland Junction, but parliamentary approval was not obtained and the joint-purse agreement ceased from July 1854.⁴⁷

Relations between the Scottish Midland Junction and the Scottish Central became strained as the Central formed a closer alliance with the Edinburgh and Glasgow and began to direct southern traffic via that company to the detriment of the west-coast companies. The Scottish Midland entered a traffic agreement with the Aberdeen Railway and the west-coast companies, but the Scottish Central announced that they 'consider all traffic brought to their line to be their traffic and will dispose of it as they please', thus suggesting their intention to divert traffic over the Edinburgh and

⁴⁴ Minutes of the Scottish Midland Junction Railway, 25 February 1851, NAS/BR/SCM/1/1, p.36, setting out the 23 clauses of the working agreement; Report of Ordinary General Meeting of the Scottish Midland Junction Railway, 18 March 1851, NAS/BR/SCM/1/1, pp.54-55, and giving a commencement date of 11 February 1851 for the working agreement for one year initially.

⁴⁵ Minutes of the Scottish Midland Junction Railway, 11 January 1853, NAS/BR/SCM/1/1, p.292, and 17 March 1853, p.301, reporting criticism of the working agreement contained in the appendix of the report of the Parliamentary Select Committee on Railway and Canal Bills, 1853.

⁴⁶ Minutes of the Scottish Midland Junction Railway, 19 December 1853, NAS/BR/SCM/1/1, pp.413-14, recording the recommendation of the joint committee of the Scottish Central and Scottish Midland Junction Railways for '... a Bill to legalise what has been done under the present working agreement and to empower the Companies to enter into an agreement to work together under one Committee of Management for a period not exceeding twenty one years and recommend their Companies to put their receipts in to a common purse'.

⁴⁷ Minutes of the Scottish Midland Junction Railway, 12 September 1854, NAS/BR/SCM/1/3, p.36, and report of the Ordinary General Meeting, 13 September 1854, p.48.

Glasgow.⁴⁸ The Caledonian and its English allies indicated that they might 'in self defence be compelled to injure the Northern Lines' but agreed to meet any losses incurred in the impending traffic war.⁴⁹ A temporary agreement was rapidly made to avoid conflict, but with lasting damage to relationships.⁵⁰ The Scottish Central gave notice that the working agreement would expire in August 1855, prompting the Midland Junction and the Aberdeen to investigate joint working of their lines.⁵¹ That investigation swiftly developed into a proposed amalgamation with a common purse, net of expenses, divided in the proportion of 70:30 between the Aberdeen and Midland Junction companies. Significantly, each company was to retain responsibility for its own debts, a clause that was to have a long-lasting effect because the Scottish Midland was able to continue paying dividends to its shareholders while the Aberdeen Railway, burdened with large debts, battled to pay even guaranteed dividends.⁵²

A temporary working arrangement was begun in August 1855 pending legislation.⁵³ In May 1856, the Scottish Midland Junction agreed formally to amalgamate with the Aberdeen as the Scottish North-Eastern Railway.⁵⁴ The Aberdeen had already leased the Arbroath and Forfar Railway in 1848 at 5¼ percent, using part of that line

⁴⁸ Minutes of the Scottish Midland Junction Railway, 31 January 1855, NAS/BR/SCM/1/3, pp.108-11.

⁴⁹ Minutes of the Scottish Midland Junction Railway, 31 January 1855, NAS/BR/SCM/1/3, pp.108-11.

⁵⁰ Minutes of the Scottish Midland Junction Railway, 28 February 1855, p.122 and 13 March 1855, NAS/BR/SCM/1/3, p.126.

⁵¹ Minutes of the Scottish Midland Junction Railway, 14 May 1855, NAS/BR/SCM/1/3, p.149.

⁵² Minutes of the Scottish Midland Junction Railway, 6 June 1855, NAS/BR/SCM/1/3, p.158.

⁵³ Report of Ordinary General Meeting of the Scottish Midland Junction Railway, 15 September, 1855, NAS/BR/SCM/1/3, pp.190-97.

⁵⁴ Special General Meeting of the Scottish Midland Junction Railway, 10 May 1856, NAS/BR/SMJ/1/3, pp.275-82; *Railway Times*, 29 September 1855, p.1055, reporting the approval of the Ordinary General Meeting of the Aberdeen Railway to amalgamate with the Scottish Midland Junction Railway and noting that the Aberdeen directors held 'one-sixth of the whole of the shares' of the Aberdeen Railway; 19&20 Vic. cap.134, 1856, The Scottish North-Eastern Railway Company's Act, authorising the amalgamation of the Aberdeen and Scottish Midland Junction Railways.

for its northern route.⁵⁵ A proposed Aberdeen lease of the Dundee and Arbroath Railway to secure an eastern outlet to Dundee was removed from the amalgamation bill when Dundee and Arbroath shareholders rejected their board's advice for acceptance, and a union was not finally achieved until 1863.⁵⁶

Aided by an early increase in its capital powers in 1846,⁵⁷ the Scottish Midland Junction maintained a positive balance on its capital account and held no significant temporary debt.⁵⁸ Only 1.7 percent of shares remained unissued by August 1849 with 89.6% of capital paid up.⁵⁹ Although costs were reported to have exceeded estimates in 1849,⁶⁰ the excess over authorised capital by 1851 was 7.1 percent and authorised loans therefore formed a low proportion of total capital raised.⁶¹

⁵⁵ N Ferguson, *The Arbroath and Forfar Railway*, p.51; Bradshaw's *Railway Almanack*, 1850, noting the 1848 lease and the option for the Aberdeen Railway to merge with the Arbroath and Forfar after five years.

⁵⁶ Minutes of the Scottish Midland Junction Railway, 6 June 1855, NAS/BR/SCM/1/3. p.158; and 21 January 1856, p.232-33; Report of Ordinary General Meeting of the Scottish Midland Junction Railway, 31 March 1856, NAS/BR/SCM/1/3. pp.256-62; 26&27 Vic. cap.231, 1863, The Scottish North-Eastern Railway Act, which authorised amalgamation of the Scottish North-Eastern and Dundee and Arbroath Railways.

⁵⁷ Appendix, table 20(a): the company increased its initial £300,000 capital and £100,000 borrowing powers authorised under 8&9 Vic. cap.170, 1845, The Scottish Midland Junction Railway Act within the year to £600,000 with £200,000 borrowing powers under 9&10 Vic. cap.75, 1846, The Scottish Midland Junction Railway Branches Act. This increase was made in order to finance a larger system than originally proposed in its 1845 bill, with branches to Dunkeld, Blairgowrie and Kirriemuir and a connection to the harbour at Perth now included.

⁵⁸ CW Munn, *The Scottish Provincial Banking Companies 1747-1864*, p.209, notes that the Scottish Midland held a £10,000 loan for 3 years from the Perth Banking Company on security of debentures in the late 1840s: this temporary loan was, however, relatively insignificant to this financially sound company.

⁵⁹ Report of the Ordinary General Meeting of the Scottish Midland Junction Railway, 31 August 1849, NAS/BR/RAC(S)/1/37; all 12,000 of the £25 1845 shares had been issued and paid up and 11,588 of the 12,000 £25 1846 shares had paid calls of £22.10s, with arrears on all shares totalling £23,010. Thus £537,720 of the £600,000 capital had been paid up (89.6%).

⁶⁰ Report of the Ordinary General Meetings of the Scottish Midland Junction Railway, 31 August 1849 and 27 February 1850, NAS/BR/RAC(S)/1/37: this latter report noted that since August 1849, 'all the floating bills had been paid'.

⁶¹ Appendix, table 20(c).

The Scottish Midland Junction purchased the two small Newtyle lines to Coupar Angus and Glamis in 1846 to form part of its main route, which contributed to a lower capital cost per mile of £20,890 by January 1851, two-thirds of the Scottish Central cost.⁶² Land costs accounted for 11.8 percent of total capital expenditure, below the proportion spent by the earlier inter-urban lines, but slightly higher than the proportion spent by the Scottish Central. Its authorised loan gearing was within statutory limits, only reaching 20 percent by amalgamation in 1856, and its gearing of gross revenue to total debt was strong, presenting a marked contrast with the weak debt gearing of the Caledonian in the same period 1851-52 (table 26).⁶³

Table 26: Financial indicators for the Scottish Midland Junction Railway, 1851-1855

Data for half years	07.1851	01.1852	07.1852	01.1853	07.1853
Ratio of debentures to capital raised	11.8%	10.7%	10.1%	10.0%	10.4%
Ratio of gross revenue to total debt	0.349	0.478	0.573	0.575	0.596
	01.1854	07.1854	01.1855	07.1855	
Ratio of debentures to capital raised	13.0%	16.0%	17.8%	18.6%	
Ratio of gross revenue to total debt	0.510	0.426	0.401	0.417	
Source: Appendix, table 20(c).					
(1): Comparative gearing ratios for the Caledonian Railway in 1849-50 were 24.5% for debentures/capital and 0.162 for gross revenue/debt (table 18, chapter 3).					

The revenue account illustrates a steadily rising stream of revenue from £27,011 in 1851 to £56,997 in 1855.⁶⁴ Dividends, while not large, were also rising from 1½ percent in 1852 to 3½ percent in 1855 and paid consistently because of the absence of a debt burden. The Midland Junction attributed earlier poor returns to the agreement with the Scottish Central 'or rather the representatives of the southern Companies, who for a time managed the affairs of the Scottish Central ...'.⁶⁵ Few companies promoting lines further north during the next decade could match such

⁶² Appendix, table 20(a), note (4); Accounts of the Scottish Midland Junction Railway, NAS/BR/RAC(S)/1/37: the purchase was authorised under 8&9 Vic cap.152, 1845, The Scottish Midland Junction Railway Act; PF Marshall, *The Scottish Central Railway*, p.145.

⁶³ Appendix, table 20(c); chapter 3, table 18, shows debt gearing for the Caledonian Railway in 1849-52 to be 0.162 (December 1849), 0.170 (December 1850), 0.192 (July 1851) and 0.213 (July 1852).

⁶⁴ Appendix, table 20(b): dividend in January 1852 was 1½ % and 3½ % in July 1855.

⁶⁵ Reports of the Ordinary General Meetings of the Scottish Midland Junction Railway, 27 February 1850, NAS/BR/RAC(S)/1/37.

consistent financial performance. This small company therefore provides positive financial benchmarks for this study in contrast to those of weakness derived from the much larger Caledonian Railway.

The early years of the Aberdeen Railway

The third company of the northern triumvirate, the Aberdeen Railway, exhibited financial characteristics that were the antithesis of the Scottish Midland Junction Railway. The port of Aberdeen already had a strong banking and business sector, but its imperfect communications were maintained by sea or by coach, of which there were 24 daily by 1838.⁶⁶ Investors therefore saw good prospects of returns from investment in the Aberdeen Railway. The Railway Board's recommendation of the Aberdeen route pushed its shares to a premium; £646,000 of its £830,000 share capital was reported to be taken by the time the bill was approved, of which £270,000 was subscribed locally.⁶⁷ As with the Scottish Central and Midland Junction companies, there was a strong shareholder interest from England.⁶⁸

By the summer of 1846, railways had been authorised linking Aberdeen south to Perth, west along Deeside, west to Alford, north-west to Inverness and north through Buchan to the north-east coast. These seemingly disparate schemes were part of a distinct railway web planned by the lawyers and businessmen of Aberdeen. Analysis of the composition of company boards (table 27) shows that these state authorisations had created a monopoly web in the district.⁶⁹

⁶⁶ A Keith, *A Thousand Years of Aberdeen* (Aberdeen, 1936), p.472; SG Checkland, *Scottish Banking, a History 1695-1973* (Glasgow, 1975), p.347.

⁶⁷ 8&9 Vic. cap.153, 1845, The Aberdeen Railway Act, authorising share capital of £830,000 and borrowing powers of £276,666; *Aberdeen Journal*, 5 March 1845, p.3 and 18 June 1845, p.4, quoted in JJ Waterman, *The Coming of the Railway to Aberdeen in the 1840s* (Aberdeen, 1975), pp.6-7: Aberdeen Railway shares rose from par to a premium of 15s.

⁶⁸ *Railway Times*, 9 December 1848, pp.1285-86 and 20 January 1849, p.51.

⁶⁹ As an example, the prospectus of the Alford Valley Railway, 1845, NAS/BR/PROS(S)/1/17, states that the provisional committee of the railway comprised solely the directors of the Aberdeen and Great North of Scotland Railway, without specifying the names of any individuals.

Table 27: Directors of the Aberdeen railway companies, 1846-47

Directors (1)	Occupation	Aberdeen Railway	Great North of Scotland	Great North (Eastern)	Alford Valley Railway	Deeside Railway
James Hadden	Woollen manufacturer	■ Chairman	■	■	■	■
Wm Adam	Advocate	■	■	■	■	■
John Blaikie	Advocate	■	■	■	■	■
Alexander Jopp	Advocate	■	■	■	■	■
Alexander Pirie	Paper manufacturer	■	■	■	■	■
Clements Lumsden	Advocate	■	■	■	■	■
David Wyllie	Banker	■	■	■	■	■
Henry Paterson	Banker	■	■	■	■	■
Isaac Machray	Mail Contractor	■	■	■	■	■
Patrick Davidson	Advocate	■	■	■	■	■
Thomas Blaikie	Lord Provost (3)	■ Until 1845	■	■	■	■
Newell Burnett	Advocate (2)	■ Until 1846	■	■	■	■
David Blaikie	Merchant	■	■	■	■	■
George Thompson	Ship Owner	■ Until 1848	■	■	■	■
Alexander Anderson	Advocate	■	■	■	■	■
Officers						
Adam and Anderson	Solicitors	■	■	■	■	■
W Cubitt	Engineer in Chief	■	■	■	■	■
A Gibb	Engineer	■	■	■	■	■
W Leslie	Interim secretary	■	■	■	■	■
Sources: Bradshaw's <i>Railway Almanack</i> , volumes for 1846-48; Reports to Ordinary General Meetings of the Aberdeen Railway, NAS/BR/RAC(S)/1/36; Minutes of the Deeside Railway, 11 September 1846, NAS/BR/DEE/1/1, p.37; Minutes of the Great North of Scotland Railway, 21 August 1846, NAS/BR/GNS/1/1, pp.103-106.						
(1): All directors listed gave their address in the Aberdeen district. (2): Newell Burnett stood down from the Aberdeen board in October 1846, but he was the only director in this table to survive the multitude of boardroom crises between 1843 and 1874 during the period of this study. (3): Thomas Blaikie was chairman of the Great North, the Great North (Eastern Extension), the Alford Valley and the Deeside Railways in 1846-47. (4): Anderson, Adam, Thompson and Jopp were also original directors of the North of Scotland Bank, founded in 1836; Paterson was its manager and T Blaikie became its chairman in 1841 (A Keith, <i>The North of Scotland Bank Ltd, 1836-1936</i> , pp.23-24 and p.45).						

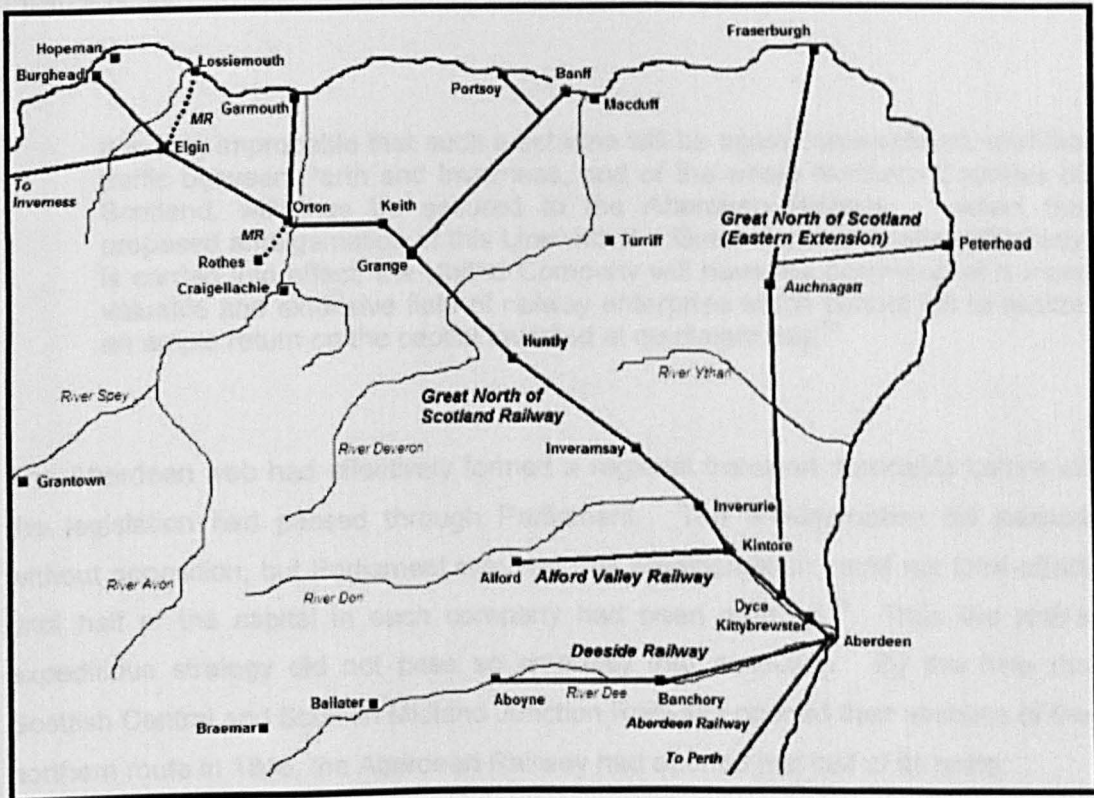
The secretary and manager of the Aberdeenshire Canal, Alexander Jopp, held a strong board representation across the web; the canal had cost £43,895 and opened in 1805, but gave a return on capital of only 2.76 percent in 1844.⁷⁰ Nevertheless, the Great North agreed to the purchase of the canal for £36,000 as a potential railway route; Great North chairman Thomas Blaikie argued:

This might appear a large sum being about 26 years purchase of the revenue, but under all circumstances he considered the transaction desirable and advantageous for both parties.⁷¹

⁷⁰ J Lindsay, *The Canals of Scotland* (Newton Abbot, 1968), p.99 and p.109: gross profit in 1844 was £1,210 on a capital expenditure of £43,895.

⁷¹ Minutes of the Great North of Scotland Railway, 14 October 1845, NAS/BR/GNS/1/1, p.43.

Map 5: The authorised Aberdeen web of railways, 1846



The Aberdeen Railway, as the earliest incorporation, served as the host company for the web. All directors on the first board of the Aberdeen Railway were also board members of the Great North and they held absolute control of all the other web companies. Over a year before the Great North was incorporated, its committee resolved that it 'may ultimately be considered desirable' to amalgamate with the Aberdeen Railway.⁷² In seeking shareholder approval for an amalgamation with the Great North, the Aberdeen Railway chairman reported that 'nearly 200 miles of railway, exclusive of projected extensions, will be placed under one management'⁷³

⁷² Minutes of the Great North of Scotland Railway, 30 March 1845, NAS/BR/GNS/1/1, pp.24-25.

⁷³ *Railway Chronicle*, 20 September 1845, p.1315.

and acclaimed the market strength given as a result of the rejection of the Perth and Inverness bill:

It is very improbable that such a scheme will be again contemplated, and the traffic between Perth and Inverness, and of the whole Northern Counties of Scotland, will thus be secured to the Aberdeen Railway ... when the proposed amalgamation of this Line with the Great North of Scotland Railway is carried into effect, the United Company will have the command of a most valuable and extensive field of railway enterprise which cannot fail to realize an ample return on the capital invested at no distant day.⁷⁴

The Aberdeen web had effectively formed a regional transport monopoly before all the legislation had passed through Parliament. The amalgamation bill passed without opposition, but Parliament required that amalgamation could not take effect until half of the capital in each company had been paid up.⁷⁵ Thus the web's expeditious strategy did not pass so smoothly into execution. By the time the Scottish Central and Scottish Midland Junction Railways opened their sections of the northern route in 1848, the Aberdeen Railway had opened just half of its route:

Table 28: Opening dates for sections of the Aberdeen Railway, 1848-50

Date	Miles	Commencement point	Northerly terminus
1 September 1848	33	Friockheim	Montrose
1 November 1849	26	Montrose	Limpet Mill, 3 miles north of Stonehaven
8 December 1849	6 ½	Limpet Mill	Portlethen, 6 miles south of Aberdeen
1 April 1850	6 ¼	Portlethen	Aberdeen (Ferryhill)
Total mileage	72 ¼		
Source: Report to the Ordinary General Meeting of the Aberdeen Railway, 24 October 1850, NAS/BR/RAC(S)/1/36.			

⁷⁴ Report of Special General Meeting of the Shareholders of the Aberdeen Railway, 30 May 1846, NAS/BR/RAC(S)/1/36; *Aberdeen Journal*, 17 September 1845, p.2, reporting the first meeting of Aberdeen Railway shareholders giving 'immediate approval' to amalgamate with the Great North of Scotland Railway, quoted in JJ Waterman, *The Coming of the Railway to Aberdeen in the 1840s*, p.8.

⁷⁵ The Great North of Scotland and Aberdeen Railways Act, 10&11 Vic. cap.195, 9 July 1847; report of the 3rd Ordinary General Meeting of the Aberdeen Railway, 30 November 1847, NAS/BR/RAC(S)/1/36.

The reasons for this halting progress re-iterated the earlier Scottish experience - inaccurate estimates, shortage of capital and boardroom conflict. By May 1846, arrears on calls amounted to one-sixth of capital called; three further calls were made by October when borrowing powers were released.⁷⁶ However, the company was attempting to raise large sums of capital in a market battered by the aftermath of the 1845 railway mania. By December 1847, loans were costing 6 percent.⁷⁷ The capital shortage was not unique to Aberdeen; with national economic depression and great distrust of railway equity, all railway companies found calls hard to obtain and loans increasingly expensive. The Aberdeen, like many other railway companies, sought new capital by converting unissued ordinary shares into preference stock on which dividend was guaranteed, but state authorisation was required.⁷⁸ Preference stock rose from 4 percent to 66 percent of all British stock issued between 1845 and 1849 while the average ordinary share dividend of the 17 largest railway companies fell from 6.3 percent to 3.3 percent.⁷⁹ The Aberdeen Railway gained approval in 1848 for a 6 percent stock, not at 10 percent as originally proposed, and then in 1850 for a further stock at 7 percent.⁸⁰ The high interest levels indicate the desperation of the Aberdeen to obtain capital. Such a strategy was highly risky, because guaranteed dividend absorbed revenue, which reduced the scope to offer

⁷⁶ Report of the Special General Meeting of the Aberdeen Railway, 30 May 1846, NAS/BR/RAC(S)/1/36: of the £164,057 capital called, £135,087 had been received and arrears (£28,970) represented 17.7% of the capital called; JJ Waterman, *The Coming of the Railway to Aberdeen in the 1840s*, pp.8-9.

⁷⁷ JJ Waterman, *The Coming of the Railway to Aberdeen in the 1840s*, p.9.

⁷⁸ G Channon, *Railways in Britain and the United States, 1830-1940*, p.39; GR Hawke and MC Reed, 'Railway capital in the United Kingdom in the nineteenth century', *Economic History Review*, new series, XXII, No.2 (1969), p.284; RJ Irving 'The capitalisation of Britain's railways, 1830-1914', *Journal of Transport History*, 3rd series, vol.5, No.1 (March 1984), pp.2-3.

⁷⁹ TL Alborn, *Conceiving Companies: joint stock politics in Victorian England* (London, 1998), p.194, noting the proportion of stock issued as 4% or 5% preference stock in Britain between 1845 and 1849.

⁸⁰ Ordinary General Meeting of 30 November 1847, which approved a parliamentary application for preference stock, NAS/BR/RAC(S)/1/36; 11&12 Vic. cap.67, 1848, The Aberdeen Railway Act: the resultant legislation was reported at the Ordinary General Meeting of 29 November 1848, NAS/BR/RAC(S)/1/36; H Parris, *Government and the Railways in Nineteenth-Century Britain* (London, 1965), p.127, states that the Railway Commissioners advised against parliamentary approval of the Aberdeen Railway's preference stock at a proposed rate of 10 percent; 13&14 Vic. cap.78, 1850, The Aberdeen Railway Act.

dividend on ordinary shares, thereby making that stock less attractive. Moreover, share conversion was often carried out when money was tight and the company became locked into guaranteed payments at high rates of interest.

When, in 1847, expenditure on the Aberdeen Railway was outstripping the inflow of capital, two directors were sent to London to seek a £200,000 loan, the Aberdeen Town and County Bank was asked to consider a £30,000 loan and the scale of construction work was reduced.⁸¹ Shareholders were informed that of £664,000 called, only £46,000 was in arrears, and new capital powers for £300,000 of preference stock were required:

... the Share Capital of the Company, and the amount authorised to be raised on Loan, will both be inadequate to compete the undertaking ... the original Estimate of cost will thus be exceeded.⁸²

Ominously, shareholders were also told 'The Company are now considerably indebted to their Bankers' and, consequently, 'it has been found necessary to restrict the operations of the Company's Contractors to a very considerable extent, on all parts of the Line north of Montrose.'⁸³ The *Railway Times* reported that the Aberdeen had borrowed £70,000 for between 3-5 years at 4 and 5 percent interest and quoted the chairman's explanation:

We have been obliged to borrow for temporary purposes at higher rates and it may be necessary to do so for some time to come ... Like others, we have been deceived in our estimates. In our calculation as to the value of land, we have been most of all astray ...⁸⁴

⁸¹ Scroll minutes of the Aberdeen Railway Company, 29 September 1847, 12 November 1847, and 13 November 1847, NAS/BR/ABN/1/6.

⁸² Report to the Ordinary General Meeting of the Aberdeen Railway, 30 November 1847, NAS/BR/RAC(S)/1/36.

⁸³ Report to the Ordinary General Meeting of the Aberdeen Railway, 30 November 1847, NAS/BR/RAC(S)/1/36.

⁸⁴ *Railway Times*, 4 December 1847, p.1491, reporting chairman James Hadden's address to the 3rd Ordinary General Meeting of the Aberdeen Railway held on 30 November 1847.

The experiences of the 1837-38 inter-urban lines were being repeated in the north. By August 1849, expenditure on the Aberdeen line was 68.1 percent above estimate and still rising.⁸⁵ Land costs were 10.2 percent of expenditure, proportionately lower than for earlier inter-urban lines but nearly three times the estimate.⁸⁶ The company accounts suggest an under-funded company struggling in the face of inaccurate estimates and a hostile capital market.

Table 29: Financial indicators for the Aberdeen Railway 1849-50

	31.08.1848	31.08.1849	31.07.1850
Ratio of loans to capital raised	20.5%	22.3%	25.2%
Ratio of gross revenue to total debt	(line not open)	0.051	0.053
Source: Appendix, table 1(d).			
(1): Comparative gearing ratios for the Caledonian Railway in 1849-50 were 24.5% for debentures/capital and 0.162 for gross revenue/debt.			

The interpretation of gearing ratios in these early years requires caution because the full line did not open until 1850 (table 29). Nevertheless, the railway returned a net loss on revenue account in its first two years of operation and, with mounting debt, its financial position by 1850 was very precarious.⁸⁷ The debt gearing indicates considerable weakness in comparison to the Caledonian at the same date with a slightly lower authorised loan debt but a significant burden of temporary debt.⁸⁸

⁸⁵ Appendix, tables 1(a) and 1(b); 8&9 Vic. cap.153, 1845, The Aberdeen Railway Act authorised share capital of £830,000, but engineer Cubitt had estimated a cost of £900,000 in a report of 21 September 1844, NAS/BR/PROS(S)/1/1.

⁸⁶ Table 1(a): by August 1849, land costs comprised £142,192 of the £1,394,864 of capital expenditure (10.2%); Report to the Ordinary General Meeting of the Aberdeen Railway, 24 October 1850, NAS/BR/RAC(S)/1/36, noting the original estimate for land to be £57,000.

⁸⁷ Appendix, tables 1(c) and 1(d).

⁸⁸ Appendix, table 1(d), showing that the total fixed interest debt by July 1850 was £987,335; table 18 in chapter 3 shows the Caledonian's ratio of authorised loans to total capital raised by 31 December 1849 was 24.5%, whereas that for the Aberdeen Railway in August 1849 was 22.3%.

The paucity of capital supply caused the allied Great North of Scotland, Alford Valley and Deeside Railways to delay any commencement of their schemes. Although such decisions were made independently, the Aberdeen directors held a majority on those boards and deferred construction in the light of their own financial predicament. The share market reflected the growing financial difficulties of the Aberdeen Railway. Its shareholders experienced a steady fall in the amount they could recoup as a proportion of the amount they had paid (table 30).

Table 30: Market prices quoted for shares in the Aberdeen Railway, 1846-55

Date	Par value (£)	Amount paid (£)	Price in week (£)	Price as a proportion of share price paid
10.10.1846	50	20	24 ¼ - 26	104.0
26.12.1846	50	25	14 ½	72.5
03.04.1847	50	30	27 ½	91.7
01.05.1847	50	30	24-25	83.3
18.12.1847	50	45	28 ½	63.3
29.01.1848	50	50	26 ½	53.0
01.04.1848	50	50	22-25	50.0
01.07.1848	50	50	20-21	41.2
06.01.1855	100	100	20	20.0
07.04.1855	100	100	20 ½	20.5
07.07.1855	100	100	23 ¼	23.3
06.10.1855	100	100	24	24.0
15.12.1855	100	100	22 ¼	22.8

Source: *Herapath's Railway Journal*, October 1846 - December 1855.

The ailing Aberdeen Railway attracted the attention of the west- and east-coast alliances, which sensed the opportunity of both a capital and a strategic gain. In August 1848, the Aberdeen board approved, although not unanimously, the terms of an agreement with the London and North Western Railway and its allies.⁸⁹ By September, however, the board switched to acceptance of a counter-proposal from the Edinburgh and Northern Railway backed by the east-coast alliance.⁹⁰ The *Aberdeen Journal* reported:

⁸⁹ Scroll minutes of the Aberdeen Railway, 4 July 1845, NAS/BR/ABN/1/5 and 29 August 1848, NAS/BR/ABN/1/6.

⁹⁰ Scroll minutes of the Aberdeen Railway, 27 September 1848 and 25 October 1848, NAS/BR/ABN/1/6.

Competition hotted up towards the end of the year between the vultures waiting to seize the dying body of the Aberdeen Railway ... the Edinburgh and Northern backed by the North British and the notorious Hudson made an offer in October that topped the London and North Western Railway's earlier offer ...⁹¹

The London and North Western proposed to purchase Aberdeen plant and work the line for five years on a mileage payment, but the east-coast alliance offered to purchase all 6 percent Aberdeen preference stock authorised in 1848, to complete the line to Aberdeen, and to work it at 40 percent of receipts.⁹² In October 1848, Aberdeen directors obtained shareholder acceptance of the Edinburgh and Northern offer and reported that the line could be completed for £24,000 per mile, although that figure was approximately twice the original estimate.⁹³ However, shareholder dissatisfaction emerged at the half-yearly meeting in November, which triggered the fragmentation of the Aberdeen web that was to have a major influence on railway development in the north over the next two decades.⁹⁴

The disintegration of the Aberdeen Web

The shareholders of the Aberdeen Railway were thrown two lifelines by major railway alliances in 1848 to extricate themselves from their financial chaos but, despite approval of the east-coast offer in October 1848, the company ultimately accepted neither. Surviving scroll minutes of the board reveal the serious split between directors over the two rival offers, resulting in a decision to publish a circular

⁹¹ *Aberdeen Journal*, 4 October 1848, p.6 and 25 October 1848, p.4, quoted in JJ Waterman, *The Coming of the Railway to Aberdeen in the 1840s*, p.20.

⁹² *Railway Times*, 4 November 1848, p.1162; 11&12 Vic. cap.67, 1848, The Aberdeen Railway Act, authorising the company to create £276,666 of 6% preference stock.

⁹³ *Railway Chronicle*, 4 November 1848, p.782, reporting the Extra-ordinary General Meeting of the Aberdeen Railway held on 26 October 1848, the acceptance of the Edinburgh and Northern offer and approval of the creation of £276,666 6% preference stock; *Railway Times*, 4 November 1848, p.1162 and 9 December 1848, p.1285; Appendix, table 26.

⁹⁴ Report of the Ordinary General Meeting of the Aberdeen Railway, 29 November 1848, NAS/BR/RAC(S)/1/36.

to shareholders and seek proxies.⁹⁵ At the ordinary general meeting in November, representatives of a large group of English shareholders challenged financial probity within the company.⁹⁶ The claim was made that £130,000 of stock had been transferred onto the company's books from the personal holdings of some directors and that no minute had been made of the decision. Director John Blaikie defended the action:

In 1846, when the Company was in considerable difficulty, various gentlemen, having taken shares for the purpose of relieving the Company from their temporary embarrassment, had some expectation at the time of the Company relieving them from ultimate loss, should these shares become depreciated in value.⁹⁷

Shareholders were acutely aware that it was not just directors that had suffered financial loss and that the company remained in deep financial difficulty. The validity of the share qualification of some of the directors was questioned and allegations made that Blaikie Brothers, suppliers of ironwork to the railway and whose relatives were well represented on Aberdeen web boards, had been paid above market rates for their goods.⁹⁸ When the directors realised that the London shareholders held more proxies than the board, the meeting was adjourned. Sensing their opportunity for control of the Aberdeen might slip away, the Edinburgh and Northern and North British Railways rapidly paid the first installment of £20,000 for preference shares

⁹⁵ Scroll minutes of the Directors of the Aberdeen Railway, 14 November 1848, NAS/BR/ABN/1/6.

⁹⁶ Report of the Ordinary General Meeting of the Aberdeen Railway, 29 November 1848, NAS/BR/RAC(S)/1/36; *Railway Times*, 9 December 1848, p.1162.

⁹⁷ *Railway Times*, 9 December 1848, pp.1285-86.

⁹⁸ *Railway Chronicle*, 6 January 1849, pp.12-13; Report of the Ordinary General Meeting of the Aberdeen Railway, 24 October 1850, NAS/BR/ABN/1/18: the report states that an investigation had revealed that the Aberdeen Railway had contracted with Blaikie Brothers to pay £8.10s per ton for iron railway chairs, which was £2-£2.5s more per ton than on neighbouring lines and that the signatory for the firm on the contract was the sixteen year-old nephew of Thomas Blaikie, then Chairman of the Aberdeen Railway.

into the Aberdeen's account and requested an allocation of stock, seeking to finalise the agreement made between them, but the Aberdeen refused the payment.⁹⁹

Notes from a board meeting held on Christmas Day 1848 indicate a distinct absence of seasonal goodwill.¹⁰⁰ An immediate challenge was made over the legality of the presence of Aberdeenshire landowner Sir James Elphinstone, appointed an Aberdeen director in 1847,¹⁰¹ now its deputy chairman,¹⁰² and soon to be chairman of the Great North of Scotland Railway; the register of shareholders showed he did not hold the required qualification.¹⁰³ A vituperative argument followed over the eligibility of other directors. One director was described as 'being obnoxious' and one accused another of 'being one of the parties who have been obtaining the votes of the Shareholders to turn him out of the Direction'.¹⁰⁴ The divisions within the board reflected support for the west- or east-coast offers. The depth of rancour resulted in the board suspending the authority given to its secretary to issue bills under directors' signature, intending to block any advantage to an opponent. In reality, the decision froze the ability of the company to run its affairs and this perverse decision had to be reversed the following day.¹⁰⁵

⁹⁹ Scroll minutes of the Directors of the Aberdeen Railway, 19 December 1848, NAS/BR/ABN/1/6; *Railway Chronicle*, 6 January 1849, pp.12-13.

¹⁰⁰ Scroll minutes of the Directors of the Aberdeen Railway, 25 December 1848, NAS/BR/ABN/1/6.

¹⁰¹ Report to the 3rd Ordinary General Meeting of the Aberdeen Railway, 30 November 1847, NAS/BR/RAC(S)/1/36.

¹⁰² Report to the 3rd Ordinary General Meeting of the Aberdeen Railway, 30 November 1847, NAS/BR/RAC(S)/1/36; *Railway Chronicle*, 6 January 1849, pp.12-13.

¹⁰³ Scroll minutes of the Directors of the Aberdeen Railway, 25 December 1848, NAS/BR/ABN/1/6.

¹⁰⁴ Scroll minutes of the Directors of the Aberdeen Railway, 25 December 1848, NAS/BR/ABN/1/6.

¹⁰⁵ Scroll minutes of the Directors of the Aberdeen Railway, 26 December 1848, NAS/BR/ABN/1/6.

The ordinary general meeting resumed on 27 December 1848 and lasted seven-and-a-half hours.¹⁰⁶ The board announced that it had already resolved to break off the agreement with the east-coast companies.¹⁰⁷ James Spicer, representative of the London shareholders, proposed a new board of directors that excluded representation from any of the suitor southern companies and retained just three directors from the existing board. Spicer extended allegations of financial impropriety, challenging a law account of £11,723 to Messrs Adam and Anderson, who were law agents to all the web companies and directors of many of them, and asserting that of the £150,000 shares taken by directors in 1846, only £40,000 had been paid up despite the call of four-fifths of the par value of each £50 share by the end of 1847.¹⁰⁸ Spicer also gave details of the excess paid to Blaikie Brothers:

... it appeared that, on work done to the amount of £80,000, the amount over the process fixed on by Mr. Locke was £18,000, at the rate of 22 percent upon the whole.¹⁰⁹

The board must have sensed that they were about to be swept from office for Elphinstone berated the meeting and 'warmly blamed the majority' for reducing the company to bankruptcy.¹¹⁰ A shareholder unsuccessfully urged acceptance of one of the southern offers, noting that the agreement with the Edinburgh and Northern required the provision of four seats at the board:

¹⁰⁶ *Railway Chronicle*, 6 January 1849, pp.12-13, reporting details of the adjourned Ordinary General Meeting of the Aberdeen Railway on 27 December 1848.

¹⁰⁷ *Railway Chronicle*, 6 January 1849, p.12, reporting the statement to shareholders that a board minute of 19 December 1848 had terminated the agreement with the Edinburgh and Northern and its allies; Scroll minutes of Directors of the Aberdeen Railway, 19 December 1848, NAS/BR/ABN/1/6.

¹⁰⁸ Report of the Ordinary General Meeting of the Aberdeen Railway, 30 November 1847, NAS/BR/RAC(S)/1/36, identifying calls made between November 1845 and December 1847.

¹⁰⁹ *Railway Chronicle*, 6 January 1849, pp.12-13.

¹¹⁰ *Railway Chronicle*, 6 January 1849, pp.12-13; *Railway Times*, 6 January 1849, pp.5-7, reporting Sir James Elphinstone's speech to the resumed Ordinary General Meeting of the Aberdeen Railway on 27 December 1848: 'He warmly blamed the majority for depriving the Company and the public of the prospect of the speedy opening of the railway, which, he said, was "this day bankrupt" ... This railway was now deteriorated to one-third of its original value'.

Unless unanimous, they would see their property continue to lie waste, daily deteriorated by the frost and the snow, and the company involved in irremediable bankruptcy.¹¹¹

Spicer's proposed new board was elected without a vote and Elphinstone and his allies walked out of the meeting, although still retaining their seats on the Great North of Scotland board and other companies. From this point, relationships between the two main railway companies in Aberdeen turned acerbic and remained so for nearly two decades to the detriment of railway development in the north of Scotland. The *Railway Times* was incredulous:

How a squabble amongst the Directors ... should have occasioned so disastrous a disruption, we can by no means make clear. The line is stopped, and literally "rotting" for want of funds ... The Company is in the most serious difficulties. Indeed, at this moment, we are not aware whether it is solvent or not ...¹¹²

The importance of the London influence in the Aberdeen Railway is demonstrated by the holding of regular shareholder meetings in the English capital, the first of which congratulated shareholders on abandoning any agreement with the west- or east-coast companies and urged them to maintain 'an independent position'.¹¹³ The new directors, the majority of whom were local, commissioned a report on the state of the line and company finances and recommended shareholders to purchase the preference stock that was to have been taken by the east-coast companies.¹¹⁴ A

¹¹¹ *Railway Chronicle*, 6 January 1849, pp.12-13.

¹¹² *Railway Times*, 6 January 1849, p.7.

¹¹³ *Railway Times*, 20 January 1849, p.51.

¹¹⁴ Scroll minutes of the Directors of the Aberdeen railway, 29 December 1848, NAS/BR/ABN/1/7; *Railway Chronicle*, 10 February 1849, p.94, reporting a Special General Meeting of the Aberdeen Railway, which approved the issue of £276,666 6% preference shares with power to raise interest to 7% for those shares not taken at 6%; Report of the directors to the Ordinary General Meeting of the Aberdeen Railway, 24 October 1850, NAS/BR/RAC(S)/1/36: of the 12 directors shown, one gave a London address while seven

feature that was to become commonplace in the development of northern railways, the personal security of directors for loans, was reported at the new board's second meeting.¹¹⁵ Nevertheless, initial signs were encouraging; the new preference shares were taken up and 'it was not necessary to issue any of the shares at a higher rate of interest than 6 percent'.¹¹⁶

Six percent interest, however, placed considerable strain on the unstable finances of the company. The Aberdeen Railway still faced strong competition from sea transport; it had spurned both west- and east-coast alliances and had destroyed the Aberdeen monopoly web, creating in the process a new antagonist in the Great North of Scotland Railway which held the monopoly route northwards. Within the year the new board proposed that the authorised amalgamation with the Great North should be abandoned:

At the time the Act was obtained, the Directors of both Companies were the same, with one or two exceptions – the circumstances of both Companies were similar, and the arrangement was gone into in the belief that, from the intimate connection of the two Lines, it would be for their mutual advantage were they carried out, and wrought as one undertaking. The circumstances in which the Companies are now placed are very different – nothing has been done towards the formation of the Great North Line, while the Aberdeen Line is nearly finished ... it does not appear to your Directors that there are any advantages secured to you by the Amalgamation Act, which would not equally accrue on the completion of the Great North Line ...¹¹⁷

gave addresses in the Aberdeen region. At this meeting, James Spicer declined to serve as a director of the company (*Railway Times*, 26 October 1850, p.1098).

¹¹⁵ Scroll minutes of the Directors of the Aberdeen Railway, 3 January 1849, NAS/BR/ABN/1/7: 'The Finance Committee are interposing their personal security for the benefit of the Company in order to meet its most pressing engagements ...'.

¹¹⁶ *Railway Chronicle*, 9 June 1849, p.407: the preference shares had been created on 3 February 1849; Appendix, table 1(a), showing £225,539 of the £276,666 6% preference shares taken by 31 July 1849 (81.5%) and £274,412 by 31 July 1850 (99.2%).

¹¹⁷ Report of the directors to the Ordinary General Meeting of the Aberdeen Railway, 29 November 1849, NAS/BR/RAC(S)/1/36.

The Great North board justified repeal to their shareholders to divorce themselves from the financial difficulties of the Aberdeen Railway.¹¹⁸ However, it was the hostile disintegration of the Aberdeen web rather than underlying capital difficulties of the Aberdeen that prompted the repeal of the amalgamation act. The Great North directors had already created their own capital constraints, outlined in Chapter 3. With repeal, the immediate prospect of a coherent continuous route to the north via Aberdeen was lost.¹¹⁹ The Great North's Act contained the powers to make the connection northwards from the Aberdeen Railway, but the bitter division between the two companies ensured that the north of Scotland would wait until 1867 to obtain a continuous route to the south via Aberdeen. Moreover, this antagonism was to assist the latent distrust shown in Inverness towards Aberdeen railway schemes to ferment into vigorous and successful competition, which is explored in chapter 6.

Instability and insolvency in Aberdeen, 1849-56

When the Aberdeen Railway opened its final section to Ferryhill on the southern outskirts of Aberdeen in April 1850, both its capital and revenue accounts were in deficit.¹²⁰ It had issued a six percent preference stock and had powers to issue another at seven percent, highly attractive rates in comparison to bank discount rates of 2½-3 percent throughout 1849-51, which reflected improved national economic conditions.¹²¹ However, the Aberdeen was unable to pay the guaranteed

¹¹⁸ Minutes of the Great North of Scotland Railway, Special General Meeting, 24 June 1850, NAS/BR/GNS/1/1, p.246: '... your directors are satisfied that the repeal of this act would facilitate the obtaining [of] funds for the construction of the works, and be otherwise advantageous for this company ...'.

¹¹⁹ 13&14 Vic. cap.78, 1850, The Aberdeen Railway Act, which repealed 10&11 Vic. cap.195, 1847, The Great North of Scotland Railway Act that had authorised amalgamation of the Great North and Aberdeen Railway companies.

¹²⁰ Appendix, tables 1(b) and 1(c).

¹²¹ Bradshaw's *Railway Almanack*, 1875, appendix 12, p.83, reporting bank discount rates 1848-75; 11&12 Vic. cap.67, 1848, The Aberdeen Railway Act, authorising the creation of £276,666 of 6% preference stock; 13&14 Vic.cap.78, 1850, The Aberdeen Railway Act, authorising the creation of £150,000 of 7% preference stock, repealing the 1847 act for an amalgamation with the Great North of Scotland Railway, and approving a new terminus for the Aberdeen Railway at Guild Street in Aberdeen.

dividend on its six percent stock in 1850; directors reported that the cost of the railway was £1,647,000, £747,000 above their estimate.¹²² Earthworks estimated at £623,783 had cost £911,597.¹²³ Land costs were reported to be £187,555, over three times the estimate of £57,000:

Land settlements ... had little reference to the real value of the land taken ... the ruling object has been, by every means and without reference to value, to extort the largest possible sums.¹²⁴

Nevertheless, the Aberdeen line was more economically constructed than some earlier Scottish lines; the capital cost per mile of £22,004 in 1850 rose to £25,273 per mile in 1855 once the line was extended into Aberdeen, falling mid-way between the Scottish Central and Scottish Midland Junction main line costs of 1850-51.¹²⁵

The company saw some prospect of achieving economies by joining the working agreement with the Scottish Central and Scottish Midland Junction in 1851 and directors subsequently told shareholders of its satisfactory operation.¹²⁶ Gross revenue rose by 20.3 percent in 1851-52 once the full line was in operation, but

¹²² Report of the Directors to the Ordinary General Meeting of the Aberdeen Railway, 24 October 1850, NAS/BR/RAC(S)/1/36, the data given by directors implies the use of engineer Cubitt's 1844 estimate of £900,000 for the line, although authorised capital was set at £830,000 in 1845.

¹²³ *Herapath's Railway Journal*, 19 October 1850; CJA Robertson, 'The Cheap Railway Movement in Scotland: the St Andrews Railway Company', p.3.

¹²⁴ Report of the Directors to the Ordinary General Meeting of the Aberdeen Railway, 24 October 1850, NAS/BR/RAC(S)/1/36, noting the original estimate for land to be £57,000 while actual costs were reported as £187,555, just over three times the estimate, but which included £40,000 allowed for the Aberdeen terminus. Appendix, table 1(b), shows actual land costs paid by July 1850 to be £152,601, a level which was almost 2.7 times the original estimate.

¹²⁵ Appendix, tables 1(b), note 6, 19(a), 20(a) and 26: the capital costs per mile for the Scottish Central and Scottish Midland Junction Railways were £31,573 (1850) and £20,890 (1851) respectively. The Scottish Central and Scottish Midland Junction Railways subsequently obtained powers to build branch lines and so a direct comparison of the costs per mile of the three sections of the Stirling-Aberdeen main line in 1855 are not possible; Report of the Ordinary General Meeting of the Aberdeen Railway, 26 October 1854, NAS/BR/RAC(S)/1/36, reporting the opening of the Guild Street terminus on 2 August 1854.

¹²⁶ Reports of the Directors to the Ordinary General Meetings of the Aberdeen Railway, 30 October 1851, and 20 April 1852, NAS/BR/RAC(S)/1/36.

revenue growth was absorbed by the cost of servicing the mounting level of debt.¹²⁷ Inaccurate estimates had forced the company to seek additional capital at a time when funds were scarce and expensive and deferred warrants were issued routinely for preference share dividend.¹²⁸ Capital costs continued to increase as the Aberdeen Railway extended its line towards the centre of Aberdeen and the docks.¹²⁹ The extra cost incurred by the extension was imperative, given the strong competition faced from sea transport:

The traffic of the line is gradually progressing; but the continued competition by sea prevents its rapid development, as there is still a large sea-borne traffic, carried at rates so low as induces traders to employ that mode of conveyance.¹³⁰

The interests held by some Aberdeen directors in the rival sea traffic prompted controversy about 'divided allegiance':

... we confess to a confusion of ideas in not being able to make out how any director of the Aberdeen can possibly serve two such masters; the interests are antagonistic ...¹³¹

¹²⁷ Appendix, tables 1(c) and 1(d); gross annual revenue rose from £59,884 in January 1851 to £72,040 in January 1852, an increase of 20.3% for the full year 1851-52; Report of the Directors to the Ordinary General Meeting of the Aberdeen Railway. 20 April 1852, NAS/BR/RAC(S)/1//36, stating that half yearly goods revenue to 31 January 1851 was £10,549 and to 31 January 1852 was £14,673, a rise of 39.1% between those half-years. Passenger traffic between January 1851 and January 1852, however, rose only by 2.8% from £17,659 to £18,154 in the same half years.

¹²⁸ Report of the Directors to the Ordinary General Meeting of the Aberdeen Railway. 24 October 1850, 30 October 1851, 21 October 1852, 28 October 1853, NAS/BR/RAC(S)/1//36: full dividend on 6% stock was paid in October 1854, although arrears on 7% preference stock continued to accumulate until March 1858.

¹²⁹ Appendix, table 1(b).

¹³⁰ Report of the Directors to the Ordinary General Meeting of the Aberdeen Railway. 20 April 1852, NAS/BR/RAC(S)/1//36.

¹³¹ *Railway Times*, 8 November 1851, p.1123; Bradshaw's *Railway Almanack*, volumes for 1846-49, show George Thompson, owner of the White Star Line that traded with Australia, re-elected as an Aberdeen director in 1846 but he is not shown on that board by 1848, but he retained positions as a director of the Great North, Great North (Eastern Extension), Alford Valley, and Deeside Railways.

The start of construction of the Great North of Scotland and Deeside Railways in 1852, albeit as reduced schemes, raised the prospect of increased traffic passing onto the Aberdeen Railway.¹³² The Aberdeen board was keen to tap potential traffic from the north, but disputes with the Great North over a connecting through line started almost immediately the Aberdeen web disintegrated in 1848-49. The Great North dismissed a proposal from the Aberdeen in 1849; the Aberdeen rejected a Great North scheme in 1850.¹³³ When the Great North issued a revised prospectus in 1852, the Aberdeen board advised its shareholders against investment in it because:

... it was not contemplated to form a junction with your Line, but to have the Terminus of the new Railway on the North Side of Aberdeen, leaving a break of about two miles between the two Railways.¹³⁴

The terminus of the Great North's line initially was at Kittybrewster in the northern outskirts of Aberdeen, but rather than extend across Aberdeen to provide a continuous link into the route south, a short branch was authorised in 1854 along the route of the former Aberdeenshire Canal to a new terminus at Waterloo on the north side of the docks.¹³⁵ The Aberdeen Railway opened its new terminus at Guild Street in 1854, which left a gap of half-a-mile between the two stations; only a very basic connection for goods was eventually provided via a horse-drawn tramway along the

¹³² 14&15 Vic. cap.55, 1851, The Great North of Scotland Amendment Act, which reduced the authorised capital limit of the company; 15&16 Vic. cap.61, 1852, The Deeside Railway Act, which re-incorporated the company to construct and operate a 16 mile line from Aberdeen to Banchory.

¹³³ Scroll minutes of the Aberdeen Railway, 16 June 1850, NAS/BR/ABN/1/10; *Railway Times*, 26 October 1850, p.1098; Minutes of the Great North of Scotland Railway, NAS/BR/GNS/1/1, 2 September 1849, p.202, 29 December 1849, p.229, and 20 July 1853, p.409 and pp.420-22.

¹³⁴ Report of the Directors to the Ordinary General Meeting of the Aberdeen Railway, 20 April 1852, NAS/BR/RAC(S)/1/36; Prospectus of the Great North of Scotland Railway Company, revised scheme 1852, NAS/BR/PROS(S)/1/9.

¹³⁵ Report to the Ordinary General Meeting of the Great North of Scotland Railway, 25 November 1853, NAS/BR/GNS/1/1, p.463; 17&18 Vic. cap.187, 1854, The Great North of Scotland Railway Amendment Act; Report to the Ordinary General Meeting of the Great North of Scotland Railway, 30 November 1854, NAS/BR/GNS/1/2. p.152.

dock quays.¹³⁶ That short gap epitomised the isolation of the Great North both physically and politically, and the resultant discontinuity became an important contributor to the subsequent collapse of the Great North's northern monopoly.

A shareholder's letter in 1851 noted that the Aberdeen Railway's weekly revenue of £1,230 was absorbed entirely by annual working costs of £34,000, debenture interest of £18,000, and £12,000 rent for the Arbroath and Forfar line:

I think it very evident that no dividend can be paid regularly on the preference shares for a very long time to come.¹³⁷

The directors expressed 'great anxiety' over the increasing arrears of preferential dividends and proposed that, once revenue could cover current liabilities, arrears should be capitalised to remove the strain on the revenue account, which could then offer some prospect of a dividend on ordinary stock.¹³⁸ Dividend due on the 6 percent preference stock by May 1851 amounted to £23,741, which represented one-third of gross revenue earned in 1851.¹³⁹ Because only two-fifths of the new 7 percent preference stock had been taken, the board took the extreme step of mortgaging its rolling stock in trust to creditors who then took 7 percent stock to cover a quarter of their claims.¹⁴⁰ The grave cash flow position was somewhat

¹³⁶ Report of the Directors to the Ordinary General Meeting of the Aberdeen Railway, 26 October 1854, NAS/BR/RAC(S)/1/36; Scroll minutes of the Scottish North-Eastern Railway, 22 December 1858, NAS/BR/SNE/1/5, proposing a junction between the Aberdeen and Great North Railways '... by means of a railway across the Harbour and Docks at Aberdeen'.

¹³⁷ *Railway Times*, 22 March 1851, p.310.

¹³⁸ Report of the Directors to the Ordinary General Meeting of the Aberdeen Railway, 30 October 1851, NAS/BR/RAC(S)/1/36.

¹³⁹ Report of the Directors to the Ordinary General Meeting of the Aberdeen Railway, 30 October 1851, NAS/BR/RAC(S)/1/36; Appendix, table 1(c): gross revenue for the full year 1851 was £68,810.

¹⁴⁰ Report of the Ordinary General Meeting of the Aberdeen Railway, 30 April 1851, NAS/BR/RAC(S)/1/36, stating that 13,000 of the 30,000 new 7% preference shares had been taken and that the remainder were to be taken by creditors as part payment of debt and with the company's rolling stock assigned in trust as security.

understated by the directors: 'It must be confessed that revenue matters are not in a condition approaching healthiness.'¹⁴¹

The company was insolvent, but it had a rising stream of revenue which offered the prospect of recovery if the fixed interest burden could be removed from its revenue account. In 1852, the board proposed to create a new preference stock in lieu of deferred dividend warrants for arrears on both the 6 and 7 percent preference stocks, which shareholders approved.¹⁴² The annual dividend required on these two stocks in 1853 was £27,100 and the board calculated that, with current revenue improvement, it would take six years to meet fully annual guaranteed dividends.¹⁴³

In January 1853, net revenue registered a surplus, but only of £72.¹⁴⁴ Dividend arrears totalled £69,376 in October 1853, by when powers had been received for conversion of arrears into a 3½ percent stock.¹⁴⁵ By the next half-year meeting, the company was able to pay 2¼ percent on the 6 percent stock.¹⁴⁶ However, the preference stock in lieu of arrears was not created until 1858 when the company was finally able to meet all annual preference dividends from current revenue; in the meantime, the company had continued to issue deferred dividend warrants on

¹⁴¹ *Railway Times*, 10 May 1851, p.476, reporting the Ordinary General Meeting of the Aberdeen Railway held on 30 April 1851.

¹⁴² Report of the Directors to the Ordinary General Meeting of the Aberdeen Railway, 21 October 1852 and Report of the Special General Meeting, 3 March 1853, NAS/BR/RAC(S)/1/36.

¹⁴³ Report of the Directors to the Ordinary General Meeting of the Aberdeen Railway, 3 March 1853, NAS/BR/RAC(S)/1/36: the Aberdeen board calculated that if net revenue rose at £5,000 per annum, it would not fully meet annual dividends on these preference stocks until 1859.

¹⁴⁴ Report of the Directors to the Ordinary General Meeting of the Aberdeen Railway, 19 April 1853, NAS/BR/RAC(S)/1/36; Appendix, table 1(c).

¹⁴⁵ Report of Special General Meeting of the Aberdeen Railway, 3 March 1853, NAS/BR/RAC(S)/1/36; 16&17 Vic. cap.101, 1853, The Aberdeen Railway Act; Report of the Directors to the Ordinary General Meeting of the Aberdeen Railway, 28 October 1853, NAS/BR/RAC(S)/1/36, recommending that 'in the present state of the Revenue of the Company, and while the arrears are still accumulating, it would obviously be premature to make the conversion'.

¹⁴⁶ Report of the Directors to the Ordinary General Meeting of the Aberdeen Railway, 15 March 1854, NAS/BR/RAC(S)/1/36: full dividend on 6% stock was paid in October 1854, although 7% stock continued to attract deferred payment until 19 May 1857.

preference stock, thereby adding to the debt burden.¹⁴⁷ Financial improvement was slow, but the capitalisation of dividend arrears immediately eased the pressure on the revenue account and gave the company the chance to extricate itself from its serious financial crisis; the stark alternative was bankruptcy. Creditors and shareholders realised that there was nothing to be gained from forcing foreclosure and rising revenue offered the distant prospect of repayment and investment returns. Ironically, its rival in Aberdeen, the Great North, was forced to take similar action two decades later.

The deficit on capital account peaked in 1851: gross revenue showed a steady increase in 1850-56, but the general balance sheet contained considerable hidden debt, including the arrears on guaranteed dividends.¹⁴⁸ By July 1851, after a year of full-line operation, capital expenditure was £1,660,501, double the 1845 parliamentary estimate. Despite the very large amounts of debt, debt gearing shows a slow but steady improvement in 1850-56, but financially the Aberdeen remained extremely weak with its 1855 ratio still only half that of the insolvent Caledonian Railway in 1849 (table 31).

Table 31: Financial indicators for the Aberdeen Railway 1850-56

Data for half years	07.1850	01.1851	07.1851	01.1852	07.1852	01.1853
Accounts compiled for	11 mths	Half year				
Ratio of loans to capital raised	25.2%	24.5%	23.7%	26.0%	24.3%	24.8%
Ratio of gross revenue to total debt	0.053	0.055	0.055	0.058	0.058	0.062
Data for half years	07.1853	01.1854	07.1854	01.1855	07.1855	01.1856
Ratio of loans to capital raised	24.9%	25.2%	26.0%	26.7%	26.7%	27.3%
Ratio of gross revenue to total debt	0.064	0.066	0.075	0.079	0.084	0.088
Source: Appendix, table 1(d).						
(1): Comparative gearing ratios for the Caledonian Railway 1849-50 were 24.5% for debentures/capital and 0.162 for gross revenue/debt.						

¹⁴⁷ Report of the Directors to the Ordinary General Meeting of the Aberdeen Railway, 19 March 1858, NAS/BR/RAC(S)/1/36, proposing a special meeting to approve conversion of arrears into preference stock. By the Ordinary General Meeting held on 23 March 1859, £73,174 of arrears of dividend on preference stock had been capitalised.

¹⁴⁸ Appendix, tables 1(b), 1(c) and 1(d): the capital account deficit peaked in January 1851 at £189,342, with £202,971 of floating debt held in the general balance sheet at that date.

Nevertheless, the *Railway Times* reported in 1855:

Further debt is arrested, current obligations are met; and past deficiencies are beginning to be made up. There is a general argument in favour of the amalgamation with the Scottish Midland, viz. that both lines are comparatively short, and, being continuous, can undoubtedly be better worked and conducted under a united management.¹⁴⁹

The Aberdeen and Scottish Midland Junction Railways were amalgamated as the Scottish North-Eastern Railway in 1856, with seven-tenths of net revenue allocated to the Aberdeen and three-tenths to the Scottish Midland Junction.¹⁵⁰ The amalgamation merged the strong debt gearing of the Scottish Midland Junction with the weak gearing of the Aberdeen so that subsequent accounts of the Scottish North-Eastern suggest overall financial stability (table 32).

Table 32: Debt gearing of the Scottish North-Eastern Railway and its constituents, 1855-62

Ratio of gross annual revenue to total debt									
	31 July	1855	1856	1857	1858	1859	1860	1861	1862
Aberdeen Railway		0.084	0.088						
Scottish Midland Junction Railway		0.417	0.402						
Scottish North-Eastern Railway			0.258	0.257	0.255	0.256	0.271	0.266	0.288
Source: Appendix, table 21(a).									
(1): Comparative gearing ratios for the Caledonian Railway at the shareholder inquiry in 1849-50 were 24.5% for debentures/capital and 0.162 for gross revenue/debt.									

Each company within the Scottish North-Eastern, however, held statutory responsibility to pay any debts acquired prior to amalgamation; dividends therefore were dependent upon a surplus remaining from the constituent company's revenue share. Thus the Aberdeen continued to struggle for the next five years while its

¹⁴⁹ *Railway Times*, 22 September 1855, p.1021.

¹⁵⁰ 19&20 Vic. cap.134, 1856, The Scottish North-Eastern Railway Company's Act; Report to the Ordinary General Meeting of the Aberdeen Railway, 19 September 1855, NAS/BR/RAC(S)/1/36; Minutes of the Scottish Midland Junction Railway, 6 June 1855, NAS/BR/SCM/1/3, p.158; *Herapath's Railway Journal*, 18 October 1856, p.1095; *Railway Times*, 19 April 1856, p.478 and p.489.

partner was able to pay consistent dividends on its ordinary stock because the Scottish Midland had not required loans above its authorised limit and so had avoided the interest burden that the Aberdeen's debts of debentures, preference stock and temporary loans had incurred. *Herapath's Railway Journal* noted similar patterns in England:

It is a remarkable and most instructive fact that those lines in England which pay remunerative dividends are those whose capital cost is light ... If you well attend to the capital account you may leave the revenue to take care of itself.¹⁵¹

The veracity of Herapath's statement is illustrated by the returns paid to Scottish North-Eastern shareholders; it took sixteen years from incorporation and five years from amalgamation for the Aberdeen to offer its first dividend on ordinary stock, in contrast to the steady dividends of the Scottish Midland Junction (tables 33 and 34). The longer-term effects of previous debt continued to be reflected in shareholder returns until the Scottish North-Eastern amalgamated with the Caledonian in 1866.¹⁵²

Table 33: Dividends paid to Aberdeen and Scottish Midland Junction shareholders, 1856-61

	July 1856	Jan 1857	July 1857	Jan 1858	July 1858	Jan 1859	July 1859	Jan 1860	July 1860	Jan 1861
Stock:										
Aberdeen 6%	6	6	6	6	6	6	6	6	6	6
Aberdeen 7%	0	0	0	7	7	7	7	7	7	7
Aberdeen 3½%		-	-	-	3 ½	3 ½	3 ½	3 ½	3 ½	3 ½
Aberdeen Ordinary	0	0	0	0	0	0	0	0	0	½
Scottish Midland Junction Ordinary	3 ½	3 ¼	3 ¼	4	4	4	4	4	4 ¼	4 ¾
Sources: Accounts of the Scottish North-Eastern Railway, 1856-61, NAS/BR/RAC(S)/1/36; Minutes of the Scottish North-Eastern Railway, 1856-61, NAS/BR/SNE/1/1; <i>Railway Times</i> , 15 September 1866, pp.1089-92; Bradshaw's <i>Railway Almanack</i> , volumes for 1857-62.										

¹⁵¹ *Herapath's Railway Journal*, 21 April 1855, p.415.

¹⁵² 29&30 Vic. cap.350, 1866, The Caledonian and Scottish North-Eastern Railways Amalgamation Act.

Table 34: Dividends on ordinary stock paid within the Scottish North-Eastern Railway 1861-66

	July 1861	Jan 1862	July 1862	Jan 1863	July 1863	Jan 1864	July 1864	Jan 1865	July 1865	Jan 1866
Aberdeen	½	1 ½	1 ¼	5/8	7/8	1	1 ¼	1 ¼	2 1/8	2 ¼
Scottish Midland Junction	4 ¾	5 ¼	5	4 ¾	4 ¾	4 ¾	4 ¾	5	5 1/8	5 ½
Dundee and Arbroath (amalgamated 1863; dividend guaranteed)					7 ½	7 ½	7 ½	7 ¾	8 ¼	8 ½
Sources: <i>Railway Times</i> , 15 September 1866, pp.1089-92; Minutes of the Scottish North-Eastern Railway, 1861-66. NAS/BR/SNE/1/1-3.										

Although the state took no part in the realisation of its approved northern railway route, its authorisations of 1845-46 not only provided a cross-border route through the Scotland's central valley and the important trading towns of Stirling and Perth to Aberdeen, but they also created a virtual railway monopoly centred on Aberdeen, independently planned by local commercial and legal interests to sustain and enhance its economic dominance of the region. The opportunity was available in 1845-50 to achieve a unified and coherent northern railway system radiating from Aberdeen with routes connecting into the southern network and extending northwards towards the highlands, but this chapter has shown that the strategic plans of the state and Aberdonian entrepreneurs were not so easily realised. Free market capitalism induced intense competition, but both the west- and east-coast alliances failed to wrest control of the northern route, despite a strong English influence in Aberdeen where a key company was bankrupt in all but name, which suggests the importance attributed by shareholders to local control of northern railways. Moreover, the fragmentation of the Aberdeen railway web, triggered by the actions of the English alliances and the financial weaknesses of the Aberdeen Railway, delayed the expected continuous railway route across Aberdeen to Inverness for two decades.

English capital was an important component in financing the Aberdeen main line, which mirrors its contribution to the linked cross-border routes. Local capital was more difficult to raise along the rural sections of the route, although one-third of the

Aberdeen Railway's authorised capital was subscribed locally. While all three companies along the route used bank finance, the Aberdeen Railway obtained temporary credit as an alternative source of finance before its line was opened. Two of the companies achieved some reduction in the cost per mile for this trunk route compared with costs for the earlier Scottish inter-urban lines, but the inaccuracy of estimates experienced earlier in Scotland and England continued, although with some diminution in their scale.

The consequences of these inaccuracies produced a marked contrast in the financial performance of the three companies. Although Scottish Central required additional capital powers, its pivotal position in the northern route allowed it to generate revenue that yielded a steady dividend. The Scottish Midland Junction, the most secure of the three financially, benefited from an early amendment to its capital powers and so it avoided the potential impact of its inaccurate estimates; it did not acquire debt even to its authorised loan limit and, consequently, was able consistently to pay dividends.¹⁵³ The Aberdeen, however, was severely damaged by inaccurate estimates and the difficulties of raising new capital, which resulted in the raising of capital from preference shares and the acquisition of considerable 'hidden' debt augmented by arrears of dividend due on its guaranteed capital. It provides the first example in this study of a northern railway company increasingly burdened by fixed interest debt, but which was able to extricate itself slowly from acute insolvency, a pattern that was to be repeated in the late 1860s for its adversary, the Great North of Scotland Railway, and explained in chapter 8.

By 1856, ten years after incorporation and eight years after the bitter rift with its host company, the Great North had managed to construct the northern route 54 miles

¹⁵³ 8&9 Vic. cap.170, 1845, The Scottish Midland Junction Railway Act authorised capital of £300,000 and borrowing powers of £100,000; Appendix, table 20(a) shows capital expenditure by July 1851 to be £642,342, which would have resulted in expenditure being 114.1% above estimate. However, within a year of the 1845 incorporation, capital powers for an enlarged system were approved under 9&10 Vic. cap.75, 1846, The Scottish Midland Junction Railway Branches Act, which increased authorised capital to £600,000 with borrowing powers of £300,000, not all of which was required for three proposed branches. As these branches were not immediately constructed and as the company raised almost its full share capital, the Scottish Midland Junction was able to produce a sound financial performance between 1846 and 1856.

beyond Aberdeen to Keith, just half of the 1846 authorised line to Inverness.¹⁵⁴ The delay in construction, the inconvenience of trans-shipment at Aberdeen and the exercise of monopoly power by the Great North had renewed the resolve in Inverness to secure local control of railways in the north and the strategic plans of Inverness promoters had already passed into implementation by this date. The next two chapters examine these developments of the northern railway system beyond Aberdeen towards the highlands.

¹⁵⁴ Report to the 4th Ordinary General Meeting of the Great North of Scotland Railway, 28 November 1849, NAS/BR/RAC(S)/1/14, noting the estimate of £470,000 to construct 54 miles of single line but with earthworks for double between Aberdeen and Keith as half the distance to Inverness; Minutes of the Great North of Scotland Railway, 10 October 1856, NAS/BR/GNS/1/2, p.424, reporting the approval of the Board of Trade on 8th October to open the line to Keith: the line had been open from Aberdeen as far as Huntly (40 miles) since September 1854.

Chapter 5: The Great North's monopoly, 1846-61

The previous chapter identified the strategic planning of a railway network centred on Aberdeen, but it also showed the impact of capital shortages in completing the northern trunk route to Aberdeen and the disintegration of the Aberdeen railway web, which threatened the realisation of the continuous railway route from the south through Aberdeen to Inverness. This chapter examines the implementation of plans for the authorised Aberdeen-Inverness line by the Great North of Scotland Railway in the years when it overcame early financial difficulties and began to yield high returns to its shareholders, but during which the seeds of its later financial collapse were sown. The following chapter investigates railway development in this period from the perspective of rival railway strategists in Inverness.

The first section considers the initial capital problems of the company, which resulted in severe delays in construction and its acceptance of railway promotions from Inverness to complete the route. The strong financial position built rapidly by the Great North from the flow of northern traffic over its monopoly route is demonstrated in the following section. The Great North's policy of supporting local branch lines is then assessed, which reveals an escalating burden of debt within the branch companies that was to impact severely on the parent company in the 1860s. The final section explores the Great North's plans to secure its monopoly position and circumvent the barrier that Inverness promoters created by constructing part of the Aberdeen-Inverness main line, and considers the effects of the Great North's monopoly powers in the region that were to contribute to its later financial crisis. Throughout the chapter, the widespread involvement of the banking sector in providing an alternative source of railway finance to the Great North and its satellite companies is manifest.

The early years of the Great North

The incorporation of the Great North to construct the Aberdeen-Inverness route was reported to be 'as a result of the Board of Trade's decision in favour of the Aberdeen line';¹ branches were to serve Banff, Portsoy, Garmouth and Burghead on the Moray Firth coast to capture traffic from the northern counties of Ross, Cromarty and Sutherland.² A dividend of 7 percent was forecast, reduced from an earlier estimate of 10 percent.³ The 1846 parliamentary session, which approved the Great North scheme and its eastern extension to Peterhead and Fraserburgh on the north-east coast, also authorised the independent Morayshire Railway to link Lossiemouth harbour on the Moray Firth to Elgin and, by use of the Great North line from Elgin to Orton, to extend from Orton to Rothes, providing a northerly outlet from the Spey valley to the coast.⁴ However, this network in north-east Scotland took two decades to materialise and, ultimately, not under the auspices solely of the Great North.

The aftermath of the 1845 speculative mania made railway shares unattractive to investors nationally, but the Great North had exacerbated its difficulties by the over-issue of shares to try to secure sufficient deposits to meet expenses, as chapter 3 has shown.⁵ As a result, the share capital of £1.1 million proposed in the 1845

¹ *Railway Chronicle*, 29 March 1845, p.365; Minutes of the Great North of Scotland Railway, 30 March 1845, p.21, quoting the Railway Board report of 1845; 9&10 Vic. cap.103, 1846, The Great North of Scotland Railway Act.

² Minutes of the Great North of Scotland Railway, 30 March 1845, NAS/BR/GNS/1/1, p.7; See chapter 4, map 5.

³ Minutes of the Great North of Scotland Railway, 30 March 1845, NAS/BR/GNS/1/1, p. 22; Prospectus of the Great North of Scotland Railway, 1845, NAS/BR/PYB(S)/1/477/1; Sir M Barclay-Harvey, *A History of the Great North of Scotland Railway* (London, 1949, reprinted Shepperton, 1998), pp.3-4; HA Vallance, *The Great North of Scotland Railway* (Newton Abbot, 1965), p.14.

⁴ Minutes of the Great North of Scotland Railway, 2 September 1845, NAS/BR/GNS/1/1, p.39; 9&10 Vic. cap.135, 1846, The Great North of Scotland Railway (Eastern Extension) Act; 9&10 Vic. cap.178, 1846, The Morayshire Railway Act.

⁵ Minutes of the Great North of Scotland Railway, 1 April 1845, NAS/BR/GNS/1/1, p.26; Sir M Barclay-Harvey, *A History of the Great North of Scotland Railway*, pp.5-6; J Mitchell, *Reminiscences of My Life in the Highlands, vol.II* (private publication, 2 volumes, London, 1883 and 1884, reprinted Newton Abbot, 1971), p.168.

prospectus was increased in the act of incorporation to £1.5 million.⁶ At the first shareholders' meeting, directors recommended deferring construction 'until the works of the Aberdeen Railway, with which it is closely linked, shall have reached a more advanced stage'.⁷ The Aberdeen Railway directors held control of the Great North, Great North Eastern Extension, Dee-side, and Alford Valley Railways and, acutely aware of the shortage of capital, postponed any work on these related lines 'until better times than the present'.⁸

The capital account of the Great North was in deficit in 1846 by £18,436, principally due to the costs of the parliamentary contest and there was no immediate prospect of raising significant funds for construction by calls on shares.⁹ The lack of progress in constructing the Great North prompted the Morayshire Railway to delay its authorised line from Rothes to Lossiemouth, but the directors expressed the hope of building the section between Elgin and Lossiemouth harbour during 1847.¹⁰ The Elgin-Lossiemouth section subsequently became the first railway north of Aberdeen, but it was not opened until 1852. The leverage that this little company was later able to exert on its larger rivals is examined in chapter 7.

Further postponement 'in consequence of the continued embarrassment of mercantile affairs' was agreed by Great North shareholders in 1847, also approving an application to take advantage of new parliamentary provisions to extend the time allowed to construct railways, introduced because of national economic conditions.¹¹

⁶ Prospectus of the Great North of Scotland Railway, 1845, NAS/BR/PYB(S)/1/477/1; Minutes of the Great North of Scotland Railway, 30 March 1845, NAS/BR/GNS/1/1, p.24; 9&10 Vic. cap.103, 1846, The Great North of Scotland Act.

⁷ Report to the 1st Ordinary General Meeting of shareholders of the Great North of Scotland Railway, 21 August 1846, NAS/BR/GNS/1/1, p.103.

⁸ *Herapath's Railway Journal*, 4 December 1847, p.1352.

⁹ Appendix, table 10(b).

¹⁰ Minutes of the 1st Ordinary General Meeting of the Morayshire Railway, 9 September 1846, NAS/BR/MOR/1/1.

¹¹ Report to the 2nd Ordinary General Meeting of the Great North of Scotland Railway, 30 November 1847, NAS/BR/RAC(S)/1/14; Minutes of the Great North of Scotland Railway, 30 November 1847, NAS/BR/GNS/1/1, p.154, and 11 January 1848, NAS/BR/GNS/1/1, p.156, reporting an application to extend powers for two years to build the line and purchase land;

The economic depression and financial crisis of 1847-48, for example, resulted in the collapse of the Aberdeen Banking Company and a serious loss of capital by the Aberdeen-based North of Scotland Bank.¹² The Great North had agreed in 1845 to purchase the Aberdeenshire Canal for £36,000, but had to negotiate deferment of the payment due in April 1848 at a cost of 5½ percent annual interest.¹³

The state granted a two-year extension to build the line and directors reassured shareholders that five years therefore remained for construction.¹⁴ Economic conditions improved in 1849, illustrated by the fall in bank discount rates to between two and three percent throughout 1849-52.¹⁵ The Great North directors saw an opportunity to begin construction as other lines promoted in the speculation of 1845-46 were completed:

... a large amount of the capital, skill, and plant, which had been employed in their construction was, or would shortly be, unemployed and that an opportunity might then be afforded for the formation of this Line on very favourable terms ...¹⁶

Herapath's Railway Journal, 27 November 1847, p.1334, quoting a report in *The Times*, 23 November 1847, that announced that the Chancellor of the Exchequer had granted two years' additional time for completion of railway works; 11&12 Vic. cap.3, 1848, The Railways (Extension of Time) Act.

¹² SG Checkland, *Scottish Banking, a History 1695-1973* (Glasgow, 1975), p.349: the Aberdeen Banking Company found its capital reduced from £300,000 to £7,049 in the banking crisis of 1847-48 and merged with the Union bank of Scotland in 1849; the North of Scotland Bank faced a severe run in February 1848 which reduced its capital from £380,000 to £115,550; A Keith, *The North of Scotland Bank Ltd, 1836-1936* (Aberdeen, 1936), pp.51-55, p.59 and p.65, notes that the Aberdeen Bank collapsed in 1849 after lending £295,000 to firms without adequate security, while the North of Scotland Bank incurred a loss of £160,000 when the two largest textile firms in Aberdeen collapsed.

¹³ Minutes of the Great North of Scotland Railway, 14 October 1845, NAS/BR/GNS/1/1, p.43, agreeing the purchase of the Aberdeenshire Canal; Minutes of the Great North of Scotland Railway, 4 August 1848, NAS/BR/GNS/1/1, p.159, recording the agreement to defer payment for the Aberdeenshire Canal at annual interest of 5½ % on the capital sum of £36,000.

¹⁴ Minutes of the Great North of Scotland Railway, 4 August 1848, NAS/BR/GNS/1/1, p.156; Report to the shareholders of the Great North of Scotland Railway, 30 November 1848, NAS/BR/GNS/1/1, p.165.

¹⁵ Bradshaw's *Railway Almanack*, 1875, appendix 12, p.83.

¹⁶ Report to shareholders for the 4th Ordinary General Meeting of the Great North of Scotland Railway Company, 28 November 1849, NAS/BR/RAC(S)/1/14.

The majority of the Great North's directors had been ejected from the board of the Aberdeen Railway in 1848, but had experienced the consequences of unrealistic estimates of construction and land costs on that line.¹⁷ Sir James Elphinstone, who replaced Thomas Blaikie as chairman of the Great North in April 1849, sought the agreement of landowners to accept a feu duty or the price in company shares for their land to avoid capital expenditure.¹⁸

The capital account of the Great North in 1848-49 appears peculiar, showing an apparent halving of receipts caused principally by a payment of £73,350 to their law agents to recover shares issued against a loan negotiated from the North of Scotland Bank in 1846.¹⁹ Removal of this artificial amount previously included as share receipts revealed that only £71,242 had been raised by August 1849; the capital account was balanced by a bank overdraft of £21,284 and £36,000 was still owed to the Aberdeenshire Canal company, an expensive purchase given that only one-third of the canal was used for the railway route due to its severe curvature.²⁰ The Aberdeen banking sector therefore already held a significant stake in this company before any construction was begun. The total assets of the Great North in March

¹⁷ See chapter 4, 'The disintegration of the Aberdeen web'.

¹⁸ Minutes of the Great North of Scotland Railway, 11 April 1849, NAS/BR/GNS/1/1, p.192, reporting the appointment of Sir James Elphinstone as chairman; Report to the 4th Ordinary General Meeting of the Great North of Scotland Railway, 28 November 1849, NAS/BR/RAC(S)/1/14; Circular to landowners reported in the minutes of the Great North of Scotland Railway, 30 August 1849, NAS/BR/GNS/1/1, pp.202-203, and also a letter from the chairman and directors of the Great North to landowners dated 20 February 1850, NAS/BR/RAC(S)/1/14; see Glossary entry on 'feu duty'.

¹⁹ Appendix, table 10(b), note (2): £73,350 was lent to the Great North of Scotland Railway by the North of Scotland Bank in 1846 via their law agents, Adam and Anderson (both bank directors) to meet increased parliamentary costs as a result of the increase of deposit required from 5% to 10% (29 September 1845, NAS/BR/GNS/1/1, p.40) and the Great North issued 1630 £50 shares representing £45 paid up per share (although only £2.10s had been called at that date) to Adam and Anderson as security (annual accounts to 30 August 1847 in minutes of the 2nd Ordinary General Meeting of the Great North of Scotland Railway, 30 November 1847, NAS/BR/GNS/1/1, p.155). The loan was approved for repayment on 11 February 1849 (NAS/BR/GNS/1/1, p.177) and the shares returned to the Great North on 24 February 1849 (NAS/BR/GNS/1/1, p.181) and cancelled, hence the apparent fall in share receipts between August 1848 and March 1849.

²⁰ Report to the 4th Ordinary General Meeting of the Great North of Scotland Railway. 28 November 1849, NAS/BR/RAC(S)/1/14; Appendix, table 10(b); D Pearson, 'The Aberdeenshire Canal', *Great North Review*, 41, No.162 (September 2004), p.84.

1849 exceeded liabilities by £8,275 with no immediate means to repay debts.²¹ The directors decided to commence construction in order to earn revenue and repay debt, but the construction tender included the option of building no further than Keith.²² By containing costs, the directors expected to open 54 miles of single line to Keith for £470,000, representing £8,704 per mile and significantly cheaper than the £20,000-30,000 per mile quoted to shareholders as the costs incurred by seven other Scottish lines.²³

Before giving possession of their land, landowners sought assurances that the line would be completed and banks refused further advances without guarantees of construction.²⁴ The Duke of Richmond was the largest landowner; Barclay-Harvey asserts that 'it was largely owing to his assistance that the Railway was ever made'.²⁵ Richmond agreed to take £15,000 of stock, prompting other landowners to provide a further £10,000.²⁶ Shareholders approved proposals to re-structure the capital of the company, converting the former £50 shares on which £2 10s deposit had been paid into £10 ordinary shares, creating 83,058 new 5 percent preference shares and reducing the share capital of the company from £1,500,000 to £1,107,440; authorisation was received in 1851.²⁷ The contract for construction was

²¹ Minutes of the Great North of Scotland Railway, 29 March 1849, NAS/BR/GNS/1/1, p.187.

²² Minutes of the Great North of Scotland Railway, 28 August 1849 and 31 August 1849, NAS/BR/GNS/1/1, p.198 and pp.200-201.

²³ Report to the 4th Ordinary General Meeting of the Great North of Scotland Railway, 28 November 1849, NAS/BR/RAC(S)/1/14 and NAS/BR/GNS/1/1, p.220: engineer Cubitt's estimate for 54 miles of single line to Keith with earthworks for double track was £380,000 to which was added the £40,000 purchase cost of the Aberdeenshire Canal and £50,000 for 'other expenses'. Costs quoted per mile for other railways were: Aberdeen £26,000; Caledonian £30,000; Dundee and Perth £20,000; Scottish Central £27,000; Edinburgh, Perth and Dundee £28,000; Glasgow and Ayr £25,000; Scottish Midland Junction £20,000.

²⁴ Minutes of the Great North of Scotland Railway, 7 September 1849 and 15 March 1850, NAS/BR/GNS/1/1, p.209 and p.240.

²⁵ Sir M Barclay-Harvey, *A History of the Great North of Scotland Railway*, p.11.

²⁶ Minutes of the Great North of Scotland Railway, 22 August 1850, NAS/BR/GNS/1/1, p.258; Report to the 5th Ordinary General Meeting of the Great North of Scotland Railway, 29 November 1850, p.270.

²⁷ Report to the 5th Ordinary General Meeting of the Great North of Scotland Railway, 29 November 1850, p. 270, detailing the new Bill and the contract for a single line; 14&15 Vic.

finally signed in March 1851 with the contractor taking 15,000 shares in part payment.²⁸

The Great North needed new capital, but a proposal to the Great Northern, York and North Midland and the North British Railways for £150,000 investment in return for a guaranteed dividend and direction of traffic via the east-coast route was unsuccessful.²⁹ Despite the antagonism of 1848-49, an approach was made to the Aberdeen Railway, which commissioned two of its directors 'to examine into the position of the affairs of the Great North of Scotland Railway Company'.³⁰ The Aberdeen was anxious to divert northern traffic onto its own line and therefore criticised the Great North's proposal to build only to Keith without providing a cross-Aberdeen link:

The want of a junction with the Aberdeen Line would be an entire bar to the interchange of traffic, while Keith, as the Northern terminus, would not, by any means, secure for the Railway the Traffic from the Northern Counties ... it should extend, at the outset, from the junction with the Aberdeen Railway to Burghead where, opening upon the sea at a very convenient harbour, it would at once secure the large traffic from the extensive coasts on both sides of the Moray Frith.³¹

The cost of a line to Burghead was estimated as £900,000, but with only £399,000 available, the Aberdeen advised the Great North not to begin construction with less

cap.75, 1851, The Great North of Scotland Railway Amendment Act, authorising revised share capital of £1,107,440 and borrowing powers of £300,000; Appendix, table 10(a).

²⁸ Minutes of the Great North of Scotland Railway, 4 December 1850, NAS/BR/GNS/1/1, p.277; Minutes of the Great North of Scotland Railway, 15 March 1851, NAS/BR/GNS/1/1, p.288.

²⁹ Minutes of the Great North of Scotland Railway, 1 September 1852, NAS/BR/GNS/1/1, p.353; Sir M Barclay-Harvey, *A History of the Great North of Scotland Railway*, p.14.

³⁰ Report of the Aberdeen Railway directors into the affairs of the Great North of Scotland Railway Company, 16 July 1852, NAS/BR/RAC(S)/1/14.

³¹ Report of the Aberdeen Railway directors into the affairs of the Great North of Scotland Railway Company, 16 July 1852, NAS/BR/RAC(S)/1/14; Minutes of the Great North of Scotland Railway, 16 July 1852, NAS/BR/GNS/1/1, pp.338-42.

than £750,000 capital; any recommendation of financial support from the Aberdeen was to be conditional upon acceptance of the larger scheme.³²

The 1846 powers granted to the Great North to build to Inverness, extended for two years in 1848, remained valid until 1853. The Great North board approved a new prospectus in November 1852 for a line to run from Aberdeen to Elgin at an amended cost of £750,000, but reported that capital was available to build only half that distance.³³ The directors advised shareholders that, while they would wish to build to Elgin, resources were sufficient for 'construction of a line from Kittybrewster to Huntly with the prospect of a speedy connection to Keith', at a cost per mile not greater than £10,000.³⁴ The Aberdeen Railway responded in an open letter to the press stating that they could not recommend the proposed Great North scheme; the breach between the Aberdeen and Great North thus became absolute.³⁵ Chairman Elphinstone re-assured Great North shareholders that:

... this is almost the only Railway in Great Britain on which there is a monopoly of the traffic of the district through which it passes. We can have no sea competition, and must carry the whole of the traffic of the country ...³⁶

³² Report of the Aberdeen Railway directors into the affairs of the Great North of Scotland Railway Company, 16 July 1852, NAS/BR/RAC(S)/1/14.

³³ Prospectus of the Great North of Scotland Railway, amended scheme 1852, NAS/BR/PROS(S)/1/9, estimating a capital cost per mile of £7,000; Minutes of the Great North of Scotland Railway, 29 November 1852, NAS/BR/GNS/1/1, p.372 and p.375.

³⁴ Report to the 7th Ordinary General Meeting of the Great North of Scotland Railway, 29 November 1852, NAS/BR/GNS/1/1. p.372; Accounts of the Great North of Scotland Railway, 29 November 1852, NAS/BR/RAC(S)/1/14: chairman Elphinstone stated that 'The cost we anticipate ... will not exceed, inclusive of working plant and the cost of land, £10,000 per mile and £25 per mile per week on that, which is the sum drawn by the Aberdeen Line, would give us seven percent on our outlay'.

³⁵ *Aberdeen Herald*, 2 December 1852, recorded in minutes of the Great North of Scotland Railway, 2 December 1852, NAS/BR/GNS/1/1, p.376.

³⁶ Report of chairman's statement to shareholders of the Great North of Scotland Railway, 29 November 1852, NAS/BR/RAC(S)/1/14.

By November 1853, the line to Huntly was almost finished and the directors recommended seeking an extension into Aberdeen from Kittybrewster along the line of the Aberdeenshire Canal because 'construction of the line through Aberdeen ... must take some time to complete'.³⁷ Thus, a trunk route of over one hundred miles authorised in 1846 had shrunk to an isolated rural line of some forty miles, but its land monopoly remained and served to consolidate and strengthen the company once it opened its line to Huntly in September 1854.³⁸ The first guide book for the line described the decision to restrict initial construction to Huntly as 'prudential'.³⁹ The reactions in Inverness, however, were less sympathetic; Joseph Mitchell portrayed the Great North's situation as '... giving little hope to the northern counties of obtaining railway communication even by Aberdeen'.⁴⁰ With the Great North's powers to build to Inverness due to expire in 1853 and with only part of the line under construction, the Inverness promoters seized the initiative to establish their own railway web, as chapter 6 will illustrate.

The results of monopoly power

By the time the Great North opened its line to Huntly, promoters in Inverness were seeking authorisation for a fifteen mile line from Inverness eastwards to Nairn.⁴¹ The two Inverness newspapers were scathing of the Great North's inability to build the full line and demanded local control:

³⁷ Report to the 8th Ordinary General Meeting of the Great North of Scotland Railway, 25 November 1853, NAS/BR/GNS/1/1, p.463; 17&18 Vic cap.187, 1854, The Great North of Scotland Railway Amendment Act; Minutes of the Great North of Scotland Railway, 20 July 1853 and 27 August 1853, NAS/BR/GNS/1/1, p.409 and pp.420-22, recording that disputes between the Great North and Aberdeen over a junction at Aberdeen to provide a through route continued in 1853 until the Great North's decision to build the Waterloo branch on 25 November 1853.

³⁸ Minutes of the Great North of Scotland Railway, 8 September 1854, NAS/BR/GNS/1/2, p.78.

³⁹ A Ramsay, *Guide to the Great North of Scotland Railway* (Banff, 1854), p.(v).

⁴⁰ J Mitchell, *Reminiscences of My Life in the Highlands*, vol.II, p.168.

⁴¹ 17&18 Vic. cap.176, 1854, The Inverness and Nairn Railway Act.

These parties have for eight years had an act for giving the public railway accommodation to Inverness. They had not used their powers. They have kept others, by pre-occupation, out of the field.⁴²

They [the Great North] have proved an incubus on social progress in this quarter...They can qualify for no right of interference with the internal concerns of the northern counties ...⁴³

The Great North's original strategy had been to secure the route to Inverness and, via linked lines, to control traffic generated in the districts surrounding the route. Capital difficulties prevented realisation of that strategy, but the new incursion from Inverness into its perceived territory did not arouse major concern in Aberdeen. The Great North made a draft agreement for running rights over, and traffic interchange with, the Inverness and Nairn Railway in 1854 in return for withdrawing its opposition to the Inverness bill in Parliament.⁴⁴ Through oversight, intrigue or naivety on both sides, that agreement was never formally completed with the result that the Great North was denied its own access into Inverness for the rest of the century.⁴⁵ Nevertheless, the Nairn line and a projected extension eastwards was intended to link to the Great North line and therefore any traffic from the northern counties would flow down the Great North to Aberdeen without the Great North being required to provide new capital. The Great North agreed an investment of £40,000 in the Inverness and Aberdeen Junction Railway, authorised to build the link from Nairn to Keith in 1856.⁴⁶ Great North shareholders were advised: 'This arrangement ... will

⁴² *Inverness Advertiser*, 7 February 1854.

⁴³ *Inverness Courier*, 10 February 1854.

⁴⁴ Minutes of the Inverness and Nairn Railway, 25 February 1854, pp.83-84; minutes of the Great North of Scotland Railway, 25 February 1854, NAS/BR/GNS/1/1, p.497.

⁴⁵ HA Vallance, *The Great North of Scotland Railway*, p.29 and p.131; Sir M Barclay-Harvey, *A History of the Great North of Scotland Railway*, p.26: Barclay-Harvey asserts that the Great North ultimately lost their copy of the unsigned agreement.

⁴⁶ Minutes of the Inverness and Aberdeen Junction Railway, 26 October 1855, NAS/BR/IAJ/1/1, p.64; Report to the Ordinary General Meeting of the Great North of Scotland Railway, 14 November 1856, NAS/BR/GNS/1/2, p.2 of printed report; 19&20 Vic, cap.110, 1856, The Inverness and Aberdeen Junction Railway Act.

relieve us of having anything to do with crossing the Spey, a matter of vast importance ...'.⁴⁷

That 'matter of vast importance' was the absence of any resources within the Great North for immediate expensive expansion. In May 1854, four months before its line opened to Huntly, the company had assets of £434,453 but liabilities of £573,856.⁴⁸ That same month, the North of Scotland Bank made a temporary loan of £64,000 to the Great North conditional upon no extension being made beyond Huntly whilst any of that loan was outstanding, which provides an example of a bank setting strategic parameters for a railway company.⁴⁹ Just three months later, the Great North sought a further loan from the North of Scotland Bank for £50,000, using the company's rolling stock as security.⁵⁰ Great North directors revealed to their shareholders that the company would have approved an incursion from Inverness as far as Huntly to obviate the need for any further capital expenditure, such were its financial constraints in advance of any revenue stream.⁵¹

In the first year of operation to Huntly in 1854-55, the company produced a reassuring revenue surplus of £15,102 and paid 1½ percent dividend.⁵² The Great

⁴⁷ Report to the 10th Ordinary General Meeting of the Great North of Scotland Railway, 29 October 1855, NAS/BR/RAC(S)/1/14, explaining the £40,000 invested in Inverness and Aberdeen Junction Railway shares: '... The Inverness company had, within the last few days, definitively proposed to construct the line to Keith from Inverness, provided the Great North company agreed to hold stock to the extent of £40,000 in their undertaking. This arrangement ... will relieve us of having anything to do with crossing the Spey, a matter of vast importance ...'.

⁴⁸ Minutes of the Great North of Scotland Railway, 17 May 1854, NAS/BR/GNS/1/1, p.553.

⁴⁹ Minutes of the Great North of Scotland Railway, 18 May 1854, NAS/BR/GNS/1/2, p.2, recording that the North of Scotland Bank was to recommend to their board a loan of £64,000 'provided no advance beyond Huntly is made whilst any of the loan is outstanding without Bank consent'.

⁵⁰ Minutes of the Great North of Scotland Railway, 11 August, 1854, NAS/BR/GNS/1/2, p.48.

⁵¹ Report to the 9th Ordinary General Meeting of the Great North of Scotland Railway, 30 November 1854, NAS/BR/RAC(S)/1/14, recording that 'Had the gentlemen who were proposing the line from Nairn to Elgin given any indication that they would meet the Great North Railway at Huntly, the Directors of that line would not have offered the smallest opposition to the Inverness company'.

⁵² Appendix, table 10(d); Accounts of the Great North of Scotland Railway, 1855-61, NAS/BR/RAC(S)/1/14.

North obtained powers in 1855 to extend 12½ miles from Huntly to Keith.⁵³ When the Great North opened to Keith in 1856, it had built just half of the main line it was originally authorised to construct. The Inverness and Aberdeen Junction line opened to Keith in 1858, thus completing the link between Aberdeen and Inverness, twelve years after the original authorisation of the route, but the need for trans-shipment at Aberdeen remained because of the absence of a connection with the Scottish North-Eastern Railway. The detour via Aberdeen and the discontinuity of route remained important catalysts for further northern railway development promoted from Inverness, as chapter 7 will show.

The Great North opened its Aberdeen terminus at Waterloo Quay in 1855-56.⁵⁴ With only a later goods tramway between the Great North and the Scottish North-Eastern,⁵⁵ much of the northern goods traffic continued to use sea transport and little attempt was made by the Great North to divert it south by railway. This primitive connection between the two railways was still criticised seven years later for 'inconvenience and detention in the transmission of through traffic ...'.⁵⁶ Indeed, the expansion of railways north of Aberdeen provided a stimulus to steam shipping from Aberdeen to the south.⁵⁷ The Great North also used coastal shipping as a means of competing for northern traffic; its goods manager reported 'threatening competition' from other railways and steamship companies which prompted the company to subsidise steamships of the Inverness and Edinburgh Steam Packet Company to run

⁵³ 18 Vic. cap.28, 1855, The Great North of Scotland Railway Extension Act: the estimated cost of the Huntly-Keith section was £80,000, but the legislation did not prescribe new capital powers because the parliamentary acts of 1846 and 1851 had approved capital powers for construction of the main line between Aberdeen and Inverness.

⁵⁴ Minutes of the Great North of Scotland Railway, 21 March 1856, NAS/BR/GNS/1/2.p.389, reporting the approval of the Board to Trade to open the Waterloo branch to passengers on 1 April 1856; the branch opened to goods traffic on 24 September 1855. The Kittybrewster to Waterloo branch was 1¼ miles in length.

⁵⁵ Scroll minutes of the Scottish North-Eastern Railway, 22 December 1858, NAS/BR/SNE/1/5, proposing a junction between the Aberdeen and Great North Railways '... by means of a railway across the Harbour and Docks at Aberdeen'.

⁵⁶ Report to the Ordinary General Meeting of the Scottish North-Eastern Railway, 14 March 1862, NAS/BR/SNE/1/1, p.653.

⁵⁷ CH Lee, 'Some aspects of the coastal shipping trade: the Aberdeen Steam Navigation Company 1835-1880'. *Journal of Transport History*, new series, III, No.2 (September 1975), p.102.

to ports on the south and north coasts of the Moray Firth in 1859-60, but a loss of £4,910 was sustained and the support was withdrawn.⁵⁸ Despite continued competition from sea transport, northern traffic strengthened the Great North's revenue and its capital account moved into surplus.⁵⁹ Gross revenue of £46,368 in 1856, when the line opened to Keith, rose to £69,468 in 1859 after the Inverness link was completed, a rise of 50 percent, and by 1861, gross revenue reached £89,895, a further rise of 30 percent. As a result, dividend rose from 2¼ percent in 1856 to 5 percent in 1859 and 6¾ percent in 1861.⁶⁰

Without sole control of the full route to Inverness, the Great North strategy turned to dominance of the district between Aberdeen and Keith by providing support to nominally independent branch line companies that were expected to feed traffic to the main line.⁶¹ The anticipated economic contribution of branch lines to the Great North proved to be over-optimistic and added significantly to the weakening of the financial position of the company over the next decade. The *Railway Times* issued an early warning in 1855:

The Great North of Scotland main line is a good property, and will remain so unless weakened and endangered by hasty extensions.⁶²

Shareholders were, however, very content to allow the directors to pursue their branch line expansion while dividends remained at such attractive levels.

⁵⁸ Minutes of the Great North of Scotland Railway, 4 January 1858, NAS/BR/GNS/1/2, p.298; Journal and Ledger of the Inverness and Edinburgh Steam Packet Company, 1859-60, NAS/BR/GNS/23/57-58, p.86 of Journal showing a loss to the Great North of £4,910 by June 1860; RH Mellor (ed.), *The Railways of Scotland: the papers of Andrew C O'Dell* (Aberdeen, 1984), p.23.

⁵⁹ Appendix, tables 10(c) and 10(d).

⁶⁰ Appendix, table 10(d).

⁶¹ Appendix, table 10(c), showing the first branch subscriptions given in 1855 to the Inverury and Old Meldrum Junction Railway and the Banff, Macduff and Turriff Junction Railway.

⁶² *Railway Times*, 6 January 1855, p.15.

The failure of the Great North to complete the lines authorised in 1846 presents difficulties in assessing the validity of estimates and the realised costs of the truncated main line. The 1851 Amendment Act reduced the share capital of the company for the Aberdeen-Inverness scheme and capital powers were further adjusted in 1859: both parliamentary acts introduced 5 percent preference stock into the capital structure of the company.⁶³ The revised prospectus of 1852 had projected a line from Aberdeen to Elgin at a cost of £750,000, £150,000 less than the cost estimated by the Aberdeen Railway directors, but 27½ miles of that route was ultimately constructed by the Inverness and Aberdeen Junction. The 1849 estimate given to shareholders for the Aberdeen-Keith line was £470,000, equivalent to £8,704 per mile.⁶⁴ The Great North line to Keith opened in 1856; by 1857, £846,318 had been spent, 80.1 percent above the directors' estimate and at a capital cost of £15,672 per mile.⁶⁵ Nevertheless, that cost per mile was just three-quarters of the Scottish Midland Junction's cost and only half that of the Scottish Central identified in chapter 3.⁶⁶ Land costs, including the cost of the Aberdeenshire Canal, were 11.8 percent of capital expenditure in 1857, just below the range of land costs incurred on the 1837-38 inter-urban lines.⁶⁷ The Great North had, however, experienced an expensive parliamentary battle to obtain incorporation; these costs accounted for 10.6 percent of capital expenditure by 1857.⁶⁸

Over the period 1855-61, the debt gearing for the Great North demonstrates that the failure to complete the full 1846 railway scheme had not diminished the ability of this small rural railway line to establish a sound financial base (table 35). Its financial

⁶³ 14&15 Vic. cap.75, 1851, The Great North of Scotland Amendment Act; 22&23 Vic. cap.8, 1859, The Great North of Scotland Railway Consolidation Act; Appendix, table 10(a).

⁶⁴ Report to the 4th Ordinary General Meeting of the Great North of Scotland Railway, 28 November 1849, NAS/BR/RAC(S)/1/14 and NAS/BR/GNS/1/1, p.220.

⁶⁵ Appendix, table 10(c), note (2): the cost per mile includes the cost of plant and the purchase cost of the Aberdeenshire Canal.

⁶⁶ Appendix, table 19(a), note (2), table 20 (a), note (3) and table 26.

⁶⁷ Appendix, table 10 (c) and table 26; CJA Robertson, *The Origins of the Scottish Railway System 1722-1844* (Edinburgh, 1983), pp.170-73.

⁶⁸ Appendix, table 10 (c), showing £89,447 spent on preliminary and parliamentary expenses of the £846,318 total capital expenditure by 1857 (10.6%).

performance presents a marked contrast to that of the Aberdeen Railway, analysed in the previous chapter, and doubtless gave considerable satisfaction to the Great North directors who had been dismissed from the Aberdeen Railway board in 1848.

Table 35: Financial indicators for the Great North of Scotland Railway, 1855-61

	08.1855	08.1856	08.1857	08.1858	07.1859	07.1860	07.1861
Ratio of debentures to capital raised	11.2%	29.0%	30.5%	34.7%	36.0%	31.0%	31.0%
Ratio of gross revenue to total debt	0.321	0.212	0.227	0.180	0.186	0.204	0.205
Source: Appendix, table 10(e).							
1): Comparative gearing ratios for the Caledonian Railway in 1849-50 were 24.5% for debentures/capital and 0.162 for gross revenue/debt.							

With the capital account in surplus and a rising revenue stream, a steady improvement in debt gearing might be expected, as illustrated by the Scottish Midland Junction Railway in chapter 4. However, the capital account of the Great North shows increased funding being provided for branch companies from 1858 and rising levels of temporary loans, but offset by the strong growth in gross revenue which averted any immediate financial instability, a situation that was to change rapidly during the 1860s.⁶⁹

The Great North's branch line strategy

The collapse of the Aberdeen monopoly web in 1848 followed by the failure to complete the full route to Inverness required the Great North to devise new plans to subjugate the territory to the north and west of Aberdeen. Powers for the 1846 Alford Valley Railway had lapsed but the Deeside Railway was re-incorporated in 1852, independent of the Aberdeen or Great North Railways,⁷⁰ and its later influence is examined in chapter 7.

⁶⁹ Appendix, tables 10(c) and 10(d): the scale of the indebtedness of the Great North to bankers is shown in table 10(e).

⁷⁰ 15 Vic. cap.61, 1852, The Deeside Railway Act.

Authorised capital for the Great North had been predicated upon formation of the full Aberdeen-Inverness line and branches, but even its revised 1852 proposal to construct the Aberdeen-Elgin route had been restricted to the Aberdeen-Keith section by the intervention of the new Inverness companies in building from Inverness to Keith.⁷¹ As already shown, the confinement of the Great North to half its projected main line did not affect its profitability and its extensive capital-raising powers therefore gave scope to consolidate and protect its territory. This new-found investment ability was outlined by chairman Elphinstone in 1857:

... the promotion of the line beyond Keith by an independent Company had left a large reserve of funds in the hands of the Great North, part of which they had resolved to apply to the promotion of independent branch lines ... the Great North's unexhausted available capital amounted to £500,000 which would enable them to fulfill all their engagements and have a considerable balance.⁷²

That statement referred to the £1,407,440 of authorised capital, not to the £816,652 realised by 1857, nor to the company's ability to raise it.⁷³ Credit was dear; in November 1857, bank discount rate reached 10 percent, but fell back to 6 percent by January 1858.⁷⁴ The 1858 capital account was in deficit by £42,077 with an additional £50,837 owed to banks.⁷⁵ However, once the Inverness and Aberdeen Junction Railway opened to Keith in August 1858, northern traffic resulted in a

⁷¹ Prospectus of the Great North of Scotland Railway, amended scheme 1852, NAS/BR/PROS(S)/1/9; Minutes of the Inverness and Aberdeen Junction Railway, 18 December 1855, NAS/BR/IAJ/1/1, p.118, approving a revised prospectus and a new share capital limit for the company of £325,000.

⁷² Minutes of the Formartine and Buchan Railway, 7 September 1857, NAS/BR/FBR/1/1, pp.43-44.

⁷³ 14&15 Vic. cap.75, 1851, the Great North of Scotland Railway Amendment Act, setting authorised share capital at £1,107,440 with £300,000 of borrowing powers; Appendix, table 10(c): by July 1857, £567,689 had been raised from share capital and £248,963 from debenture loans.

⁷⁴ Bradshaw's *Railway Almanack*, 1875, appendix 12, p.83.

⁷⁵ Capital accounts of the Great North of Scotland Railway, 1857-58, NAS/BR/RAC(S)/1/14; Appendix, table 10(c).

marked improvement in the Great North's capital and revenue accounts,⁷⁶ aided also by a period of cheaper credit in 1858-60.⁷⁷ The level of Great North dividend, greater than that paid by the Caledonian and North British Railways which operated the Anglo-Scottish routes, made the company attractive to investors (table 36).

Table 36: Average annual dividends for the Great North of Scotland Railway, 1855-64

Annual dividend (to 31 July/Aug each year)(%)	1855	1856	1857	1858	1859	1860	1861	1862	1863	1864
Great North (2)	1 ½	2 ¼	4 ½	4 ½	5	6 ½	6 ¾	7 ¼	7	5
Caledonian Railway	3	1 ½	3 ½	4 ¼	3 7/8	4 5/8	5 ¼	5 ¼	5 5/8	6 3/8
North British Railway	0	1 ¼	2 5/8	2 ¾	2 7/8	3	3 1/8	2	1	1 7/8
Bank discount rates										
Bank discount rate (lowest in year)	3 ½	4 ½	5 ½	2 ½	2 ½	3	3	2	3	6
Bank discount rate (highest in year)	7	7	10	6	4 ½	6	8	3	8	9
Bank discount rate (average of highest and lowest rate annually)	5 ¼	5 ¾	7 ¼	4 ¼	3 ½	4 ½	5 ½	2 ½	5 ½	7 ½
Sources: Accounts of the Great North of Scotland Railway, 1855-1864, NAS/BR/RAC(S)/1/14; <i>Railway Times</i> , 15 September 1866, pp.1089-92; Bradshaw's <i>Railway Almanack</i> , 1875, appendix 12, p.83.										
(1): Dividends were paid half-yearly. The annual dividend shown is the total of the half year dividends paid in January and July each year. The Great North declared dividends in August until 1859.										
(2): Data for the Great North is taken from company minute books and accounts. Data shown in Bradshaw's <i>Railway Almanack</i> and <i>Railway Times</i> for some half years 1855-59 vary from each other and from those shown in the company records.										

The Great North's policy for branch line development was defined in 1855:

... where the proprietors and other parties in the various districts are unable of themselves to develop, by railway, their resources fully, we come forward to aid them, thinking that if we could direct their traffic into our own line, we would at once be serving them and the shareholders of our line ...⁷⁸

⁷⁶ Appendix, tables 10(c) and 10(d): the capital account showed a surplus in the first half year of 1860 and revenue rose from £69,468 in 1859 to £84,603 in 1860, a rise of 22%.

⁷⁷ Bradshaw's *Railway Almanack*, 1875, appendix 12, p.83, showing that bank discount rate varied between 2½ % and 4½ % in the period February 1858 to March 1860.

⁷⁸ Report to the 10th Ordinary General Meeting of the Great North of Scotland Railway, 29 October 1855, NAS/BR/RAC(S)/1/14, recording the statement by chairman Sir James Elphinstone.

This statement of principle masked company practice for, while the lines were promoted principally by local residents often with encouragement from Aberdeen, the Great North provided much of the capital and worked the lines, securing in return strong or majority representation on the company boards. The Great North operated a strict commercial policy for branches;⁷⁹ interest was charged on the use of Great North plant for working the lines at 5 percent annually and interest charged on loans and advances was, if the branch company could not afford to pay, accumulated on the branch's general balance sheet.⁸⁰ Thus, financial difficulties experienced by branch companies did not impinge on the Great North's accounts or profitability. The nominal independence of the branch companies disguised the absolute control exerted by the Great North, strengthened by supplying its own management and administration to the branch companies. The *Railway Times* was unimpressed by Great North policy:

The next duty of the directors, it might be imagined, would have been to secure some return to the ordinary shareholders. Instead ... it would appear that the board is rather disposed to encourage extension, and to further mortgage their own line to such branches as can be induced to connect themselves with it ...⁸¹

Elphinstone, however, described branch line policy as 'subscribing to aid in this construction' and listed the substantial contributions agreed for branch companies (table 37):

⁷⁹ *Herapath's Railway Journal*, 5 April 1862, reporting the address of deputy chairman John Stewart at the 19th Ordinary General Meeting of the Great North of Scotland Railway, 28 March 1862, pp.364-85: '... we determined to charge the branches all deficiencies upon borrowed money as a debt against them, until we had three years' experience of their working; and if, at the end of that time, they did not pay the interest upon that borrowed money, that we would carry it to a suspense account, to be charged against the line when it was able to pay it.'

⁸⁰ The 5% charged by the Great North is applied as a notional interest rate on hidden debt in company and branch accounts, and identified where appropriate in notes in the tables in the appendix; *Herapath's Railway Journal*, 25 May 1861, p.527, reporting the auditor's statement to the Ordinary General Meeting of the Great North of Scotland Railway held on 1 April 1861 to confirm that 5% interest was charged on all advances to branch companies.

⁸¹ *Railway Times*, 25 November 1854, pp.1269-70.

Table 37: Subscriptions to other railways from the Great North of Scotland Railway, 1856

Reported to the Ordinary General meeting: 14 November 1856	Great North subscription (£)
Inverury and Old Meldrum Railway	2000
Alford Valley Railway	15000
Banff, Macduff and Turriff Railway	40000
Banff, Macduff and Turriff Extension Railway	5000
Formartine and Buchan Railway	50000
Inverness and Aberdeen Junction Railway	40000
Total subscriptions	152000
New subscriptions agreed by the Great North board in December 1856:	
Banff, Portsoy and Strathisla Railway	2000
Keith and Dufftown Railway	1000
Sources: Report to the 11 th Ordinary General Meeting of the Great North of Scotland Railway, 14 November 1856, (NAS/BR/RAC(S)/1/14; Minutes of the Great North of Scotland Railway, 12 December 1856, NAS/BR/GNS/1/2, p.508.	

By 1861, the Great North worked services on a branch network that comprised lines with two main functions. The first were intended to feed local traffic onto the Great North main line; the second, also local feeder lines, offered a potential extension route for the Great North to compete with the established Inverness line. The true cost of securing this traffic, however, was masked while the Great North's monopoly brought rising net revenue and increased dividends.⁸² The strength in the Great North's finances emanated from the through traffic to and from the north; the main line served '... a predominantly rural area that provided only modest traffic even in a monopoly situation'.⁸³ Capital contributions from the Great North to these branch lines varied year by year and included declared subscriptions, temporary advances, guarantees for debenture interest and hidden subsidies. There was no standard policy for working charges; some lines were worked at cost while others were charged a share of gross revenue (table 38). Moreover, not all transaction details appeared in company accounts or general balance sheets. Although Great North shareholders asked few questions about branch subscriptions, the company's contractors who held substantial amounts of company stock raised objections,

⁸² *Herapath's Railway Journal*, 3 November 1855, p.1118, reporting chairman Sir James Elphinstone's statement at the Ordinary General Meeting of the Great North of Scotland Railway, 29 October 1855.

⁸³ RH Mellor, *The Railways of Scotland: the papers of Andrew C O'Dell*, p.5.

seeing potentially unproductive investment reducing dividends and share values.⁸⁴ Nationally, *The Economist* warned that branches could 'only be nursed into profit by a long and tedious process',⁸⁵ while *Herapath's Railway Journal* advised that '... it is a mistake to suppose that all the traffic brought to the main line by the branch is new'.⁸⁶

Table 38: Railways worked by the Great North of Scotland Railway, 1855-61

	Incorporated	Length	Working arrangements
Feeder branch lines to the Great North system with Great North directors on the board			
Inverury and Old Meldrum (1)	15.06.1855	4½ miles	Worked by the Great North at cost and leased in perpetuity at rent of £650 per annum from 1858.
Banff, Macduff and Turriff – renamed Aberdeen and Turriff in 1859	15.06.1855	18 miles	Worked by the Great North at cost price for 10 years from 1857.
Alford Valley	23.06.1856	16 miles	Worked by the Great North at cost price for 10 years from 1859.
Banff, Macduff and Turriff Extension	27.07.1857	11¼ miles	Worked by the Great North at cost price for 10 years from 1860.
Formartine and Buchan	23.07.1858	54½ miles	Worked by the Great North at cost price in perpetuity from the opening of the first section in 1861.
Branch lines with through route potential for the Great North and with Great North directors on the board			
Keith and Dufftown	27.07.1857	10¾ miles	Worked by the Great North at cost price from opening in 1861 but no formal agreement made.
Strathspey (2)	17.05.1861	32½ miles	Worked by the Great North at 40% of gross revenue from opening in 1863 but no formal agreement made.
Branch lines with through route potential for the Great North and without Great North directors on the board			
Morayshire	16.07.1846	21¼ miles	Worked by the Great North at 45% of revenue from 1863 on the opening of the Strathspey.
Banff, Portsoy and Strathisla – renamed Banffshire in 1863	27.07.1857	19 miles	Independent working until 1863 when the Great North worked the line at 65% of revenue.
Source: Report of the Committee of Investigation to the shareholders of the Great North of Scotland Railway, 22 April 1865, NAS/BR/GNS/1/5, pp.346-47, giving data drawn from the half-year accounts to 31 January 1865.			
(1): HA Vallance gives the length of the Inverury and Old Meldrum branch as 5¼ miles. The length of 4½ miles in the table is taken from the report of the committee of investigation to shareholders of the Great North of Scotland Railway, 1866.			
(2): The Strathspey covered 33¼ miles after it was extended to join the Highland Railway at Boat of Garten in 1866.			

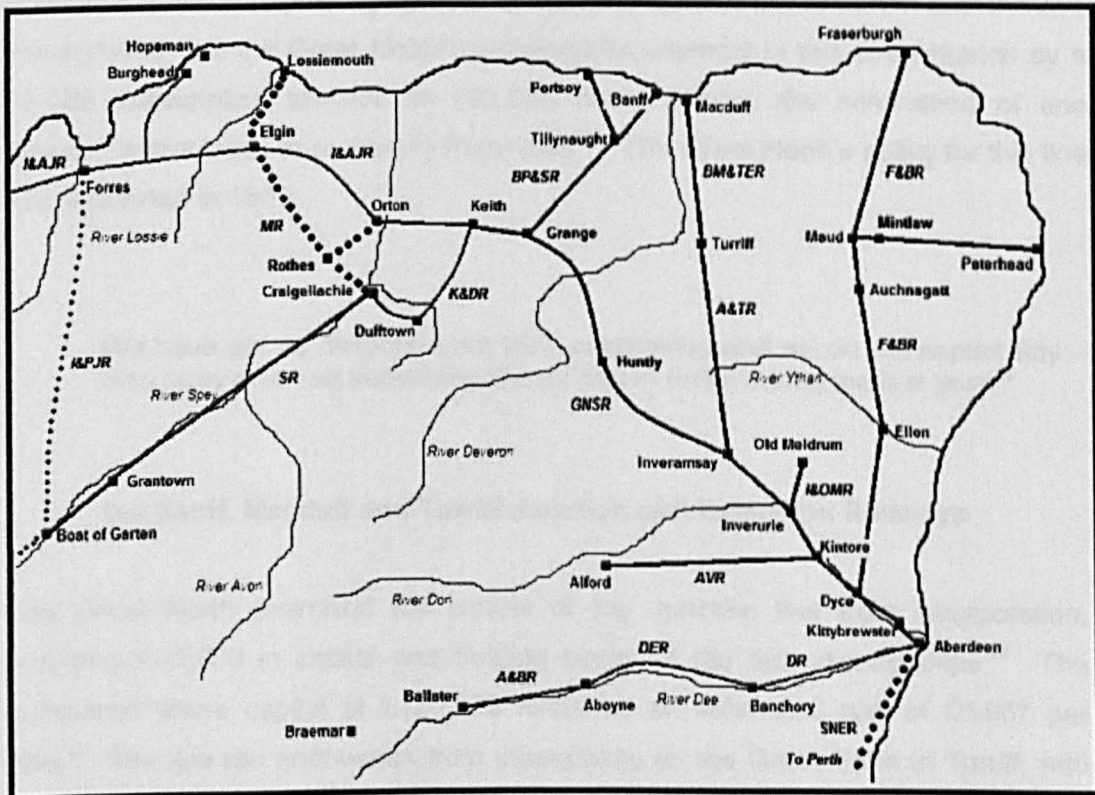
⁸⁴ Report of the 11th Ordinary General Meeting of the Great North of Scotland Railway, 14 November 1856, NAS/BR/RAC(S)/1/14, at which two contractors, John Brebner and David Mitchell, objected to raising the subscription to the Formartine and Buchan Railway from £15,000 to £50,000 and increasing the subscription to the Banff, Macduff and Turriff line by £5,000; Minutes of the Great North of Scotland Railway, 9 June 1857, NAS/BR/GNS/1/3, p.19.

⁸⁵ *The Economist*, 8 December 1860, p.1360, quoted in PL Cottrell, 'Railway Finances and the crisis of 1866', *Journal of Transport History*, new series, III, No.1 (February 1975), p.21.

⁸⁶ *Herapath's Railway Journal*, 13 July, 1861, p.702.

The Great North's developing railway network was depicted by Acworth as 'all branches', while Professor O'Dell likened it to 'a tree with the main stem from Keith to Aberdeen and branches with facing connections towards Aberdeen, leading traffic to the south-east'.⁸⁷

Map 6: Railways in north-east Scotland, 1855-1866



Great North system lines

A&TR: Aberdeen and Turriff Railway
 AVR: Alford Valley Railway
 BM&TER: Banff, Macduff and Turriff Extension Railway
 F&BR: Formartine and Buchan Railway
 GNSR: Great North of Scotland Railway
 I&OMR: Inverurie and Old Meldrum Railway
 SR: Strathspey Railway

Other lines

A&BR: Aboyne and Braemar Railway
 BP&SR: Banff, Portsoy and Strathisla Railway
 DR: Deeside Railway
 DER: Deeside Extension Railway
 I&AJR: Inverness and Aberdeen Junction Railway
 I&PJR: Inverness and Perth Junction Railway
 MR: Morayshire Railway
 SNER: Scottish North-Eastern Railway

⁸⁷ Sir WM Acworth, *The Railways of Scotland* (London, 1890), p.121; AC O'Dell, *Railway Routes of the North-East* (unfinished manuscript on 'The Geography of the Railways of Scotland', chapters 18 and 19), in RA Mellor (ed.), *The Railways of Scotland: the papers of Andrew C O'Dell*, p.40.

When the economic fortunes of the Great North reversed sharply in 1863-66, the extent and impact of branch line investment was revealed, as chapter 8 illustrates. The acute financial weakness of the branch lines was inherent from their opening and transmitted the seeds of future instability into the finances of the parent company. The financial structure of four of the five feeder branch lines is now analysed to determine the effect of Great North policy and the extent of their economic realism. Company records of the Inverury and Old Meldrum branch have not survived, but the Great North maintained its interests in this short branch by a £2,000 subscription towards its £22,000 share capital, the nomination of one director, and a lease in perpetuity from 1858.⁸⁸ The Great North's policy for this line was explained in 1857:

We have got no dividend from that undertaking and we do not expect any – they have given us something like £2,500 in traffic during the last year.⁸⁹

- the Banff, Macduff and Turriff Junction and Extension Railways

The Great North exercised full control of the Junction line from incorporation, providing £40,000 in capital and holding seven of the nine directorships.⁹⁰ The authorised share capital of £120,000 assumed an estimated cost of £6,667 per mile.⁹¹ The line ran northwards from Inveramsay on the Great North to Turriff, with plans to extend to Banff and Macduff on the Moray Firth to tap potential traffic from

⁸⁸ 18&19 Vic. cap.65, 1855, The Inverury and Old Meldrum Junction Railway Act, with capital of £20,000 and borrowing powers of £7,000: the Great North was authorised to subscribe £2,000 and work the line; 21&22 Vic cap.45, 1858, The Inverury and Old Meldrum Junction Railway Lease Act, authorising the Great North to lease the line at £650 per annum in perpetuity.

⁸⁹ *Railway Times*, 21 November 1857, p.1563, reporting the Ordinary General Meeting of the Great North of Scotland Railway held on 13 November 1857.

⁹⁰ 18 Vic. cap.57, 1855, The Banff, Macduff and Turriff Junction Railway Act, with capital of £120,000 and borrowing powers of £40,000.

⁹¹ Appendix, table 26.

the whole district north of the main line, although local interests wished to see the full scheme implemented immediately.⁹² Landowners, including Elphinstone and the Earl of Fife, via his commissioner, WJ Tayler (who was also a director of the Inverness and Aberdeen Junction company), offered land at a feu duty, but the lowest tender for the line was £109,550, which left little margin within the authorised capital limit of the company.⁹³ In 1856, the line estimate rose to £138,000; with only £124,000 of assets available, a £30,000 loan was obtained from the National Bank of Scotland with security provided from company debentures and a £10,000 guarantee from the Great North, an early example of the Great North assuring finance for a nominally independent company.⁹⁴ In just two board meetings, three-quarters of the total authorised 5 percent debentures were assigned to the National Bank and the Northern Assurance Company for loans.⁹⁵ With a further £6,000 debenture issued as security for an additional loan from the National Bank to complete the line, ninety percent of the authorised borrowing powers had been assigned by July 1857 purely as security for loans from financial institutions.⁹⁶ The importance place of banks in the finance of northern railway development and prior to the opening of lines is thus exemplified.

The Turriff company also provides an early example in north Scotland of the widespread use of guaranteed shares, whereby an individual or institution guaranteed the railway company against loss on a number of un-issued ordinary shares if the company had not been able to sell those shares at least at par within a

⁹² Minutes of the Banff, Macduff and Turriff Junction Railway, 23 October 1854, NAS/BR/ABT/1/1, p.2.

⁹³ Minutes of the Banff, Macduff and Turriff Junction Railway, 23 October 1854, NAS/BR/ABT/1/1, p.1; Report to the 1st Ordinary General Meeting of the Banff, Macduff and Turriff Junction Railway, 14 September 1855. NAS/BR/ABT/1/1, p.13.

⁹⁴ Minutes of the Great North of Scotland Railway, 24 October 1856, NAS/BR/GNS/1/2, p.474, confirming a £10,000 guarantee; Minutes of the Banff, Macduff and Turriff Junction Railway, 31 October 1855, NAS/BR/ABT/1/1, p.21.

⁹⁵ Minutes of the Banff, Macduff and Turriff Junction Railway, 2 January and 20 March, 1857, NAS/BR/ABT/1/1, p.29 and p.32: the National Bank was assigned £25,000 of debentures in two tranches of £15,000 and £10,000, while the Northern Assurance Company was assigned £5,000.

⁹⁶ Minutes of the Banff, Macduff and Turriff Junction Railway, 31 July 1857, NAS/BR/ABT/1/1, p.45: the line did not open until September 1857.

given period of time; in the case of the Turriff company, that time period was two years.⁹⁷ Such guarantees were used by railway companies as security for short-term credit. Lord Fife's trustees gave a 500 share guarantee in 1857, which allowed the company to obtain further credit of £5,000 from the National Bank.⁹⁸

The allocation of debentures to financial institutions and the use of guaranteed shares indicate the deep financial difficulties of this small local line by its opening in September 1857. By 1858, only £15,000 had been raised from shares in the area for a capital outlay of £145,000 and receipts had been 'the miserable amount of only £6,769'.⁹⁹ The first year of operation produced a small surplus of £200, but the revenue account remained in deficit throughout 1859-64. Gross revenue rose only slowly during the independent life of the company, but approximately half of it was required each year to meet interest charges.¹⁰⁰ In 1861, the directors reported:

... The traffic strangely enough continued to go down and down from the first year of opening. Now, however, it would appear that it had reached so low that it could not get lower.¹⁰¹

The following year, Elphinstone optimistically asserted 'I have no doubt in my own mind that these branches will pay ultimately', but the dismal results of this early branch company augured the contribution of branches to the later financial collapse of the parent Great North company.¹⁰²

⁹⁷ Minutes of the Traffic and Finance Committee of the Banff, Macduff and Turriff Junction Railway, 8 December 1857, NAS/BR/ABT/1/1, p.62.

⁹⁸ Minutes of the Banff, Macduff and Turriff Junction Railway, 8 December 1857, NAS/BR/ABT/1/1, p.61.

⁹⁹ *Railway Times*, 20 November 1858, p.1364, reporting deputy chairman John Stewart's address to the Great North of Scotland Railway shareholders at the 12th Ordinary General Meeting held on 12 November 1858.

¹⁰⁰ Appendix, table 4(b).

¹⁰¹ Report to the 7th Ordinary General Meeting of the Aberdeen and Turriff Railway, 29 November 1861, NAS/BR/ABT/1/1, p.165.

¹⁰² Report to the 8th Ordinary General meeting of the Aberdeen and Turriff Railway, 28 November 1862, NAS/BR/ABT/1, p.181.

The capital account returned a consistent deficit between 1856 and 1864.¹⁰³ With 3,778 shares in arrears by 1858, the directors obtained an Amendment Act to convert forfeited shares into a 5 percent preference stock.¹⁰⁴ The act also changed the company name to the Aberdeen and Turriff Railway to avoid confusion with a new extension company. The Great North had concluded that the branch's financial position would not improve until the line was extended to the Moray Firth coast and a separate company, the Banff, Macduff and Turriff Extension Railway, was authorised in 1857 to build from Turriff to Banff and Macduff.¹⁰⁵ As the Great North held tight control of the parent Turriff line, it took only two of the six Extension directorships, perhaps anticipating the further financial difficulties that followed.

When powers were obtained for the preference stock, the authority exercised by the Great North within the Aberdeen and Turriff was demonstrated. With six directors present, four of whom were Great North directors, the Turriff Board was told that the Great North would increase its temporary advance to £25,000 at 5 percent interest, backed by the new preference stock of £37,220 taken as collateral.¹⁰⁶ With little possibility of raising funds from preference shares given the company's weak trading position, the Great North's offer was accepted and part of the proceeds were used to redeem £15,000 of the National Bank loan.¹⁰⁷ Branches companies were treated almost as a department of the Great North; for example, the working agreement

¹⁰³ Appendix, table 4(a).

¹⁰⁴ 22 Vic. cap.11, 1859, The Banff, Macduff and Turriff Junction Railway Amendment Act, which included a clause to change the name of the company to the Aberdeen and Turriff Railway.

¹⁰⁵ 20&21 Vic. cap.50, 1857, The Banff, Macduff and Turriff Extension Railway Act, with authorised share capital of £81,000 and borrowing powers of £27,000.

¹⁰⁶ Minutes of the Aberdeen and Turriff Railway, 29 November 1859, NAS/BR/ABT/1/1, pp.126-27, recording that 'The Great North of Scotland Railway Company ... were prepared to make an additional temporary advance amounting together with the existing advance to £25,000 upon security of the Company's Bill to that amount with the collateral security of the 3722 preference shares ...'.

¹⁰⁷ Minutes of the Aberdeen and Turriff Railway, 9 December 1859, NAS/BR/ABT/1/1, pp.128, reporting that £15,000 had been repaid to the National Bank. Company preference shares in 1859 would have had little or no market value and the Great North probably regarded its allocation as nominal collateral to allow a cash advance; preference stock was not shown as issued in Aberdeen and Turriff company accounts until 1865.

operated on the Turriff line since opening in 1857 was not submitted for approval to Turriff shareholders until 1860.¹⁰⁸

Table 39: Financial indicators for the Aberdeen and Turriff Railway, 1858-65

31 August	1858	1859	1860	1861	1862	1863	1864	1865
Ratio of debentures to capital raised	32.0%	31.9%	31.9%	31.9%	31.6%	31.8%	30.2%	25.0%
Ratio of gross revenue to total debt	0.118	0.132	0.105	0.111	0.124	0.124	0.113	0.133
Source: Appendix, table 4(c).								
(1): Comparative gearing ratios for the Caledonian Railway in 1849-50 were 24.5% for debentures/capital and 0.162 for gross revenue/debt.								

Capital costs rose almost a quarter above estimates by 1859 at a cost per mile of £8,241.¹⁰⁹ The slow growth of gross revenue and the high level of debt produce a debt gearing that was consistently below the 1849 insolvency benchmark of the Caledonian Railway and little improvement was discernable (table 39). It was the continued support of the Great North that allowed the insolvent Aberdeen and Turriff Company to remain operational, despite its relatively economic construction.

The financial performance of the Banff, Macduff and Turriff Extension Railway was even weaker. The nominated Great North directors refused to join the board due to 'the present financial position of the Company and seeing the great deficiency in the amount of the Subscription List ...'.¹¹⁰ By February 1858, only one-third of the share capital had been subscribed.¹¹¹ The Great North set conditions before it would participate, including a refusal to accept any responsibility for the construction

¹⁰⁸ Report to the 6th Ordinary General Meeting of the Aberdeen and Turriff Railway, 30 November 1860, NAS/BR/ABT/1/1, p.145; Minutes of the Great North of Scotland Railway, 19 November 1858, NAS/BR/GNS/1/3, pp.278-79, approving a working agreement with the Banff, Macduff and Turriff Junction Railway, two years before the branch company shareholders formally approved it.

¹⁰⁹ Appendix, table 4(a), note (2) and note (3), showing that capital expenditure was 23.6% above estimate by 1859 and land costs were 9.1% of capital expenditure.

¹¹⁰ Minutes of the Banff, Macduff and Turriff Extension Railway, 16 January 1858, NAS/BR/BMEX/1/1, p.10.

¹¹¹ Note of a meeting of 'interested parties' in minutes of the Banff, Macduff and Turriff Extension Railway, 9 February 1858, NAS/BR/BMEX/1/1, pp.20-22, reporting subscriptions of £27,000 for the £81,000 capital.

contract already signed by other directors unless funds were available to meet it.¹¹² An agreement was reached in July 1858 in which three of the six directors were to be nominated by the Great North.¹¹³ The line opened in June 1860 but, within a year, the company had to defer payment of debenture interest.¹¹⁴ Revenue failed to grow between 1861 and 1865, leaving the account consistently in deficit and with half of gross revenue absorbed by interest payments.¹¹⁵

The capital account, whilst also in deficit from 1860, shows that costs were kept within the limits of authorised capital, principally because, for much of its length, the line crossed land owned by the Earl of Fife who accepted feu duty and so land costs represented only 3.4 percent of capital expenditure.¹¹⁶ Capital costs per mile by 1860 were £6,816.¹¹⁷ However, the high levels of debt and static gross revenue combined to produce a more unstable financial structure than its related Aberdeen and Turriff company (table 40).

Table 40: Financial indicators for the Banff, Macduff and Turriff Extension Railway, 1861-65

	31 August	1861	1862	1863	1864	1865
Ratio of debentures to capital raised		54.1%	54.1%	54.1%	54.1%	54.1%
Ratio of gross revenue to total debt		0.109	0.108	0.118	0.111	0.106
Source: Appendix table 5(c), and notes (1) and (2).						
(1): Comparative gearing ratios for the Caledonian Railway in 1849-50 were 24.5% for debentures/capital and 0.162 for gross revenue/debt.						

¹¹² Minutes of the Banff, Macduff and Turriff Extension Railway, 20 April 1858, NAS/BR/BMEX/1/1, p.12.

¹¹³ Minutes of the Banff, Macduff and Turriff Extension Railway, 10 July 1858, NAS/BR/BMEX/1/1, p.39.

¹¹⁴ Minutes of the Banff, Macduff and Turriff Extension Railway, 31 May 1861, NAS/BR/BMEX/1/1, p.145, and 13 December 1861, NAS/BR/BMEX/1/1, p.165.

¹¹⁵ Appendix, table 5(b).

¹¹⁶ Appendix, table 5(a).

¹¹⁷ Appendix, table 5(a), note (3).

Some caution must be exercised in deriving gearing for the Extension company because the level of temporary loans cannot be identified precisely from the accounts. Even making the favourable assumption that all bank advances were represented entirely by the data of interest paid and that no debt was held in a suspense account, the company was still exceptionally weak financially as the table illustrates. Furthermore, with low levels of share capital raised, authorised loans formed a high proportion of capital raised. Even by 1865, these two branches connecting the Great North with the agricultural northern hinterland and two Moray Firth ports could not achieve financial stability or show any sustained economic progress without major intervention from another company.

- the Alford Valley Railway

Construction of the Alford Valley Railway, authorised in 1846, was deferred because of shortages of capital.¹¹⁸ By 1851, the *Railway Times* concluded that the line had been abandoned,¹¹⁹ but plans to tap the agricultural traffic of the district were resurrected in 1855.

Two competing schemes were proposed, one westwards from the Great North main line at Kintore and another by a nominally independent company extending north from the Deeside Railway, which had been re-incorporated and opened between Aberdeen and Banchory in 1853, with John Duncan, former director and chairman of the Caledonian Railway, as chairman.¹²⁰ Parliament approved the 16 mile scheme to join the Great North, which was authorised to subscribe £15,000 of its £85,000 share capital.¹²¹ The Great North held six of the seven directorships, ensuring

¹¹⁸ 9&10 Vic. cap.134, 1846, The Alford Valley Railway Act.

¹¹⁹ *Railway Times*, 6 December 1851, p.1218, reporting 'Alford Valley shareholders have had £2 16s returned on their payments per share and the line may now be held to be abandoned'.

¹²⁰ *Herapath's Railway Journal*, 20 October 1855, p.1081; Report to the Ordinary General Meeting of the Deeside Railway, 24 October 1855, NAS/BR/DEE/1/1, p.343; 15 Vic. cap. 61, 1852, The Deeside Railway Act, repealing 9&10 Vic. cap.158, 1846, The Deeside Railway Act.

¹²¹ 19&20 Vic. cap.40, 1856, The Alford Valley Railway Act.

absolute control. The need for additional investment by the Great North was immediately evident from the estimate of costs for a line that terminated 2½ miles short of Alford (table 41).

Table 41: Estimate of the costs and capital sources, Alford Valley Railway, 1856

Estimate of costs	(£)	(£)
Preliminary and parliamentary expenses	7000	
Works and stations	63500	
Land	5000	
Sundries, law and engineering	5000	
Total costs (estimate)		80500
Estimate of capital sources		
Great North shares (authorised 1856 Act)	15000	
Shares held by contractor	12500	
Shares subscribed in the district	7000	
Further funds from the Great North	10000	
Debentures (amount authorised in 1856 Act)	28000	
Capital availability (estimate)		72500
Capital shortage		8000
Source: Minutes of the Alford Valley Railway, 23 September 1856, NAS/BR/ALF/1/1, p.3: the estimate of costs and capital is contained in a note added alongside the minute.		

The Great North supported this branch company both for potential traffic and to protect its territory from incursion by an off-shoot of the Deeside Railway, but capital was insufficient and less than 10 percent was expected to be subscribed from the district served. In 1858, the directors agreed to extend the line into Alford, acknowledging a shortfall of £20,000 in estimated capital to meet the new estimate of £100,000.¹²² The company resorted to bank loans on security of debentures and Great North preference shares; the Great North also advanced £15,000 to the company.¹²³ The Northern Assurance Company took £5000 of debentures at 4½ percent in 1859, which suggests that the Great North was using its Aberdeen financial connections, as on the Turriff lines, to obtain loans.¹²⁴

¹²² Minutes of the Alford Valley Railway, 16 February 1858, NAS/BR/ALF/1/1, p.23.

¹²³ Minutes of the Alford Valley Railway, 28 February, 5 March and 12 March 1858, NAS/BR/ALF/1/1, p.30, p.32 and p.34, showing a £14,000 advance from the North of Scotland Bank and a £15,000 advance from the Great North of Scotland Railway.

¹²⁴ Minutes of the Alford Valley Railway, 5 July 1859, NAS/BR/ALF/1/1, p.122; A Keith, *The North of Scotland Bank Ltd*, pp.14-15, noting that the Northern Assurance Company was founded by Adam and Anderson, law agents and first directors of the Great North, in 1836 at the same time as Anderson founded the North of Scotland Bank.

The line opened in March 1859, worked by the Great North at cost price, although the working agreement, like that on the Turriff line, was not formally signed until 1860.¹²⁵ After five months working, directors declared a 2 percent dividend following a £512 revenue surplus, but perversely on the same day asked the Great North for an additional advance.¹²⁶ Gross revenue remained static and the revenue balance in deficit throughout 1860-64.¹²⁷

The weakness of the capital structure of the company was revealed in 1860 when a proposal to increase the number of local directors was rejected by the Great North's deputy chairman John Stewart, who pointed out that only £4,000 of shares and £4,000 of guarantees had been taken in the district and, of the £44,000 of shares taken, £15,000 had come from the Great North and £12,000 from the late contractor's trustee.¹²⁸ Great North secretary Robert Milne informed shareholders that the Great North had secured loans at 4½ percent for the Alford company; '... if they had borrowed it from any other quarter than the Great North, they would be paying at the rate of 7 percent'.¹²⁹ Stewart told Alford shareholders in 1861:

¹²⁵ Minutes of the Alford Valley Railway, 30 March 1860, NAS/BR/ALF/1/1, p.142-43; Report of the 5th Ordinary General Meeting of the Alford Valley Railway, 30 November 1860, NAS/BR/ALF/1/1, p.160.

¹²⁶ Minutes of the 4th Ordinary General Meeting of the Alford Valley Railway, 29 November, 1859, NAS/BR/ALF/1/1, p.130, recording the recommendation for a 2% dividend; Minutes of the Alford Valley Railway, 29 November, 1859, NAS/BR/ALF/1/1, p.135, requesting the Great North to make an additional advance to make their total loan to the Alford Valley company £25,000; Report of the 5th Ordinary General Meeting of the Alford Valley Railway, 30 November 1860, NAS/BR/ALF/1/1, p.161, which recorded that the Great North had loaned £30,000 to the Alford Valley by July 1860 in addition to its investment in £15,000 of ordinary stock.

¹²⁷ Appendix, table 3(b).

¹²⁸ Report to the 5th Ordinary General Meeting of the Alford Valley Railway, 30 November 1860, NAS/BR/ALF/1/1, p.161: deputy chairman Stewart of the Great North also noted that if all the Alford Valley shares had been taken, a 3% dividend would have been possible.

¹²⁹ Report to the 5th Ordinary General Meeting of the Alford Valley Railway, 30 November 1860, NAS/BR/ALF/1/1, p.161.

The history of this line was a marked contrast to every railway with which he was acquainted. For the first year, they had a larger revenue than the second, and for the second they had a larger revenue than the third.¹³⁰

Stewart had, in fact, used virtually the same words the previous year but during the Aberdeen and Turriff annual meeting,¹³¹ which indicated that this trend of static revenue and rising debt had become a characteristic of these branch companies. The ubiquitous strategy of creating new preference shares from forfeited ordinary shares was adopted to meet capital shortages; only 3,195 of the 8,500 ordinary shares in the company had been paid in full by 1861.¹³² Parliamentary approval was obtained to issue preference shares at an expensive 6 percent.¹³³ Elphinstone told shareholders 'All we can do is to hope that the railway will improve'.¹³⁴

The revenue account shows that the proportion of gross revenue absorbed by interest had reached dangerous levels by 1861-63.¹³⁵ The Great North included powers in its own 1862 amendment act to authorise an additional subscription of up to £48,000 in Alford Valley preference shares;¹³⁶ shares were taken up in 1863 to

¹³⁰ Report to the 6th Ordinary General Meeting of the Alford Valley Railway, 29 November 1861, NAS/BR/ALF/1/1, p.189.

¹³¹ Report of the 6th Ordinary General Meeting of the Aberdeen and Turriff Railway, 30 November 1860, NAS/BR/ABT/1/1, p.145, at which John Stewart commented that 'It was a rather singular circumstance that the second year's earnings on this line was less than the first year's, and the third year's less than the first. Of course, this was a state of things that could not go on ...'.

¹³² Accounts of the Alford Valley Railway to 31 August 1861, reported to the Ordinary General Meeting on 29 November 1861, NAS/BR/ALF/1/1, pp.183-89, showing that £31,950 had been paid in full on £10 ordinary shares and that £5,871 had been paid on 4,517 ordinary shares on which there were arrears.

¹³³ 25&26 Vic. cap.87, 1862, The Alford Valley Railway Amendment Act; Extra-ordinary General Meeting of the Alford Valley Railway, 19 August 1862, NAS/BR/ALF/1/1, p.205, creating £46,060 in £10 preference shares at 6%.

¹³⁴ Report to the 7th Ordinary General Meeting of the Alford Valley Railway, 28 November 1862, p.216.

¹³⁵ Appendix, table 3(b): the proportion of gross revenue absorbed by interest was 68.0% in 1861 and rose to 75.6% by 1863.

¹³⁶ 25&26 Vic. cap.62, 1862, The Great North of Scotland Railway Amendment Act

liquidate £39,420 of debt due to the Great North.¹³⁷ That action also resolved the deficit on the capital account.¹³⁸

Table 42: Financial indicators for the Alford Valley Railway, 1860-65

	31 August	1860	1861	1862	1863	1864	1865
Ratio of debentures to capital raised		38.5%	38.5%	41.8%	26.2%	24.5%	22.4%
Ratio of gross revenue to total debt		0.091	0.080	0.086	0.070	0.163	0.207
Source: Appendix, table 3 (c).							
(1): Comparative gearing ratios for the Caledonian Railway in 1849-50 were 24.5% for debentures/capital and 0.162 for gross revenue/debt.							

Land costs were low due to the acceptance of feu duties by landowners, contributing to the relatively low capital cost per mile for the line of £6,310 by 1859.¹³⁹ However, the Alford Valley showed no growth in gross revenue between 1860 and 1865 and had accumulated copious amounts of debt, which produced weak debt gearing (table 42).¹⁴⁰ The allocation of preference stock to the Great North improved the debt gearing in 1864, but only to a level equivalent to the unstable Caledonian in 1849. However, this improvement is illusory; no new funds were generated because stock was substituted for the substantial debt due to the Great North.¹⁴¹ The financial structure of the Alford Valley Railway indicates that it was, like the Turriff lines, insolvent with no prospect of repaying its debt from revenue.

¹³⁷ Minutes of the Extra-Ordinary General Meeting of the Alford Valley Railway, 19 August 1862, NAS/BR/ALF/1/1, p.205: £46,060 of 6% preference stock was created from forfeited ordinary shares under powers in 25&26 Vic. cap.87, 1862. The Alford Valley Railway Amendment Act; Minutes of the Alford Valley Railway, 3 July 1863, p.222, recording the issue of 3,942 £10 preference shares (85.6%) to the Great North to redeem debt of £39,422 16s.

¹³⁸ Appendix, table 3(a).

¹³⁹ Appendix, table 3(a), note (4); table 26: land costs were 3.4% of capital expenditure by 1859.

¹⁴⁰ Appendix, tables 3(b) and 3(c).

¹⁴¹ Appendix, table 3(c), note (2).

- the Formartine and Buchan Railway

Powers authorised in 1846 for the Great North of Scotland (Eastern Extension) line from Dyce to Peterhead and Fraserburgh lapsed following the delays in building the Great North main line.¹⁴² The Buchan district attracted renewed interest in 1855 from a proposed Formartine and Buchan company supported by the Great North and a rival Aberdeen, Peterhead and Fraserburgh scheme promoted by John Duncan of the Deeside Railway.¹⁴³ The Great North regarded the Buchan area as 'a district of the country which we hold legitimately belongs to us ...'.¹⁴⁴ A long contest ensued before the Formartine and Buchan bill was approved on its third application to Parliament in 1858.¹⁴⁵

The Formartine and Buchan lines to Peterhead and Fraserburgh formed more of a mini-system than a branch, 54 miles in length and estimated to cost £280,000.¹⁴⁶ The Great North offered to work the lines at cost and provide £50,000 in capital, but with an expectation that £50,000 would be raised from shares and guarantees in the district.¹⁴⁷ Great North directors took five of the nine seats on the board,¹⁴⁸ which resolved not to start construction without additional local subscriptions and planned

¹⁴² 9&10 Vic. cap.135, 1846, The Great North of Scotland (Eastern Extension) Railway.

¹⁴³ *Herapath's Railway Journal*, 10 November 1855, p.1157.

¹⁴⁴ Report to the 11th Ordinary General Meeting of the Great North of Scotland Railway, 14 November 1856, NAS/BR/GNS/1/2. p.490, page 3 of the printed report of the meeting.

¹⁴⁵ 21&22 Vic. cap.107, 1858, The Formartine and Buchan Railway Act, with authorised share capital of £300,00 and borrowing powers of £100,000; *Herapath's Railway Journal*, 6 November 1858, p.1134; Report to the 13th Ordinary General Meeting of the Great North of Scotland Railway, 12 November 1858, NAS/BR/GNS/1/3, p.260-64 and p.3 of printed report of the meeting.

¹⁴⁶ Minutes of the Formartine and Buchan Railway, 7 September 1857, NAS/BR/FBR/1/1, p.45.

¹⁴⁷ Minutes of the Formartine and Buchan Railway, 7 September 1857, NAS/BR/FBR/1/1, p.43.

¹⁴⁸ Minutes of the 1st Ordinary General Meeting of the Formartine and Buchan Railway, 22 September 1858, NAS/BR/FBR/1/1, p.84.

to build only the Dyce-Mintlaw section of 29 miles because of the shortage of capital.¹⁴⁹ The district was challenged by the Great North:

Furnish us with £2,000 per mile and we will construct the whole line from end to end in its integrity.¹⁵⁰

... we shall not put a spade in the ground until we have obtained liberal and satisfactory land settlements.¹⁵¹

By 1858, the Dyce-Mintlaw section alone was estimated to cost £240,000 with the shortfall in capital reported to be £25,000.¹⁵² The Aberdeen Town and County and North of Scotland Banks advanced £50,000 each on security of Buchan and Great North shares, thereby providing equivalent loan capital to the full authorised limit as the company could not yet issue debentures because half of its share capital had not been paid up.¹⁵³ These loans provide a further example of the significant involvement of banks in northern railways prior to opening.

By March 1859, only half of the twenty-four landowners between Dyce and Mintlaw had offered to accept a feu duty.¹⁵⁴ The law agents reported 'some show a

¹⁴⁹ Minutes of the Formartine and Buchan Railway, 10 August 1858, NAS/BR/FBR/1/1, pp.64-65.

¹⁵⁰ *Herapath's Railway Journal*, 20 November 1858, p.1181, reporting deputy chairman John Stewart's statement at the Ordinary General Meeting of the Great North of Scotland Railway held on 12 November 1858.

¹⁵¹ Report to the Ordinary General Meeting of the Great North of Scotland Railway, 12 November 1858, NAS/BR/GNS/1/3, p.3 of printed report of meeting inserted at p.260; Minutes of the Formartine and Buchan Railway, 10 September 1858, NAS/BR/FBR/1/1, pp.65, recording the directors' decision not to start until land settlements 'be effected in moderate terms ...'.

¹⁵² Minutes of the Formartine and Buchan Railway, 10 September 1858, NAS/BR/FBR/1/1, pp.67-68.

¹⁵³ Minutes of the Formartine and Buchan Railway, 10 September 1858, NAS/BR/FBR/1/1, p.68.

¹⁵⁴ Minutes of the Formartine and Buchan Railway, 11 March 1857, NAS/BR/FBR/1/1, p.88.

disposition to get the highest terms they can ...'.¹⁵⁵ In August 1859, just £57,303 had been raised of the £300,000 authorised share capital¹⁵⁶ and a plan of dubious legality was instituted to release borrowing powers using the contractor to pay the 10 percent deposit on 15,648 shares from funds borrowed from the North of Scotland Bank, thereby allowing a claim that half the share capital had been paid up.¹⁵⁷ The company then added £15,648 to the contract price to allow the contractor later to repay the advance and the company to recover the shares. The Great North had objected to a similar subterfuge by the Inverness and Aberdeen Junction Railway in 1857, and may therefore have learned a creative financial technique from its rival.¹⁵⁸

The company agreed to extend the line to Peterhead in 1860 after the local railway committee guaranteed the £20,000 subscription required.¹⁵⁹ The line opened to Mintlaw in 1861 and to Peterhead in 1862, when the company offered to build the line to Fraserburgh if the district subscribed £45,000.¹⁶⁰ Although only £34,000 was identified, a new act was obtained in 1863, which also authorised a 5 percent preference stock to reduce company debt, while the Great North obtained powers to increase its subscription to the line from £50,000 to £100,000.¹⁶¹

¹⁵⁵ Minutes of the Formartine and Buchan Railway, 21 December 1858, NAS/BR/FBR/1/1, pp.86-87.

¹⁵⁶ Appendix, table 9(a).

¹⁵⁷ Minutes of the Formartine and Buchan Railway, 28 November, 1859, NAS/BR/FBR/1/1, p.128.

¹⁵⁸ See chapter 6, 'Dissention and division between Inverness and Aberdeen'; Minutes of the Great North of Scotland Railway, 17 and 24 July 1857, NAS/BR/GNS/1/2, p.51 and p.53; Minutes of the Extra-ordinary General Meeting of the Inverness and Aberdeen Junction Railway, 21 July 1857, NAS/IAJ/1/1, p.306 and p.308.

¹⁵⁹ Minutes of the Formartine and Buchan Railway, 19 November 1860, NAS/BR/FBR/1/1, p.178.

¹⁶⁰ Minutes of the Formartine and Buchan Railway, 14 October and 4 November 1862, NAS/BR/FBR/1/1, pp.326-27 and p.328.

¹⁶¹ Minutes of the Extra-ordinary General Meeting of the Formartine and Buchan Railway, 25 September 1863, NAS/BR/FBR/1/1, pp.383-85: £203,526 of 5% preference shares were created from forfeited ordinary shares under powers in 26&27 Vic. cap.189, 1863, The Formartine and Buchan Railway Act, which also authorised the Fraserburgh extension; 25&26 Vic. cap.62, 1862, The Great North of Scotland Railway Amendment Act.

Two-fifths of gross revenue on the Buchan line was absorbed by interest payments.¹⁶² The first year of operation to Mintlaw produced net revenue of £1,388 and a dividend of 1¼ percent was declared. The finances of the company scarcely justified that decision, but it may have been paid to try to attract new investment in the company. The capital account reveals a rising deficit as the extensions to Peterhead and Fraserburgh were constructed.¹⁶³ Land costs were relatively low, due to the company's persistence in seeking land for feu duty but, by 1865, the Buchan lines had cost £11,544 per mile, above the costs of other Great North branches but less than earlier Scottish lines.¹⁶⁴

Table 43: Financial indicators for the Formartine and Buchan Railway, 1861-65

	31 August	1862	1863	1864	1865
Ratio of debentures to total capital raised		35.6%	35.4%	21.2%	20.2%
Ratio of gross revenue to total debt		0.078	0.089	0.107	0.112
Source: Appendix, table 9(c).					
(1): Comparative gearing ratios for the Caledonian Railway in 1849-50 were 24.5% for debentures/capital and 0.162 for gross revenue/debt.					

The improvement in debenture gearing in 1864 (table 43) resulted from allocation of new preference stock to the Great North in substitution of temporary loans and advances, which, as on the Alford Valley Railway, did not raise new funds but, in effect, redistributed the location of debt in the accounts rather than redeemed it.¹⁶⁵ The debt gearing for the company was weaker than the Caledonian benchmark of 1849, but some discretion is required in interpretation because the Buchan system was not opened fully until 1865 and, unlike most of the other branches, the accounts show a rising trend of revenue as extensions were completed to the two principal Buchan ports. Therefore, while the company's financial structure was weak, the data suggest that this branch system had some capability to improve and repay debt, albeit over the long-term.

¹⁶² Appendix, table 9(b).

¹⁶³ Appendix, table 9(a).

¹⁶⁴ Appendix, table 9(a) and table 26.

¹⁶⁵ Minutes of the Formartine and Buchan Railway, 2 October 1863, NAS/BR/FBR/1/1, p.385-86, recording that £100,000 of preference stock was issued to the Great North as payment for advances.

With the exception of the Buchan lines, the branches produced little or no growth in revenue and debt was increasingly accumulated outside the main accounts. All branch companies exhibited greater financial weakness throughout their independent existence than the insolvent Caledonian had displayed in 1849. The extensive financial support given by the Great North to the branches, initially to secure traffic for its main line and subsequently to postpone the impact of the weaknesses in their financial structure and performance, increased pressure upon the host company that could only be sustained while it retained its share of the monopoly of northern traffic. The Great North's branch line strategy was therefore increasingly undermined by mounting insolvency within its constituent branch companies.

The fragility of monopoly power

By 1861, the Great North had consolidated its monopoly in the north-east of Scotland. Through use of its capital raising powers for the main line to Inverness projected in 1846,¹⁶⁶ the company had been able bring into operation most of the branch lines that had been deferred. The strict commercial policy applied to branch companies had confined the capital difficulties of those lines to the branches themselves and allowed the Great North to declare attractive dividends to shareholders:

... this high rate of dividend does not arise from any great stream of traffic. It arises from great economy in the management, particularly the capital account.¹⁶⁷

¹⁶⁶ 9&10 Vic. cap.103, 1846, The Great North of Scotland Railway Act, authorising share capital of £1,500,000 and borrowing powers of £500,000; 14&15 Vic. cap.75, 1851, The Great North of Scotland Railway Amendment Act, revising the 1846 capital powers to a share capital of £1,107,440 and loans of £300,000. The Great North's authorisation to construct the full main line between Aberdeen and Inverness lapsed in 1853.

¹⁶⁷ *Herapath's Railway Journal*, 5 April 1862, p.376; Appendix, table 10(d), showing half-year dividends of 6½% and 7% in 1861, 7½% and 7% in 1862 and 7% and 7% in 1863.

There was no competition by land to the Great North.¹⁶⁸ However, the company had no significant northern terminus of its own and no direct connection across Aberdeen to the national railway route southwards. Consequently, the Great North was an isolated, rural system with its profitability dependent upon main line traffic from the north; its monopoly power was therefore fragile. Sixty percent of the mileage worked in 1861 comprised branches within which financial instability was embedded.

Table 44: The network of the Great North of Scotland Railway, 1861

	Company	Route	Opened	Length	
Main line	Great North of Scotland	Aberdeen-Keith	October 1856	53½	
					53¾
Branch	Inverury & Old Meldrum Junction	Inverury-Old Meldrum	July 1856	5¼	
Branch	Aberdeen and Turriff	Inveramsay-Turriff	September 1857	18	
Branch	Alford Valley	Kintore-Alford	March 1859	16	
Branch	Banff, Macduff & Turriff Extension	Turriff-Banff	June 1860	11¼	
Branch	Formartine and Buchan	Dyce-Mintlaw	July 1861	29	
					80
		Mileage of the Great North system, 1861			133¾

Source: HA Vallance, *The Great North of Scotland Railway*, appendices 1 and 2, pp.173-79.

Earlier chapters have suggested that the Scots tended to invest in local lines rather than the larger inter-urban routes.¹⁶⁹ For these branch lines, even local capital was very hard to raise, with the result that a large proportion of the funds were supplied from the Great North and financial institutions (table 45). Banks played a significant role in the history of these branches, even before the lines opened to traffic, which supports the assertion by Gourvish and Reed of the importance of banks as a source of Scottish railway finance and also confirms their impression that banks were willing to lend to railways 'whose prospects were not necessarily bright'.¹⁷⁰

¹⁶⁸ J Simmons, *The Victorian Railway* (London, 1995), pp.261-62.

¹⁶⁹ See particularly chapter 1; TR Gourvish and MC Reed, 'The financing of Scottish railways before 1860 - a comment', *Scottish Journal of Political Economy*, 18 (1971), p.218; W Vamplew, 'Sources of Scottish railway share capital before 1860 - a reply', *Scottish Journal of Political Economy*, 18 (1971), p.222.

¹⁷⁰ TR Gourvish and MC Reed, 'The financing of Scottish railways before 1860 - a comment', pp.216-17.

Table 45: Local financial contributions to branch lines feeding the Great North

Company	Date	Local shares (£)	Total shares raised (£)	Authorised share capital (£)	Local shares as % of shares raised	Shares raised as % of authorised shares
A&TR	1858	15000	84535	120000	17.7%	70.4%
BM&TER	1858	12000 (1)	24862	81000	48.3% (note 1)	30.7%
AVR	1860	4000	37291	85000	10.7%	43.9%
F&BR (2)	1859	"deficient"	159236	300000	n/a	53.1%
<p>A&TR: Aberdeen and Turriff Railway from 1859, previously the Banff, Macduff and Turriff Junction Railway BM&TER: Banff, Macduff and Turriff Extension Railway AVR: Alford Valley Railway F&BR: Formartine and Buchan Railway</p> <p>Sources: <i>Railway Times</i>, 20 November 1858, p.1364, reporting the Aberdeen and Turriff subscription to shareholders at the 13th Ordinary General Meeting of the Great North of Scotland Railway held on 12 November 1858; Minutes of the Banff, Macduff and Turriff Extension Railway, 12 March 1858, NAS/BMEX/1/1, p.24; Report to the 12th Ordinary General Meeting of the Alford Valley Railway, 30 November 1869, NAS/BR/ALF/1/1, p.161; Minutes of the Formartine and Buchan Railway, 14 June 1859, NAS/BR/FBR/1/1, p.111 and p.115; Accounts to 31 August 1859 of the Formartine and Buchan Railway, NAS/FBR/1/1, p.129.</p> <p>(1): The £12,000 local subscription included £6,500 subscribed by the Earl of Fife and a further £1,000 from his commissioner, WJ Tayler, who was also chairman of the company; the district had therefore subscribed only £4,500 by 29 March 1858, (NAS/BR/BMEX/1/1, p.26). (2): The Great North had offered a £50,000 subscription to the Formartine and Buchan Railway (7 September 1857, (NAS/BR/FBR/1/1, p.43), expecting a £50,000 local subscription for shares, but the directors resolved in June 1859 to build only the Dyce-Mintlaw section for which subscriptions were reported to be '... greatly deficient' (14 June 1859, NAS/BR/FBR/1/1, p.111 and p.115).</p>						

The Great North's profitable operations, based in the mercantile centre of Aberdeen where there were established and closely-knit financial networks, undoubtedly assisted the availability of railway credit; for example, Alexander Anderson, a Great North director until 1849, who was the Great North's law agent (with partner William Adam) and a director of the Old Meldrum branch from 1854, was a 'driving force' behind the foundation of the North of Scotland Bank in Aberdeen.¹⁷¹

Compared to the cost of £32,113 per mile for earlier Scottish railways by 1851 and the £15,672 per mile for the Great North by 1857, significant economies were achieved on these branches; costs ranged from £6,310 per mile on the Alford Valley

¹⁷¹ SG Checkland, *Scottish Banking, a History 1695-1973*, p.343, describing Anderson as the 'driving force' in the establishment of the North of Scotland Bank; RC Michie, 'Sir Alexander Anderson' in A Slaven and S Checkland (eds.), *Dictionary of Scottish Business Biography 1860-1960*, vol.2 (Aberdeen, 1990), p.400, noting that Anderson promoted the North of Scotland Bank in 1836 and the bank was the largest in Aberdeen; Minutes of the Great North of Scotland Railway, 29 March 1849, NAS/BR/GNS/1/1, p.184, reporting that Adam and Anderson had stood down as directors of the Great North after a challenge from a shareholder over their dual role as directors and law agents; Minutes of the Great North of Scotland Railway, 22 December 1854, NAS/BR/GNS/1/2, p.169, reporting the purchase of 200 shares in the Inverury and Old Meldrum Junction railway and the nomination of Anderson as a director; A Keith, *The North of Scotland Bank Ltd, 1836-1936*, p.14.

in 1859 to £11,544 per mile on the Buchan line by 1865 when the final section to Fraserburgh was opened.¹⁷² The Great North was also able to demonstrate strong growth in traffic achieved with relatively low running costs in comparison with other Scottish lines (table 46).

Table 46: Traffic data and working expenses on the Great North, 1860

Traffic data	Half year to 31.01.1859	Half year to 31.01.1860	Increase (%)
Passenger numbers	254658	271653	6.7%
Goods tonnage	67991	78726	15.8%
Livestock numbers	17833	35213	97.5%
Working expenses	Gross (inc. taxes and duty)	Net (exc. taxes and duty)	
Great North	38 %	33 %	
Caledonian	45 %	41 %	
North British	44 ¼ %	40 %	
Scottish North-Eastern	45 %	41 ¼ %	
Source: Report to the 15 th Ordinary General Meeting of the Great North of Scotland Railway, 2 April 1860, NAS/BR/GNS/1/3, p.2 of printed report inserted at pp.464-65.			

Chairman Elphinstone claimed the growth in traffic was 'due very much to the development of the branches'.¹⁷³ The *Railway Times* praised the Great North:

The condition and management of this line more than continues a subject for congratulation ... it proves that railway enterprise, if only once placed in an accurate groove, must run on without impediment to perennial success.¹⁷⁴

The impediments were, nonetheless, already established. Inverness had blocked the Great North's northerly advance in 1858 and, from 1861, the branches placed an ever increasing burden on the Great North's finances; 10 percent of Great North capital was spent on these five branches in 1861, but this had risen to 20 percent by 1864 (table 47).

¹⁷² Appendix, table 26; CJA Robertson, 'The Cheap Railway Movement in Scotland: the St Andrews Railway Company', *Transport History*, 7, No.1 (March 1974), p.2.

¹⁷³ *Herapath's Railway Journal*, 21 April 1860, p.397: at the Ordinary General Meeting of the Great North held on 2 April 1860, Elphinstone referred to a rise of 7,687 in the number of cattle transported in 1859-60, of which 1,686 from the Turriff branch, 2,321 from the Alford branch and 500 over the Inverness line.

¹⁷⁴ *Railway Times*, 30 March 1861, p.409.

Table 47: Capital subscriptions and advances to feeder branch lines, Great North of Scotland Railway, 1861 and 1864

Company	31.07.1861 (£)	31.07.1864 (£)	Increase (%)
Inverury and Old Meldrum Junction	2000	2000	0,0
Aberdeen and Turriff	40020	74129	85.2
Alford Valley	15000	59920	299.5
Banff, Macduff and Turriff Extension	5085	27065	432.3
Formartine and Buchan	50000	175000	250.0
Total	112105	338114	201.6
Total of Great North capital expenditure	1079546	1669392	54.6
Proportion of Great North capital spent on these five feeder branches	10.4%	20.3%	
Source: Accounts of the Great North of Scotland Railway, 31 July 1861 and 31 July 1864, NAS/BR/RAC(S)/1/14.			
(1): In addition to the subscriptions and advances to the feeder branch lines shown in table 47, the Great North also made subscriptions and advances to lines offering through route potential to the company (Appendix, table 10(c)). At 31 July 1861, £7,406 had been subscribed to the Keith and Dufftown Railway. By 31 July 1864, Great North accounts show subscriptions and advances to the Keith and Dufftown (£26,000), the Strathspey (£100,000), and the Morayshire (£10,531). In addition, the Great North's general balance sheet to 31 July 1864 shows temporary advances to the Keith and Dufftown (£30,988), Strathspey (£43,576) and the Morayshire (£12,620).			

So long as traffic to and from the northern counties by rail had to cross the Great North's main line, the company preserved its land-based monopoly, but northern traffic remained subject to competition from sea transport. The unsuccessful subsidisation of the Inverness and Edinburgh Steam Packet Company in 1859-60 to capture northern trade, outlined earlier, did not deter the Great North in 1861 from offering a £1,500 subsidy to the rival Northern Steam Company to secure more favourable rates for sea traffic after a dispute with the Aberdeen Steam Navigation Company.¹⁷⁵ The following year, the Great North gave a further subsidy to facilitate the amalgamation of two rival steamer companies, the Aberdeen Steam Navigation and the London Steam Companies, to provide a twice-weekly service from Aberdeen to London.¹⁷⁶ With no continuous rail link across Aberdeen until 1867 and with their terminus at the docks, the Great North continued to show favour to sea transport for

¹⁷⁵ Report to the 18th Ordinary General Meeting of the Great North of Scotland Railway, 20 September 1861, NAS/BR/GNS/1/4, pp.180-81 and page.4 of inserted printed report; also *Herapath's Railway Journal*, 28 September 1861, pp.996-97, reporting the same meeting. Sir M Barclay-Harvey, *A History of the Great North of Scotland Railway*, pp.70-71, records that Great North deputy chairman John Stewart founded the Northern Steam Company, having been removed from the board of the Aberdeen Steam Navigation Company.

¹⁷⁶ Minutes of the Great North of Scotland Railway, 26 September 1862, NAS/BR/GNS/1/4, pp.414-15 and page 1 of inserted printed report, *Herapath's Railway Journal*, 11 October 1862, p.1060.

goods traffic south of Aberdeen, engendering resentment in southern railway companies.

The Great North recognised the need to protect its market dominance. Its support of branches to secure territory was extended to a local 10 mile line running south-westwards from Keith to Dufftown, which formed part of the earlier abortive Banffshire Railway of 1845-46 identified in chapter 3.¹⁷⁷ The Keith and Dufftown Railway was incorporated in 1857; the Great North subscribed £1,000 and was to appoint one of the nine directors, although both Stewart and Jopp of the Great North are named on the first board.¹⁷⁸ Great difficulty was experienced in raising capital on this local line; only a third of that required for the parliamentary submission had been subscribed by December 1856.¹⁷⁹ By June 1857, £37,920 of the £50,000 share capital had been subscribed of which £5,620 came from 181 local shareholders, including £1,800 from the directors and £1,000 from the Great North, £7,500 from the line's contractors, and £24,800 from the company's Edinburgh law agents.¹⁸⁰ The use of the law agents as nominees ensured sufficient deposits were paid to meet parliamentary Standing Orders, but the scale of this nominal involvement indicates the severe shortage of capital. By October 1858, construction work had been halted and the directors sought further support from the Great North, but 'their Directors have hitherto declined to say if they will take up the Line'.¹⁸¹

Major landowners, including the Duke of Richmond and the Earl of Fife, had given verbal support, 'but the Directors have as yet been unable to get any of them to fix

¹⁷⁷ HA Vallance, *The Great North of Scotland Railway*, p.53; see also chapter 3, table 20(c).

¹⁷⁸ 20&21 Vic. cap.87, 1857, The Keith and Dufftown Railway Act, with authorised share capital of £50,000 and borrowing powers of £16,600.

¹⁷⁹ Minutes of the Keith and Dufftown Railway, 3 December 1856, NAS/BR/KDR/1/1, p.4.

¹⁸⁰ Report from the Committee for the Keith and Dufftown (No.2) Bill, 11 June 1857, inserted as a loose leaf at the back of the minute book of the Keith and Dufftown Railway, NAS/BR/KDR/1/1.

¹⁸¹ Report to the 3rd Ordinary General Meeting of the Keith and Dufftown Railway, 19 October 1858, NAS/BR/KDR/1/1, p.22.

definitely to what extent'.¹⁸² However, the Great North saw new strategic potential in this short branch. The Inverness and Aberdeen Junction Railway had denied the Great North access westwards once the Inverness-Keith line via Orton opened in 1858. An alternative route to Elgin via Rothes had been considered in the 1850s by both the Great North and the Inverness and Aberdeen Junction.¹⁸³ The Morayshire Railway, in dispute with Inverness in 1859 over running rights, announced 'a direct line through the Glen of Rothes as was originally intended ...'.¹⁸⁴ Its projected line gave the Great North an opportunity to reach Elgin if it secured control of the neighbouring and ailing Keith and Dufftown.¹⁸⁵ The Great North therefore offered to complete the Dufftown line and obtained powers to subscribe half its share capital and nominate four of the eight directors.¹⁸⁶ Thus a proposed feeder branch to the Great North became a strategically important 10¾ mile link in a potential new route to the north.

The Great North's new interest in the Dufftown line prompted landowners to give £10,000 of share guarantees and land via feu duty.¹⁸⁷ The Great North then took total control of the company by appointing a committee of management 'with all the powers of the Board', comprising its four Great North directors and just one local

¹⁸² Report to the Extra-ordinary General Meeting of the Keith and Dufftown Railway, 2 July 1859, NAS/BR/KDR/1/1, pp.27-28.

¹⁸³ Report of the Ordinary General Meeting of the Morayshire Railway, 30 October 1847, NAS/BR/MOR./1/1; Minutes of the Inverness and Aberdeen Junction Railway, 9 July 1855, NAS/BR/IAJ/11, pp.11-20; Minutes of the Great North of Scotland Railway, 20 July 1855, NAS/BR/GNS/1/2, p.290.

¹⁸⁴ Minutes of the Morayshire Railway, 31 August 1859, BR/NAS/MOR/1/2.

¹⁸⁵ See chapter 7, 'Western expansion: the Great North and Morayshire Railways'.

¹⁸⁶ 23&24 Vic. cap. 63, 1860, The Keith and Dufftown Railway Deviation Act, which included authorisation for the Great North to subscribe £25,000; Minutes of the Great North of Scotland Railway, 26 August 1859, NAS/BR/GNS/1/3. p.367 and p.408; Minutes of the Great North of Scotland Railway, 16 October 1860, NAS/BR/GNS/1/4. p.4-9, setting out the draft agreement between the Great North, Keith and Dufftown and Morayshire Railways; Minutes of the Keith and Dufftown Railway, 6 June 1860, NAS/BR/KDR/1/1, p.53, reporting the reduction in the size of the Keith and Dufftown board from nine directors to eight, with four to be Great North representatives.

¹⁸⁷ Report to the 5th Ordinary General Meeting of the Keith and Dufftown Railway, 29 October 1859, NAS/BR/KDR/1/1, pp.38-39.

director.¹⁸⁸ The local directors were required to sign personal guarantees for a £25,000 subscription from the Keith and Dufftown company to a new Great North protégé, the Strathspey, proposed to extend the Great North's system westwards into the Spey valley and to connect the Keith and Dufftown to the new Morayshire line.¹⁸⁹ The capital accounts of the Keith and Dufftown are complex and great caution is required in their interpretation because the Great North used them to record its financing of the early stages of the separate Strathspey Railway.¹⁹⁰ The capital cost per mile by 1862, however, was low at £5,632, although expenditure was 21.1 percent above estimate.

The revenue account of the Keith and Dufftown exhibited similar weaknesses to other Great North branches: revenue was static and a high proportion of receipts were absorbed by interest payments.¹⁹¹ Moreover, not all interest was paid when due and any arrears were added to company debt accumulated outside the main accounts.¹⁹² The Great North exercised the same strict financial policy in charging interest on advances and plant, thereby ensuring that the considerable financial difficulties appeared in the subsidiary company's accounts and not its own.

¹⁸⁸ Minutes of the Keith and Dufftown Railway, 6 June 1860, NAS/BR/KDR/1/1, p.53.

¹⁸⁹ Minutes of the Keith and Dufftown Railway, 28 November 1860, NAS/BR/KDR/1/1, pp.63-64, recording that the Keith and Dufftown was to make the Balvenie extension, which was the first section of the Strathspey Railway from Dufftown to Craigellachie, 'the proposed Strathspey Railway Company having no funds available for this purpose', but the outlay was to be refunded with 5% interest 'not later than the opening of the latter Company's line'. The strategic place of the Strathspey and Morayshire Railways is examined in chapter 7.

¹⁹⁰ Appendix, table 16(a): this table summarises the capital account of the Keith and Dufftown Railway, and in which the footnotes indicate the complexity of analysing their construction and content.

¹⁹¹ Appendix, table 16(b); interest payments as a proportion of gross revenue reached 68% by 1864.

¹⁹² Minutes of the Great North of Scotland Railway, 19 August 1864, NAS/BR/GNS/1/5, p.186, reporting a resolution that 'any deficiencies of interest on advances to the Keith and Dufftown' were to be accumulated against that company for three years from the opening of the Strathspey Railway. This resolution therefore covered the period between 1863, when the Strathspey opened, and 1866, when the Keith and Dufftown and other branches were amalgamated with the Great North; Minutes of the Keith and Dufftown Railway, 29 July 1864 and 24 February 1865, NAS/BR/KDR/1/1, p.131 and p.146; Appendix, table 16(c), note (4).

The debt gearing throughout the brief and nominally independent life of the Keith and Dufftown company appears as weak as on other branches and well below insolvency benchmark of the Caledonian in 1849 (table 48). While the financial structure of this small company was therefore insecure, its value to the Great North was not as a feeder branch line but as a strategic section of the planned extension of the Great North's network towards the highlands.

Table 48: Financial indicators for the Keith and Dufftown Railway, 1862-65

	31 August	1862	1863	1864	1865
Ratio of debentures to total capital raised		31.9%	30.1%	30.0%	14.8%
Ratio of gross revenue to total debt		Line opened 1862	0.050	0.065	0.142 (2)
Source: Appendix, table 16(c).					
(1): Comparative gearing ratios for the Caledonian Railway in 1849-50 were 24.5% for debentures/capital and 0.162 for gross revenue/debt.					
(2): The improvement in the 1865 ratio of debenture loans to capital raised was caused by the Great North taking up £16,870 of share capital to replace advances and other debt of the Keith and Dufftown, thereby releasing some debentures held as security.					

Criticisms of the Great North's use of monopoly power, particularly in pricing and standards of service, were commonplace. Complaints were received about high goods rates immediately the first section of its main line opened in 1854. Carriers undercut railway rates and the Great North discovered that it was charging comparatively more than the Aberdeen, Deeside, Dundee and Perth, and Dundee and Arbroath lines and reduced rates accordingly.¹⁹³ Disputes between the Inverness and Aberdeen Junction and Great North Railways over traffic rates began even before the through line opened in 1858.¹⁹⁴ The Great North set equal rates by rail or sea between Inverness, Aberdeen and London in conjunction with the Aberdeen Steam Navigation Company in 1858 without representatives of the Inverness and Aberdeen Junction company being present.¹⁹⁵ The branches were

¹⁹³ Minutes of the Great North of Scotland Railway, 22 September 1854, NAS/BR/GNS/1/2, p.82.

¹⁹⁴ Minutes of the Inverness and Aberdeen Junction Railway, 26 June 1858, NAS/BR/IAJ/1/1, p.442 and minutes of the Great North of Scotland Railway, 15 April, 1859, NAS/BR/GNS/1/3, p.326, which both report a series of disputes between the companies over rates, traffic and operations.

¹⁹⁵ Minutes of the Great North of Scotland Railway, 13 October 1858, NAS/BR/GNS/1/3, p.249. Just over one year later, the Inverness and Aberdeen Junction Board approved equal rates with the Aberdeen Steam Navigation Company for the Aberdeen-London route,

not immune from high goods rates; farmers and traders using the newly-opened Banff, Macduff and Turriff Extension Railway in 1860 sent a resolution complaining that rates were greater than stipulated in the company's legislation and made a formal complaint to the Board of Trade.¹⁹⁶ The Great North refused to join the Railway Clearing House until the increased competitive pressures, outlined in chapter 7, forced it to agree rates on all through traffic in 1863.¹⁹⁷ Increasingly, the exercise of its monopoly power alienated the Great North from its northern and southern railway neighbours and its users. Acworth notes the Great North's 'despotic treatment of passengers',¹⁹⁸ while EL Ahrons describes the price and quality of service:

Its stopping trains could not even be dignified with the title "slow": they set the pace of a glacier ... But one thing the Great North did thoroughly well – it charged "express" fares for the privilege of a passage on its glaciers; and these express fares were of an exceeding magnitude.¹⁹⁹

Vallance and Barclay-Harvey both record the allegation that the Great North dispatched their service to the north from Aberdeen before passengers could cover the half-mile from the Scottish North-Eastern station.²⁰⁰ There is, however, evidence that converts this allegation into fact. Seven passengers, including James Merry

recorded in a minute of the Inverness and Aberdeen Junction Railway, 4 November 1859, NAS/BR/IAJ/1/2, p.45.

¹⁹⁶ Minutes of the Banff, Macduff and Turriff Extension Railway, 6 July 1860, NAS/BR/BMEX/1/1, p.117 and p.119; also 17 October 1860, NAS/BR/BMEX/1/1, p.123.

¹⁹⁷ *Herapath's Railway Journal*, 10 October 1863, p.1078, reporting chairman Elphinstone's statement to the Ordinary General Meeting of the Great North of Scotland Railway held on 25 September 1863, announcing that the Great North would enter the Railway Clearing House for all its traffic in the following month; Report to the 22nd Ordinary General Meeting of the Great North of Scotland Railway, 30 March 1864, NAS/BR/GNS/1/5, p.128 and page 2 of inserted printed report, indicating the reduction in goods rates that had resulted from joining the Railway Clearing House.

¹⁹⁸ Sir WM Acworth, *The Railways of Scotland*, p.117.

¹⁹⁹ EL Ahrons, *Locomotive and Train Working in the later part of the Nineteenth Century* (Cambridge, 1952), p.101.

²⁰⁰ HA Vallance, *The Great North of Scotland Railway*, p.34; HA Vallance, *The Highland Railway* (4th edition, Newton Abbot, 1985), p.23; Sir M Barclay-Harvey, *A History of the Great North of Scotland Railway*, p.74.

and James Grant, wrote an open letter to the press in August 1858, stating that they felt 'ill-treated' by the Great North:

... all made every possible speed to reach the station of the Great North of Scotland Railway ... The officials at the station seemed predetermined to cause disappointment for the moment the Mail Bags were within the portals of the establishment and which were carried off with more than usual rapidity, the Gates were shut in the faces of the Passengers, who naturally demanded immediate admittance. This was refused and delayed until the train had started ... and the Clock of the station shewed that the starting time had only then arrived ... So great was the hurry of the officials that the lady and luggage of one gentleman were admitted when the husband was shut out. Such conduct under such circumstances we believe to be inexcusable. If the Proprietors of two main lines of Railway are to keep their Stations a few hundred yards apart from factious or party squabbles ... it is high time that the making of a more direct and continuous line of Railway in the North should be resolved upon.²⁰¹

Their final sentence was momentous. Merry was a wealthy ironmaster who had bought the Belladrum estate to the west of Inverness in 1857 and became a Member of Parliament and an important investor in, and later director of, Inverness railway companies; James Grant was provost of Elgin and chairman of the Morayshire Railway.²⁰² Within two years, a new direct line from Inverness to Perth and the south was promoted which contributed appreciably to the rapid collapse of the Great

²⁰¹ Minutes of the Great North of Scotland Railway, 6 August 1858, NAS/BR/GNS/1/3, p.218, recording a letter written by James Merry and signed by six other passengers on 5 August 1858, which was published in the 'Free Press' in Aberdeen on 6 August 1858: Merry went on in the letter to castigate the Great North for 'fine talk of punctuality ... [for] a line that ends at Keith when coaches had to do the rest of the work ...' (p.219 of minute book).

²⁰² J Mitchell, *Reminiscences of My Life in the Highlands, vol.II*, p.21, giving a brief biography of James Merry; A Slaven, *The Development of the West of Scotland: 1750-1960*, p.46 and p.124: Merry was also a coal master and an investor in the Monkland and Kirkintilloch Railway, opened in 1826; Minutes of the Morayshire Railway, 9 September 1846, NAS/BR/MOR/1/1, show James Grant, Banker of Elgin, was elected the first secretary and treasurer of the Morayshire Railway. Grant, now Provost of Elgin, was elected a director on 31 October 1855 when a new appointment was made as secretary, and he became chairman on 12 November 1855 (NAS/BR/MOR/1/1).

North's monopoly in 1863-66.²⁰³ The indifferent attitude of the monopolist Great North was evident from secretary Milne's reply:

Had the departure of the train been delayed for the rest of the passengers from the South Train with their luggage and dogs, the whole of the Company's Train arrangements for the day would have been seriously interfered with, thereby causing inconvenience to many more than those who are now complaining.²⁰⁴

Publicly, the Great North's deputy chairman Stewart denied any risk to its continued success,²⁰⁵ but the Great North must have appreciated the fragility of its monopoly. The company made a new proposal for a cross-Aberdeen link via the Denburn Valley, but infuriated the Scottish North-Eastern because it 'declined to give any guarantee as to the route by which they will send Traffic arising South and East of Keith', presumably intending to protect its sea trade connections.²⁰⁶ The Scottish North-Eastern was then told in October 1861 that the Great North had decided there was not sufficient time to prepare a Denburn Valley Scheme for the next parliamentary session 'and therefore decline proceeding ...'.²⁰⁷

²⁰³ Report to the Ordinary General Meeting of the Inverness and Aberdeen Junction Railway, 30 October 1860, NAS/BR/IAJ/1/2, p.185 and page 2 of inserted printed report; Scroll minutes of the Inverness and Perth Junction Railway, 10 July 1860, NAS/BR/IPJ/1/2.

²⁰⁴ Minutes of the Great North of Scotland Railway, 6 August 1858, NAS/BR/GNS/1/3, pp.219-20.

²⁰⁵ *Herapath's Railway Journal*, 28 September 1861, p.1008, reporting deputy chairman John Stewart's address to the 18th Ordinary General Meeting of the Great North of Scotland Railway on 20 September 1861: 'The elaborate and able speech of Mr Stewart ... will be read with interest, especially that part of it where he mentions the small amount of through traffic, and therefore the security of the Company against any great injury from a competing line for the through traffic.'

²⁰⁶ Minutes of the Scottish North-Eastern Railway, 5 September 1861, NAS/BR/SNE/1/1, p.560.

²⁰⁷ Minutes of a special meeting of the Great North of Scotland Railway, 6 November 1861, NAS/BR/RAC(S)/1/14; Minutes of the Scottish North-Eastern Railway, 16 October 1861, NAS/BR/SNE/1/1, p.584.

Within two months, the Great North faced additional opposition from a nominally independent line from south of Aberdeen to the north, strongly backed by the Scottish North-Eastern, which proposed to by-pass Aberdeen altogether.²⁰⁸ The *Railway Times* despaired:

The Great North of Scotland have got into a jar with the Scottish North-Eastern, which will probably have the effect of throwing Aberdeen off the direct route to the north. The want of a junction between the termini of these lines at Aberdeen has long been a crying annoyance.²⁰⁹

The 1845 Railway Board report had intimated the logic of a northerly extension of the trunk route to Aberdeen and, in 1846, the state authorised the Great North to construct it. That company, part of the erstwhile Aberdeen railway web, was founded on a clear strategic plan, conceived and directed by the commercial and legal interests of Aberdeen to channel traffic from the whole of northern Scotland through Aberdeen to strengthen its economic importance and increase its wealth.

Much of the railway network to the north and west of Aberdeen that the state authorised in 1845-46 was constructed by 1861, but delays and capital shortages encountered by the Great North allowed rival railway promoters based in Inverness to construct part of the main line and establish a significant territorial boundary at Keith in pursuit of their own strategic plans for the control of northern Scottish railways. Despite this barrier, the Great North quickly overcame its initial capital difficulties once its line opened and used its new financial strength to realise the original plans for a branch system, not only to obtain traffic from these districts, but also to give scope for future westward expansion that intervention from Inverness

²⁰⁸ Minutes of the Great North of Scotland Railway, 13 December 1861, NAS/BR/GNS/1/4, p.222; Minutes of the Scottish North-Eastern Railway, 4 December 1861, p.593, resolving that the Scottish North-Eastern company was to be a joint promoter of the proposed Scottish Northern Junction Railway and subscribe £90,000 to it.

²⁰⁹ *Railway Times*, 5 April 1862, p.477.

had blocked. Their objectives were therefore sound, but the financial expectations of the Great North proved to be unrealistic. Furthermore, the Great North alienated neighbouring railway companies and its own passengers and traders so that, after seven years of unchallenged monopoly power, it was threatened in 1861 by a new northern route from the highlands and a new line supported by the Scottish North-Eastern, both marginalising the important commercial centre of Aberdeen; these developments are explored in chapter 7. The strategy of Aberdonian economic pre-eminence was therefore about to be subjected to significant competition.

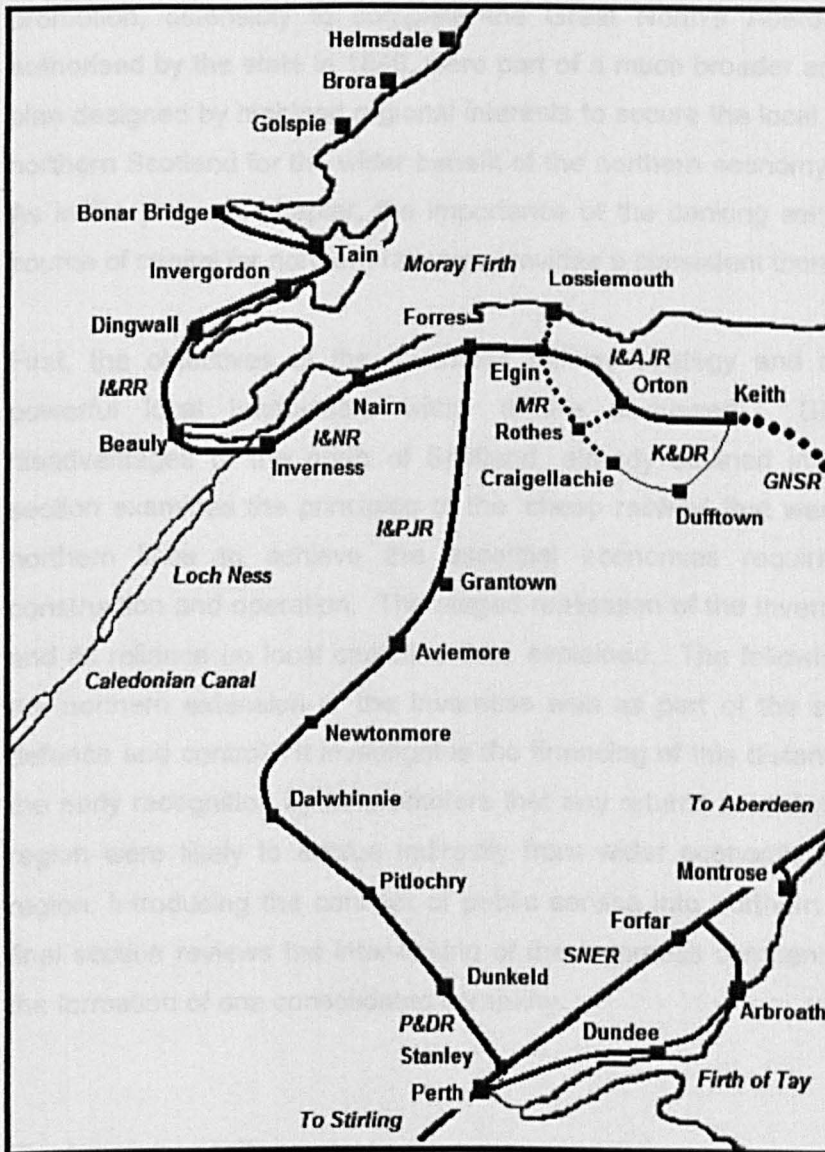
The capital of the Great North was oversubscribed in 1846, but, like many other companies in the aftermath of the great railway mania, it could not convert declared investment intentions into tangible funds. The Great North provides an early example of a railway company in northern Scotland using bank lending extensively, even before construction was started. There is no firm evidence to show the extent of English investment within the company by the late 1840s, although it is likely that a similar English interest to its host company, the Aberdeen Railway, remained following the collapse of railway share values after the speculation of 1845. It was renewed support from landowners, however, that triggered the restructuring of the company and the decision to start construction; both its Aberdeen neighbour and the east-coast alliance declined to invest in the Great North's revised scheme in 1852. The trend of railway companies seeking new capital from guaranteed preference stock, identified in the opening chapter, was also adopted by the Great North in its new legislation to recapitalise the company, which placed an additional call on its future revenue earnings.

Economies in construction produced a lower capital cost per mile for the Great North than for earlier Scottish inter-urban lines. Once opened, the truncated main line rapidly produced rising levels of revenue and increased dividends for its shareholders. The company's improved capital finances in the late 1850s were used to support a network of nominally independent branch companies. Small and remote, these branches could not attract national investment and their capital difficulties arose more from the inability to raise local share capital than from the consequences of inaccurate estimates. All the branches were constructed at relatively low costs per mile, but their traffic forecasts were over-optimistic.

Consequently, the branches relied upon the extensive use of temporary bank credit as an alternative source of finance both before and after the lines were opened. Moreover, the conversion of unissued ordinary shares into guaranteed share capital was widespread to try to raise new funds or to provide security for further temporary credit, which added to the financial chaos into which most of the branches were descending. The Great North's policy to keep branch financial problems isolated from its own financial affairs became unsustainable, as chapter 8 will show.

This chapter has concentrated on the Great North's strategic planning and finances in 1846-61; the next chapter examines the concurrent establishment of the railway web in Inverness and its ambitious response to the Great North's monopoly.

Map 7: The Inverness railway web



Inverness web companies and subsidiaries	Other railway companies
I&AJR: Inverness and Aberdeen Junction Railway	GNSR: Great North of Scotland Railway
I&NR: Inverness and Nairn Railway	K&DR: Keith and Dufftown Railway
I&PJR: Inverness and Perth Junction Railway	MR: Morayshire Railway
I&RR: Inverness and Ross-shire Railway	SNER: Scottish North-Eastern Railway
P&DR: Perth and Dunkeld Railway	

The previous chapter has shown that the inability of the Great North to complete the main line between Aberdeen and Inverness by 1853 was primarily due to capital constraints, which mirrored earlier experiences of railway development to the south. This chapter focuses on the railway system that was progressively extended outwards from Inverness in 1853-62. It will show that the initial stages of railway promotion, ostensibly to complete the Great North's Aberdeen-Inverness route authorised by the state in 1846, were part of a much broader and judicious strategic plan designed by highland regional interests to secure the local control of railways in northern Scotland for the wider benefit of the northern economy and its landowners. As in the previous chapter, the importance of the banking sector as an alternative source of capital for northern railways provides a consistent theme.

First, the objectives of the Inverness railway strategy and the centrality of the powerful local landowners within it are discussed. Given the economic disadvantages of the north of Scotland, already outlined in chapter 2, the next section examines the principles of the 'cheap railway' that were adopted for these northern lines to achieve the essential economies required in the costs of construction and operation. The staged realisation of the Inverness web of railways and its reliance on local capital is then explained. The following section considers the northern extension of the Inverness web as part of the strategic planning for defence and control. It investigates the financing of this distant route and identifies the early recognition by its promoters that any returns on railway investment in this region were likely to accrue indirectly from wider economic improvements in the region, introducing the concept of public service into northern railway policy. The final section reviews the inter-linking of the Inverness companies as a precursor to the formation of one consolidated company.

The Inverness railway strategy

The prime objective of Inverness promoters to obtain control of railways in the highlands was declared by the provisional committee of the Perth and Inverness Railway in 1845:

... it is of the utmost importance to the community that any line through Inverness, Nairn and Morayshire, should be under the control and mainly subservient to the interest of the inhabitants of these and the other counties to the North ... That while the inhabitants of the Highlands are alive to the advantage of railway communication along the east coast, it is their obvious and natural policy to obtain also the benefit of a direct line of communication by railway with the central Highlands and the South ...¹

Inverness, with a population of 11,000 in 1845, was the largest highland town, but even by 1861 its population (16,162) was only a fraction of those of Aberdeen (77,272) and Edinburgh (203,000).² The fragile northern economy was in the grip of famine by 1846;³ the highlands did not, therefore, offer the prospect of assured returns from railway investment. However, the parliamentary committee that recommended rejection of the 1846 scheme for the Perth and Inverness Railway specifically left open a future option for a direct line between these two towns.⁴

Undeterred by their parliamentary defeat, Inverness promoters developed a strategy to provide their own railway system to serve the highland community in which profit maximisation was not always paramount, although the constituent companies at all times strived to maintain their economic integrity.⁵ Scottish railway expansion had

¹ *Railway Chronicle*, 8 March 1845, p.276, reporting meetings of the provisional committee of the Perth and Inverness Railway (also in NAS/BR/HR/4/3/6); Conference between the Great North of Scotland and Perth and Inverness Railway companies at Elgin, 21 October 1845, NAS/BR/PYB(S)/1/477/2.

² D Ross, *The Highland Railway* (Stroud, 2005), p.13; J Thomas and D Turnock, *A Regional History of the Railways of Great Britain, vol.15, North of Scotland* (Newton Abbot, 1989), p.143 and p.216; SGE Lythe and J Butt, *An Economic History of Scotland 1100-1939* (Glasgow, 1975), p.96.

³ See chapter 2, 'The north-south divide: the Scottish economy by 1844'.

⁴ Report of the House of Commons Select Committee Group 4, published in *Railway Times*, 16 May 1846, p.697; see also chapter 3, 'The aftermath of the Railway Board in northern Scotland, 1845-46', and tables 20(a) and 20(b).

⁵ *Railway Times*, 7 November 1868, p.1126, reporting a shareholders' meeting of the Highland Railway at which the directors were stated 'not to believe it is the wish of the Highland shareholders to secure a large profit for working the Skye line'; *Railway Times*, 6 May 1871, p.427, reporting that a similar working arrangement adopted for the Skye line that abandoned charging a fixed percentage of receipts was to be applied to the Sutherland Railway.

previously been conceived from the south and pressed northwards, but the Inverness strategy was described as '... pressing forward to meet the southern and eastern companies, rather than wait to be met by them'.⁶ The strong northern independence engendered by the Inverness web of companies survived well into the following century.

Supporters of the 1846 Perth-Inverness scheme saw scope to improve the economy of the whole of northern Scotland:

It is not Inverness, or Nairn, or Elgin, which is to be regarded as its terminus. The northern terminus ... is the whole of those vast districts to the north and west of the Spey.⁷

Transport links from the highlands were rudimentary in the early nineteenth century. A weekly service by sea from Inverness to London operated from the 1830s, although a voyage from Invergordon, north of Inverness on the Cromarty Firth, to London took nine days in 1850.⁸ In 1847, there were three daily mail coaches from Inverness, south to Perth, east to Aberdeen and north to Tain, but the Perth service took 23 hours and the Aberdeen 17 hours.⁹ From 1817, Inverness held an annual sheep and wool market attended by traders from England as well as Scotland and unusual in that 'no stock or samples are produced ... the buyers know the stock of each farm'.¹⁰ It took six weeks, however, to drive sheep south from the highlands to the main market at Falkirk.

⁶ *Railway Magazine*, 4 (Jan-June, 1899), p.2, interview with TA Wilson, General Manager of the Highland Railway.

⁷ J Fraser, *The Perth and Inverness Railway: its importance as a national and commercial enterprise* (London, 1846), p.2.

⁸ IRM Mowat, *Easter Ross 1750-1850: the double frontier* (Edinburgh, 1981), p.85.

⁹ L MacLean, *The Hub of the Highlands - the book of Inverness and district* (Edinburgh, 1975), p.216; IH Anderson, *Inverness before Railways* (Inverness, 1885), p.30-34; R Merricks and J Roake, 'Coaches in connection', *Highland Railway Journal*, 5, No.78 (Summer 2006), p.7, noting that just prior to the opening of the Inverness and Nairn Railway in 1855, seven coaches left Inverness daily, including two south to Perth and one to connect at Huntly with the Great North of Scotland Railway.

¹⁰ J Mitchell, *Reminiscences of My Life in the Highlands, vol.1* (private publication, 2 volumes, London, 1883 and 1884, reprinted Newton Abbot, 1971), p.338.

When the Great North opened its line between Aberdeen and Huntly in 1854, Inverness was over 70 miles from the new railhead and still reliant upon slow and hazardous road transport and coastal shipping.¹¹ The £1.4 million share capital proposed for the Perth and Inverness Railway in 1846 demonstrated the scale of investment required for improved transport,¹² but a national shortage of capital for railways followed the speculative mania: 'no-one would invest in Highland lines in the difficult conditions of the late 1840s'.¹³ New northern lines therefore required substantial local finance and strict economy in construction.¹⁴ Large landowners were the principal source of local capital because better transport offered the potential for increased land values. *Herapath's Railway Journal* noted:

We are satisfied that there is not a landed estate traversed by a railway which is not greatly enhanced in value by being placed in the course of a great public thoroughfare.¹⁵

The sources of capital for northern railways present a contrast between the funds of highland landowners and Aberdonian business interests, which K Fenwick has likened to the 'old' money of Inverness and the 'new' money of Aberdeen.¹⁶ Established landowners were well represented on northern railway boards from the 1850s, often by their commissioners, in particular the Hon TC Bruce for the Earl of

¹¹ PH Gordon, 'Commercial and Industrial Progress', in L MacLean (ed.), *The Hub of the Highlands*, p.251.

¹² Session 9&10, Vic., 1846, A Bill for making a Railway from Perth to Inverness with Branches to Nairn to be called 'The Perth and Inverness Railway', NAS/BR/PYB(S)/1/477/1, proposing share capital of £1.4 million in 56,000 shares of £25 each and with borrowing powers of £466,000.

¹³ W Vamplew, 'Railway investment in the Scottish Highlands', *Transport History*, 3, No.2 (July 1970), p.147; J Thomas and D Turnock, *A Regional History of the Railways of Great Britain*, vol.15 (North of Scotland), p.215.

¹⁴ *Railway Times*, 26 November 1853, p. 1237; *Railway Times*, 17 December 1853, p.1300.

¹⁵ *Herapath's Railway Journal*, 16 January 1858, p.69.

¹⁶ K Fenwick, 'Genesis of the Great North' *Great North Review*, 33, No.128 (February 1996), p.245.

Seafield, WJ Tayler for the Earl of Fife and George Loch for the Duke of Sutherland, but not all highland railway investment was 'old' money from aristocratic roots.

Two noteworthy supporters of highland lines had earned their wealth elsewhere and were symbolic of the new type of landowner buying property in the highlands.¹⁷ James Merry, a wealthy ironmaster, has been identified in chapter 5 through his public condemnation of the Great North's monopoly.¹⁸ Alexander Matheson, who became chairman of the Aberdeen Junction and Ross-shire lines and later chairman of the Highland Railway, was the senior partner in the international trading firm of Jardine-Matheson from 1842 and a Member of Parliament and a director of the Bank of England from 1847.¹⁹ He acquired considerable wealth from far-eastern trade and bought the Ardross estate near Invergordon in 1846 and the Lochalsh estate in the north-west highlands in 1851.²⁰ Matheson eventually owned 220,000 acres in Ross-shire and spent over £1,460,000 on purchase and improvements.²¹ This investment turned Ardross 'from a barren moor within 15 years into cultivated fields, homesteads, and plantations'.²² Professor Slaven concludes that, although Matheson was chairman of various railways for nearly 30 years, 'there is little evidence that he played any significant role in the development of their operations'; subsequent chapters suggest that this may be a severe judgement, particularly in

¹⁷ TM Devine and WJ Orr, *The Great Highland Famine* (Edinburgh, 1988), p.77 and pp.93-94; J Mitchell, *Reminiscences of My Life in the Highlands, vol.1*, p.115.

¹⁸ Minutes of the Great North of Scotland Railway, 6 August 1858, NAS/BR/GNS/1/3, p.218.

¹⁹ A Slaven, 'Sir Alexander Matheson', in A Slaven and S Checkland, *Dictionary of Scottish Business Biography, 1860-1960* (two volumes, Aberdeen, 1986 and 1990), vol.2, pp.301-302. Matheson joined the family firm of Jardine-Matheson in the 1830s after taking a degree at Edinburgh; Burke's *Peerage, Baronetage and Knightage*, 107th edition (Delaware USA and Stokesley UK, 2003), vol.II, p.2645; B Lenman, *An Economic History of Modern Scotland 1660-1976* (London, 1977), p.178.

²⁰ TM Devine, *Clanship to Crofters' War: the social transformation of the Scottish Highlands*, p.82, describes Matheson as 'an individual of colossal wealth who lavished expenditure on his estates and in the process helped to subsidise the local economy from the profits of trade earned in distant and exotic parts of the world'.

²¹ HCG Matthew and B Harrison (eds.), *The Oxford Dictionary of National Biography*, vol.37 (Oxford, 2004), pp.280-81.

²² J Mitchell, *Reminiscences of My Life in the Highlands, vol.1*, pp.277-78.

regard to the promotion of extensions to the north and west of Inverness that ran close to Matheson's estates.²³

Ten individuals provided £761,118 for Inverness railway schemes, over £38 million on a 2007 price base,²⁴ ninety-four percent of which came from just five highland landowning sources: £355,545 from the Duke of Sutherland and a further £100,000 from three members of his family, £73,370 from the Earl of Seafield, £73,623 from Matheson, £85,000 from Merry and £26,500 from EW Mackintosh, a director on the first boards of the Nairn, Ross-shire and Perth Junction lines.²⁵

The delay in constructing the line from Aberdeen to Inverness raised doubts about the Great North's ability to complete it.²⁶ By 1852-53, improved trade and economic conditions nationally encouraged the Inverness promoters to make a further attempt to take control of railway development in the north.²⁷ In 1853, an Inverness delegation was appointed to canvass major English companies, reviving the 1846 plans for a direct line south via Nairn to Perth, an eastern extension to Elgin and a branch to Burghead.²⁸ Drawing upon data compiled for the unsuccessful 1846

²³ A Slaven, 'Sir Alexander Matheson', in A Slaven and S Checkland, *Dictionary of Scottish Business Biography, 1860-1960*, vol.2, p.302; NT Sinclair, 'Boat of Garten in the nineteenth century', *Great North Review*, 12 No.46 (August 1975), pp.122-23, suggests that Bruce and Dougall were responsible for much of Inverness policy matters, especially those with other railways, but 'one should not underestimate the importance' of Matheson.

²⁴ See Glossary entry on 'price base'.

²⁵ *Railway Magazine*, 4 (January-June, 1899), p.10, recording that £761,118 invested in Inverness lines was provided by the Duke of Sutherland (£355,545), Lords Albert and Ronald Leveson-Gower (£80,000), the Marquis of Stafford (£20,000), the Earl of Seafield (£73,370), Alexander Matheson (£73,623), James Merry (£85,000), EW Mackintosh (£26,500), Sir James Falshaw (£29,080), and Lord Tweedmouth (£18,000).

²⁶ *Railway Times*, 14 December 1850, p.1271.

²⁷ H Pollins, 'Aspects of railway accounting before 1868', in MC Reed (ed.), *Railways in the Victorian Economy* (Newton Abbot, 1969), p.141: 'Improved trade in the early fifties led to a veritable boom in 1852 and 1853, and again in 1856'.

²⁸ 'Statement with regard to the Perth and Inverness and Inverness and Elgin Railways by the deputation appointed at a meeting held in Inverness on 16 December 1852', dated February 1853, NAS/BR/PROS(S)/1/15.

scheme,²⁹ engineer Joseph Mitchell and Inverness solicitor Peter Anderson produced a new estimate of £1,735,979 for a single line with land for double.³⁰ Perhaps recalling Mitchell's earlier experience as engineer to the Scottish Central where land costs spiraled above estimates,³¹ their report emphasised that the success of the scheme depended upon landowners 'doing all in their power to bring the cost within a reasonable compass':

... the great majority of them are most favourable, and are disposed to give their moor land gratis, the arable land for its bare agricultural value, without any allowance for severance and generally, if wished, to commute the price into a moderate fixed duty.³²

The delegation met the London and North Western Railway, engineer Locke and contractor Brassey; Mitchell recalled that they 'urged us to get the proprietors along the line to show practical evidence of their willingness to give the land required on advantageous terms'.³³ Meetings were also held with the York, Newcastle and

²⁹ Law papers for the Perth and Inverness and Inverness and Elgin Junction Railways, 1845-46, NAS/BR/PYB(S)/1/477/1-3.

³⁰ 'Statement with regard to the Perth and Inverness and Inverness and Elgin Railways by the deputation appointed at a meeting held in Inverness on 16 December 1852', dated February 1853, NAS/BR/PROS(S)/1/15: Mitchell and Anderson reported some expectation of a reduction in the estimate, which was for 156 miles of railway, because 'Having in view the greater economy now practised and practicable in the works, and the better feeling that exists on the part of landed proprietors, it may be inferred that in a new estimate the above stated cost [£1,735,979] may be considerably reduced'. This estimate produces a cost per mile of £11,128, compared to the 1846 estimate of £11,554 per mile quoted by authors for the Inverness-Perth line that was then expected to cost £1,450,000.

³¹ See chapter 4, 'The route to the north: the Scottish Central and Scottish Midland Junction Railways'.

³² 'Statement with regard to the Perth and Inverness and Inverness and Elgin Railways by the deputation appointed at a meeting held in Inverness on 16 December 1852', dated February 1853, NAS/BR/PROS(S)/1/15.

³³ J Mitchell, *Reminiscences of My Life in the Highlands, vol.II*, p.180: the deputation comprised, Mitchell, Anderson and EW Mackintosh; *Railway Journal*, 14 May 1853, in 'Miscellaneous memoranda on the history of the Highland Railway', NAS/BR/HR/4/3/11, reporting a meeting held in Inverness on 12 April 1853 of the joint committees of the Perth and Inverness and Inverness and Elgin Railways.

Berwick and Great Northern Railways.³⁴ Anderson later confirmed the promoters' intention to secure landowner agreements in advance of seeking incorporation and to pursue the 'utmost practicable economy' in a re-survey of the route,³⁵ but the advice of the English companies was that 'the present was not the proper moment to bring a great measure of this sort before the public ...'.³⁶ However, the *Inverness Advertiser* re-iterated the Inverness doctrine to keep the Great North out of the highland capital:

We are glad to hear that the formation of the Aberdeen line proceeds apace; but Elgin is its proper and natural terminus ... To run a direct line of railway betwixt Inverness and Perth, and thus beget the necessity of an extension northwards would be like infusing the breath of new life into the Highlands.³⁷

A public meeting in Inverness in 1853 supported plans for a direct line to the south. Provost Sutherland cautioned the audience about extravagance in railway construction, quoting Aytoun's *Glenmutchkin* parody of 1845 and thus illustrating its continued influence, but he proposed 'The direct line was decidedly the line which was most wanted ...'.³⁸

³⁴ *Inverness Courier*, 14 April 1853 in the file of prospectuses of the Perth and Inverness and Inverness and Elgin Railways, 1852-53, NAS/BR/PROS(S)/1/15; *Railway Times*, 23 April, 1853, pp. 425-27.

³⁵ Letter headed 'Perth and Inverness and Inverness and Elgin Railways' to JR Mowat, Secretary, Great Northern Railway, London, 14 April 1853, NAS/BR/PROS(S)/1/15, reporting the resolution of the committees of the Perth and Inverness and Inverness and Elgin Railways at their meeting on 12 April 1853 to make 'every effort to get liberal forehand arrangements effected for the requisite land' and for Mitchell to re-survey the route 'with a view to the utmost practicable economy ...'.

³⁶ *Inverness Courier*, 14 April 1853, in the file of prospectuses of the Perth and Inverness and Inverness and Elgin Railways, 1852-53, NAS/BR/PROS(S)/1/15.

³⁷ *Inverness Advertiser*, 19 April 1853, in the file of prospectuses of the Perth and Inverness and Inverness and Elgin Railways, 1852-53, NAS/BR/PROS(S)/1/15.

³⁸ *Railway Journal*, 14 May 1853, in 'Miscellaneous memoranda on the history of the Highland Railway', NAS/BR/HR/4/3/11, reporting a public meeting held on 30 April 1853 to support the Perth and Inverness Railway proposals; WE Aytoun, 'How we got up the Glenmutchkin Railway, and how we got out of it', *Blackwood's Edinburgh Magazine*, 58 (October, 1845), 453-66.

Planning continued,³⁹ but, without southern capital, the promoters accepted the advice against promoting the Perth route immediately.⁴⁰ Nevertheless, a strategic plan for an Inverness web of lines southwards to Perth, eastwards towards the Great North, and northwards into the highlands under local and independent control was established by the mid-1850s.⁴¹ The lapse of the Great North's powers for the Aberdeen-Inverness line provided the opportunity for Inverness to convert aspiration into action by promoting a short fifteen mile line from Inverness to Nairn, ostensibly as a contribution towards a connection with the Great North, but in reality the first stage towards securing control of railway development in the highlands and an independent route to the south. Inverness railway strategy remained unchanged, but the Nairn scheme indicated a revision to its planned implementation:

... it remained for those who were still persuaded of the capabilities of the Northern Highlands for railway enterprise to depart from their original design as a whole, and to endeavour to get it carried out piecemeal, and from stage to stage, as circumstances would permit. For this purpose, and with the view of securing the west end of the line next Inverness as a common centre and connecting link in the future development of the railway system throughout the northern counties, an independent company was formed for the construction of a line from Inverness to Nairn ...⁴²

The Inverness and Nairn Railway, authorised in 1854, exemplifies the importance of local capital and economy in constructing a main line in northern Scotland, using the principles of the 'cheap railway'.⁴³

³⁹ *Railway Times*, 9 July 1853, p.69 and 13 August 1853, p.823.

⁴⁰ *Railway Times*, 26 November 1853, p.1237: 'The sudden stringency of the money-market, felt of course most severely at the extremities of the system ... has been discretely avoided by deferring what may be called the single portion of the trunk [line] till a more convenient season ...'.

⁴¹ *Herapath's Railway Journal*, 15 December 1855, p.1285, reporting 'a coast line from Inverness to Wick is projected'.

⁴² G and P Anderson, *Handbook to the Inverness and Nairn Railway and scenes adjoining it* (Inverness, 1856), p.29.

⁴³ 17&18 Vic. cap. 176, 1854, The Inverness and Nairn Railway Act, with authorised share capital of £80,000 and borrowing powers not exceeding one-third of share capital.

The 'cheap railway' in Scotland

The opening chapter identified the importance of securing reductions in the costs of promotion and construction if railways were to be extended successfully into less economically prosperous regions. Features of a 'cheap railway' might include a less direct route following natural topography, a scale of construction designed to match expected traffic, land obtained on lease terms and single line operation.⁴⁴

A Board of Trade report by Samuel Laing to the Select Committee on Railways in 1844 suggested that British railway costs of £34,000 per mile, which included 'excess spending' of £8,000 per mile largely attributed to parliamentary and land costs, were eight times higher than costs in the United States of America.⁴⁵ Land costs in France and Belgium were estimated at £2,500 per mile, but between £4,000 and £8,000 per mile in Britain.⁴⁶ Irving determines the average cost per mile for British lines as £37,402 by 1850, while Robertson estimates the costs per mile in 1851 to be £38,258 in England and £32,113 in Scotland.⁴⁷ Costs of this magnitude erased any prospect of competitive returns on railway investment in northern Scotland with its sparse population, lack of raw materials and heavy dependence on primary industries. Lower land and construction costs were, therefore, pre-requisites for the development of northern railways.

⁴⁴ CJA Robertson, 'The Cheap Railway Movement in Scotland: the St Andrews Railway Company', *Transport History*, 7, No.1 (March 1974), pp.2-4; PF Marshall, *Peebles Railways* (Usk, 2005), pp.20-21 and 23-24; MC Reed, *Investment in Railways in Britain, 1820-1844* (London, 1975), p.13.

⁴⁵ RJ Irving, 'The capitalisation of British Railways', 1830-1914, *Journal of Transport History*, 3rd series, vol.5, No.1 (March 1984), p.8 and p.16; TR Gourvish, *Railways and the British Economy 1830-1914* (London, 1980, p.16); TR Gourvish, 'Railways 1830-70: the formative years', in MJ Freeman and DH Aldcroft (eds.), *Transport in Victorian Britain* (Manchester, 1988), p.62.

⁴⁶ RW Kostal, *Law and English Railway Capitalism 1825-1875* (Oxford, 1994), p.173.

⁴⁷ RJ Irving, 'The capitalisation of British Railways, 1830-1914', table 3, p.8, p.9 and p.16, CJA Robertson, 'The Cheap Railway Movement in Scotland: the St Andrews Railway Company', p.2.

Any comparison of costs per mile quoted in primary and secondary sources requires circumspection because not all identify clearly whether data refer to construction costs, with or without land, or the full capital costs of the lines:

These discrepancies between the actual cost of lines and the cost at which they are stated to have been opened are explained by the fact that lines are almost always opened before they are complete ... Any comparison of the cost of a line is therefore necessary fallacious.⁴⁸

These differences are illustrated by the Peebles Railway, an 18¾ mile branch connecting Peebles with Dalkeith on the Galashiels-Edinburgh line of the North British Railway, acclaimed as an exemplar of a line built on the 'economical single line plan' and opened in 1855 at a reported cost of £4,500 per mile.⁴⁹ Company accounts show that by August 1856, one year after opening, land and construction costs were £4,772 per mile, but the overall capital cost was £5,655 per mile, in both cases more than the reported cost.⁵⁰

'Cheap' principles were also applied on two early northern lines.⁵¹ The Morayshire, an isolated 5½ mile branch from Elgin to Lossiemouth opened in 1852, had incurred

⁴⁸ *Railway Times*, 12 December 1863, p.1588, contrasting the report of the engineer of the Morayshire Railway who stated that the initial 6 miles of route (Elgin-Lossiemouth) had cost £5,305 per mile while the later 15 miles (comprising the Rothes-Orton and Craigellachie-Elgin lines) had cost £5,027 per mile, giving an overall cost of £5,106 per mile, with Bradshaw's *Railway Almanack*, 1863, that quoted a figure of £6,587 per mile.

⁴⁹ *Herapath's Railway Journal*, 9 June 1855, p.577, 9 February 1856, p.143 and 2 April 1864, p.405: *Herapath* reported a 6% dividend in 1864 and concluded 'unquestionably the line is a success in every shape and way'; PF Marshall, *Peebles Railways*, p.23 and p.46.

⁵⁰ Capital account of the Peebles Railway to 31 August 1856 in the report to the 7th Ordinary General Meeting of the Peebles Railway, 28 October 1856, NAS/PBR/1/2, p.388: capital spent to 31 August 1856, including plant, was £106,043 of which £72,520 was spent on construction and £16,956 on land.

⁵¹ *Railway Times*, 4 November 1854, p.1198: reporting the results of the Morayshire Railway, commented 'Thus do short lines when economically constructed and locally managed, put to the blush the extravagant extensions in which some boards are even yet too prone to indulge'; *Railway Times*, 22 October 1859, p.1173, in a leader on the Deeside Railway that noted a consistent 5% dividend paid since the line opened in 1853, commented that 'The sole secret of this success lies in economy of construction, and a rigid regard to outlay of capital'.

a capital cost of £7,566 per mile by 1854,⁵² while the Deeside, opened between Aberdeen and Banchory in 1853, returned a capital cost of £8,011 per mile by 1855.⁵³ The influence of these two economically-constructed and independent companies is examined in chapter 7, but both these lines demonstrated that major economies could be achieved in railway promotion in northern Scotland. Furthermore, the previous chapter has identified other northern lines that were constructed economically in the late 1850s; the Alford Valley and the two Turriff lines were built at capital costs of between £6,300 and £8,300 per mile, but these lines were branches connected to a main route. The Inverness promoters did not plan their local line to Nairn as a branch; it was to become part of a main trunk route with consequent implications for construction standards. The Peebles Railway, for example, was lightly built and its track required renewal in 1858 after only three years' use.⁵⁴

For the Inverness lines proposed in 1853, Mitchell advocated the principles of economy being applied to railroad development in America and Canada:

In America in 1851, there were 10,921 miles of railway in operation, and 7,560 miles in the course of construction, and the average cost of these works was £5,500 per mile, including "equipments".⁵⁵

Mitchell referred to 'the desert regions of Canada or the western districts of the Northern States of America' where the promoters 'have calculated their probable traffic and suited their works to that traffic'.⁵⁶ He estimated that if the cost of a direct

⁵² Appendix, table 17(b), note (2); J Ross, *The Traveller's Joy 1852* (Elgin, 2001), p.21.

⁵³ Appendix, table 7(a): the capital cost of the Deeside on opening in 1854 was £6,803 per mile, but the large rise to £8,011 per mile after one year of operation illustrates the time needed for accounts to be paid to reflect a more accurate assessment of capital expenditure.

⁵⁴ PF Marshall, *Peebles Railways*, p.86.

⁵⁵ *Railway Times*, 23 April 1853, p.426, reporting a meeting in Inverness on 12 April 1853 of the 'joint committees' of the Perth and Inverness and Inverness and Elgin Railways and 'other gentlemen favourable to them'.

⁵⁶ *Inverness Courier*, 14 April 1853, in the file of prospectuses of the Perth and Inverness and Inverness and Elgin Railways, 1852-53, NAS/BR/PROS(S)/1/15, in which Mitchell quoted

line south to Perth using the 'American plan of cheap construction' did not exceed £7,000 per mile, a 5 percent dividend was realistic.⁵⁷ The Morayshire Railway, which paid a 5 percent dividend in 1853, was cited:

If a little line with a limited traffic like this produces such results, it is not unreasonable to assume the concentrated traffic of the northern half of Scotland would warrant the construction of a line such as we now contemplate.⁵⁸

American lines were constructed at a much lower cost per mile than most British lines, but, as in Britain, the scale of capital required rapidly exceeded local supply.⁵⁹ American railroads also mirrored the British experience of escalating costs: for example, the Baltimore and Ohio Railroad had spent \$15 million by December 1852 on a 379 mile route against an estimate of \$5 million for a planned 290 mile route, an increase in cost per mile of 130 percent.⁶⁰ However, it had a stronger traffic potential than lines in northern Scotland from which to recoup the cost; the line yielded \$2 million annual revenue in 1853 against an expectation of \$750,000 and paid 7 percent dividend.

returns ranging from 7% to 9% on nine American lines, all built economically and opened between 1835 and 1846.

⁵⁷ *Railway Journal*, 23 April 1853, in 'Miscellaneous memoranda on the history of the Highland Railway', NAS/BR/HR/4/3/11: Mitchell allowed for traffic of £14 per week and working expenses charged at 50% of receipts in his calculations; *Railway Times*, 23 April 1853, p.426, however, quotes Mitchell's estimates of £10,232 per mile if the Inverness-Perth line was double-tracked and £8,817 if single, 'But it is to be hoped that considerable saving may be effected on this sum'.

⁵⁸ *Railway Times*, 23 April 1853, p.427: Mitchell quoted the cost of the Morayshire as £6,000 per mile, without signifying whether this figure represented construction or capital costs. Appendix, table 17(c), shows that the Morayshire paid a 5% dividend in 1853, although this fell to 2½ % in 1854 and 2% in 1855.

⁵⁹ AD Chandler Jr., *The Visible Hand: The Managerial Revolution in American Business* (Cambridge, Massachusetts, 1977), p.91.

⁶⁰ JF Stover, *History of the Baltimore and Ohio Railroad* (West Lafayette, Indiana, 1987), p.75: the original estimate of \$5 million for 290 miles produces a cost per mile of \$17,241, while the actual cost of \$15 million for the longer route of 379 miles produces a cost per mile of \$39,578, an increase of 129.6%.

Economical railway construction required inexpensive land. Mitchell warned that 'if they [the landowners] obstruct us, or make exorbitant demands, we will be driven into expensive works ...',⁶¹ but, aided by his contacts with many local landowners through his work as Superintendent of Highland Roads and Bridges, the Inverness promoters obtained advance support from many, including a reluctant Duke of Athole:

... he wishes it to be understood that he does not wish any railway through Athole ... but if it is thought the interests of the public require a line, then he will not allow his own personal feelings to stand out against it, how much he may otherwise regret it.⁶²

The *Railway Times* commended the economical ambitions of the Inverness promoters:

... they arrive at the conclusion that it would be profitless to construct a line at £35,000 per mile, when one at £5,500 is sufficient ... More inquiry, closer investigation, reduced estimates, new allies, avoidance of offence with existing interest – these are the means of progress which they use ...⁶³

The principles of the 'cheap railway' were adopted for the promotion of the short line from Inverness to Nairn, which, in 1853-54, moved the Inverness strategy from planning into implementation. This line effectively blocked the western end of the Aberdeen-Inverness route from Aberdonian advances and preserved future options for extensions of the Inverness web to the east, south and north.

⁶¹ *Inverness Courier*, 14 April 1853, quoting Mitchell's report to the meeting of the joint committees of the Perth and Inverness and Inverness and Elgin Railways held on 12 April 1853, contained in the file of prospectuses of the Perth and Inverness and Inverness and Elgin Railways, 1852-53, NAS/BR/PROS(S)/1/15.

⁶² *Inverness Courier*, 14 April 1853, in the file of prospectuses of the Perth and Inverness and Inverness and Elgin Railways, 1852-53, NAS/BR/PROS(S)/1/15.

⁶³ *Railway Times*, 23 April 1853, p.434.

The Inverness railway strategy realised

Without the large capital sources required for a direct line to Perth, Mitchell advised the Inverness promoters in September 1853 to phase the implementation of their railway strategy and take advantage of the lapse of the Great North's powers for the Aberdeen-Inverness line:

... we should forthwith form a company for making the railway between Nairn and Inverness, as part of the Great Scheme of direct communication ... and it may be accomplished by means within the locality.

Of course guarantees should be taken that whenever the means are forthcoming for the construction of the through line it should, on a proper equivalent, be merged into and form part of that scheme.⁶⁴

The principle of early amalgamations between Inverness web companies was therefore identified from the outset. Unlike the 1845-46 Aberdeen network, however, where the Aberdeen Railway as the first operational company assumed the central management role of 'host' company within its web, the Inverness and Nairn was introduced to the public as a small, local line which was 'an undertaking in itself',⁶⁵ although the prospectus identified the line as 'a step towards the full benefit of through Railway communication for the Northern Counties'.⁶⁶

The first company minute is headed 'Meeting of Committee for promotion of direct line of Railway between Inverness and Perth and Inverness and Elgin',⁶⁷ thus indicating the original intentions of the promoters. Their decision to implement the

⁶⁴ 'Meeting of Committee for the promotion of a direct line of railway between Inverness and Perth and Inverness and Elgin', first entry in the minute book of the Inverness and Nairn Railway, 16 September 1853, NAS/BR/INR/1/1, p.2: the meeting received the report of Joseph Mitchell, dated 15 September 1853, NAS/BR/INR/1/1, p.4; J Mitchell, *Reminiscences of My Life in the Highlands*, vol.II, p.182.

⁶⁵ *Inverness Courier*, 8 December 1853, in the minute book of the Inverness and Nairn Railway, NAS/BR/INR/1/1, pp.47-48.

⁶⁶ Prospectus of the Inverness and Nairn Railway, 1853, NAS/BR/PROS(S)/1/10.

⁶⁷ Minutes of the Inverness and Nairn Railway, 16 September 1853, NAS/BR/INR/1/1, p.2.

Inverness railway strategy in stages resulted in the promotion of the Inverness and Nairn Railway, but identified 'as an integral portion of the Main through Line to Perth'.⁶⁸ The promoters suggested that the next priority was to extend eastwards from Nairn to Elgin and Huntly to provide a link to Aberdeen, although a northern extension to Dingwall and Tain was also anticipated.⁶⁹ The *Inverness Advertiser* supported this policy of gradual extension:

A bit by bit advance is the safest and most certain method ... Short lines, a resident proprietary, and a local management, are the noticeable elements of any plan for giving us railway profits and railway extension ...⁷⁰

- small beginnings: the Inverness and Nairn Railway

Unappropriated funds held in trust from the 1846 Inverness-Elgin scheme were released for use by the new company, indicating that some original resources had been retained for future revival of the plans.⁷¹ The prospectus for the Nairn line set capital at £85,000 and estimated the cost at £5,500 per mile, although authorised share capital was set lower at £80,000.⁷² Yet by September 1857, the actual cost had reached £8,003 per mile.⁷³

⁶⁸ Minutes of the Inverness and Nairn Railway, 15 and 23 September 1853, NAS/BR/INR/1/1, p.4 and p.9.

⁶⁹ *Inverness Advertiser*, 8 December 1853, in the minute book of the Inverness and Nairn Railway, NAS/BR/INR/1/1, p.47-48, reporting a public meeting held in Nairn.

⁷⁰ *Inverness Advertiser*, 26 September 1854, in the minute book of the Inverness and Nairn Railway, NAS/BR/INR/1/1, p.147.

⁷¹ Minutes of the Inverness and Nairn Railway, 6 October 1853, NAS/BR/INR/1/1, p.18, reporting that Charles Waterston, manager of the Caledonian bank in Inverness, one of the two trustees of Inverness and Elgin Railway funds and also a member of the Inverness and Nairn provisional committee, had approved release of the trust funds to the provisional committee.

⁷² Meeting of the provisional committee of the Inverness and Nairn Railway, 16 September 1853, NAS/BR/INR/1/1, p.2: construction costs were estimated at £4,000 per mile; Prospectus of the Inverness and Nairn Railway, 1853, NAS/BR/PROS(S)/1/10; 17&18 Vic. cap.176, 1854, The Inverness and Nairn Railway Act.

⁷³ See table 55 in this chapter and table 73 in chapter 8; Appendix, table 13(a), note (4): in September 1857, the actual cost of £8.003 per mile included expenditure on working plant,

Table 49: Allocation of shares in the Inverness and Nairn Railway, January 1854

Number of £10 shares	Number of entries in shareholder list	Total number of shares	Value of shares: par value of £10 each (£)
1	5	5	50
2	36	72	720
3	8	24	240
4	6	24	240
5	65	325	3250
6	4	24	240
10	37	370	3700
15	4	60	600
20	8	160	1600
25	13	325	3250
30	6	180	1800
40	2	80	800
50	11	550	5500
100	10	1000	10000
150	1	150	1500
200	1	200	2000
400	1	400	4000
600	1	600	6000
1000	2	2000	20000
(note 2)	221 entries on list 213 individual subscribers	6549	65490
Subscribers with more than 100 shares at 31 January 1854			
Name	Address	Number of shares (note 3)	
Peter Anderson	Inverness	140 (solicitor and interim secretary)	
Thomas Brassey	London	1000 (contractor to the company)	
James Falshaw	Perth	1000 (contractor to the company)	
Eneas Mackintosh	Raigmore, Inverness	800 (a first director of the company)	
Joseph Mitchell	Inverness	250 (engineer to the company)	
Captain William Fraser-Tytler	Aldourie, Inverness	500 (a first director of the company)	
Source: 'List of shareholders' in minutes of the Inverness and Nairn Railway, 30 January 1854, NAS/BR/INR/1/1, pp.68-75.			
(1): Although headed 'List of Shareholders' in the company's minutes, this record is, in reality, a list of subscribers prior to the incorporation of the company in July 1854.			
(2): There are 221 entries on the subscriber list, but allocations were made to 213 individuals, 8 appearing twice in the subscription list. Secondary sources, however, give varying data on shareholders. Bradshaw's <i>Railway Almanack</i> , 1855, p.112, quotes 182 local shareholders subscribing £48,710 and twelve other shareholders subscribing £13,300. The Stephenson Locomotive Society, <i>The Highland Railway and its constituents, 1855-1955</i> (London, 1955), p.4, adds to the 194 shareholders reported in Bradshaw's volume the names of Brassey, Falshaw and Mitchell who offered over £2,000 each; D Ross, <i>The Highland Railway</i> , p.21, gives a total of 210 shareholders.			
(3): No entries are apparent in the data in table 49 for the 800, 500, 250 and 140 shares taken by four of the six largest subscribers, because Mackintosh subscribed for 800 shares in two lots of 600 and 200, Fraser-Tytler for 500 shares in two lots of 400 and 100, Mitchell for 250 shares in two lots of 150 and 100, and Anderson for 140 shares in two lots of 100 and 40. These four shareholders therefore appear twice in the shareholders' list, along with a further four double entries for A Forbes (30+50 shares), Mrs J Fraser (5+5), A Hepburn (5+5 shares) and A Winchester (2+3 shares), which produces 213 subscribers identified from the 221 subscription entries.			

although the capital cost per mile without plant was £7,221. From 22 December 1857, the Nairn line was worked by the Inverness and Aberdeen Junction Railway once the first section of that company's Nairn-Keith main line was opened from Nairn to Dalvey.

The earlier Scottish experience of raising capital from small subscribers living in the immediate district of the proposed local line, identified in chapter 3, was repeated for the Nairn railway (table 49). A parliamentary submission asserted that 'people have taken shares in it ... by way of promoting what would be a great advantage to the country'.⁷⁴ Traffic prospects included an early development of railway tourism for 'the Sea-Bathing and Baths of Nairn'.⁷⁵

Contractors Brassey and Falshaw offered to build the line for £65,000, taking £20,000 of stock as part-payment.⁷⁶ Over three-quarters of the share capital was subscribed by January 1854, but only six individuals offered more than £1,000 each and all were intimately connected with the company.⁷⁷ These six people, representing 2.8 percent of subscribers, held 56.3 percent of the allocated shares; by contrast, 19.2 percent of shareholders held only one or two shares each and 56.3 percent held 5 shares or fewer. Sixty-three percent of shareholders gave Inverness or Nairn addresses; only 6.6 percent had English addresses.⁷⁸ Alexander Matheson joined the provisional committee in November 1853, initially subscribing £1,000, but by 1857 he was reported to be the largest shareholder.⁷⁹ Matheson appears to have

⁷⁴ Evidence of Edward Ellice MP on behalf of the promoters to the parliamentary committee investigating the Inverness and Nairn Railway Bill, 1854, quoted in JE Campbell, *The Iron Track through the Highlands* (Inverness, 1921), p.16.

⁷⁵ Prospectus of the Inverness and Nairn Railway, 1853, NAS/BR/PROS(S)/1/10, which announced that '... the Sea-Bathing and Baths of Nairn will form a permanent attraction to the inhabitants of Inverness and neighbourhood'.

⁷⁶ Minutes of the Inverness and Nairn Railway, 31 October 1853, NAS/BR/INR/1/1, p.25; Brassey's offer made on 28 October 1853 was accepted on 5 December 1853, 'provided always that the requisite stock and capital can be raised', NAS/BR/INR/1/1, p.34.

⁷⁷ Minutes of the Inverness and Nairn Railway, 30 January 1854, NAS/BR/INR/1/1, pp.68-75: the share capital of the company in the prospectus was £85,000, but it was set at £80,000 in the act of Parliament (17&18 Vic. cap.176, 1854).

⁷⁸ 14 subscribers gave English address, of which 7 were in London and 2 in Manchester; in addition, one subscriber gave a Dublin address (NAS/BR/INR/1/1, pp.68-75).

⁷⁹ Shareholder list in minutes of the Inverness and Nairn Railway, 30 January 1854, NAS/BR/INR/1/1, pp.68-75; *Herapath's Railway Journal*, 9 May 1857, p.475, reporting the Ordinary General Meeting of the Inverness and Nairn Railway held on 28 April 1857 at which chairman Eneas Mackintosh welcomed Matheson's speech because it was given by 'the largest shareholder in the Company ...'; however, six months later, minutes of the Special General Meeting of the Inverness and Nairn Railway, 30 October 1857, in scroll minutes of the directors of the Inverness and Nairn Railway, NAS/BR/INR/1/4, show in a recorded vote

used his railway investment as a catalyst across the Inverness companies because he no longer held any Nairn stock by July 1864, but had invested £1,400 in the Aberdeen Junction and £13,500 in the Inverness and Ross-shire Railway, recently opened north of Inverness and close to his Ardross estate.⁸⁰

Table 50: Shareholding in Inverness and Nairn stock, 1854-64

Ordinary stock subscriptions, January 1854 (1) Inverness and Nairn Railway				Nairn 'B' 6% Stock, July 1864, Inverness & Aberdeen Junction Railway	
Number of £10 shares	Number of entries	Total Shares	Share Value (£)	Number of shares	Number of shareholders
1	5	5	50	1	3
2	36	72	720	2	13
3	8	24	240	3	5
4	6	24	240	4	3
5	65	325	3250	5	24
6	4	24	240	6	4
10	37	370	3700	7	1
15	4	60	600	8	1
20	8	160	1600	9	0
25	13	325	3250	10	26
30	6	180	1800	11-20	17
40	2	80	800	21-30	10
50	11	550	5500	31-40	7
100	10	1000	10000	41-50	11
150	1	150	1500	51-100	12
200	1	200	2000	101-200	7
400	1	400	4000	201-300	1
600	1	600	6000	301-400	0
1000	2	2000	20000	401-500	0
	221 entries			501-1000	2 (2)
Shareholders	213				147
Share value			£65490		£59242 (2)
Sources: Minutes of the Inverness and Nairn Railway, 30 January 1854, NAS/BR/INR/1/1, p.68; Register of Dividends, 1864-65, Inverness and Aberdeen Junction Railway, NAS/BR/IAJ/2/1.					
(1): On amalgamation with the Inverness and Aberdeen Junction Railway in 1861, Inverness and Nairn 5% preference shares were converted into 5% preference 'A' stock, while ordinary Inverness and Nairn shares were converted into 6% preference 'B' stock.					
(2): Inverness and Aberdeen Junction accounts show that £59,242 ex-Nairn ordinary stock remained extant on 31 July 1864, although the half-year dividend paid of £1801.3s.0d would suggest capital of £60,042. The two largest shareholders were Thomas Brassey (£9,070) and James Falshaw (£8,080). Engineer Joseph Mitchell still held £1,720 of B stock and £3,830 of A stock.					

that Matheson then held £1,500 of Inverness and Nairn Railway shares, although Mackintosh held £2,000.

⁸⁰ Register of Dividends, 1864-65, Inverness and Aberdeen Junction Railway, NAS/BR/IAJ/2/1: on 31 July 1864, Alexander Matheson is shown as holding £1,400 of Aberdeen Junction 4½% preference 'C' stock, £11,000 in ordinary Ross-shire stock and £2,500 of Ross-shire Extension stock; Matheson would also have held stock in the Inverness and Perth Junction Railway and later in the Dingwall and Skye Railway, but only one dividend register for the Inverness and Aberdeen Junction Railway and its constituents has survived.

The ordinary stock of the Inverness and Nairn was converted into a 6 percent preference stock on amalgamation with the Inverness and Aberdeen Junction in 1861 and can be traced in the only surviving dividend register of Inverness railway companies (table 50). There were 31.0 percent fewer shareholders in 1864 than in 1854, but the quantity of stock had reduced by only 9.5 percent. Of the 1864 Nairn shareholders, 32.7 percent held five shares or less compared to 56.1 percent in 1854; 6.8 percent had invested over £1,000 compared to 2.8 percent in 1854. The significant support of small investors had therefore continued, but the 1864-65 records do not show addresses to allow comparison of shareholder residence.

To remove threatened opposition from the Great North, the Inverness and Nairn board resolved:

They were prepared to give every facility to the Great North Company in the use of the Inverness and Nairn Line consistent with the interests of their own shareholders...⁸¹

A draft agreement was made in 1854, which included a clause granting running rights to the Great North over the short and isolated Nairn line.⁸² The Inverness interpretation of shareholder interests, however, was to protect highland railway development from Aberdonian incursions. Details of the draft agreement were engrossed in both companies' records, but never formally concluded.⁸³ The following year, a new company, which was to absorb the Inverness and Nairn and become the 'host' company of the Inverness web, the Inverness and Aberdeen

⁸¹ Minutes of the Inverness and Nairn Railway, 10 January 1854, NAS/BR/INR/1/1, pp.59-60.

⁸² Minutes of the Inverness and Nairn Railway, 25 February 1854, NAS/BR/INR/1/1, pp.83-84, setting out the draft agreement between the companies for Great North running powers over the Inverness and Nairn and agreement over rates and booking, and recording that, in return, the Great North was to withdraw opposition to the Inverness and Nairn bill. The Inverness and Nairn board agreed terms on 9 March 1853.

⁸³ Minutes of the Great North of Scotland Railway, 25 February 1854, NAS/BR/GNS/1/1, p.497; Sir M Barclay-Harvey, *A History of the Great North of Scotland Railway* (London, 1949, reprinted Shepperton, 1998), p.26; HA Vallance, *The Great North of Scotland Railway* (Newton Abbot, 1965), p.29 and p.131; see also chapter 5, 'The results of monopoly power'.

Junction Railway, was promoted to construct the link eastwards towards the Great North's line, which inserted a barrier between the Great North and its anticipated running rights between Nairn and Inverness.⁸⁴ An extension from Nairn to Elgin as the next phase of the Inverness strategy was announced to Inverness and Nairn shareholders in September 1854 on the day following the opening of the Great North's line to Huntly and a year before the Nairn line itself was opened.⁸⁵ The ultimate objective of the Inverness promoters was re-stated:

... they will of course be careful to do nothing which may embarrass the promotion of the Central Line, by way of Perth, to which the Highlands of Scotland must look for the full development of their resources ...⁸⁶

Andrew Dougall, Perth stationmaster of the Dundee and Perth Railway, joined the Nairn company as general manager in August 1855 and applied 'initiative, imagination, commercial acumen, and rare force of character'⁸⁷ within the Inverness railway web over the next four decades.⁸⁸ The Nairn line existed as a nominally independent company for six years⁸⁹ and justified financially the staged approach to the implementation of the Inverness railway strategy. While politics continued

⁸⁴ Meeting of promoters, in minutes of the Inverness and Aberdeen Junction Railway, 14 June 1855, NAS/BR/IAJ/1/1, p.1.

⁸⁵ Report to the 1st Ordinary General Meeting of the Inverness and Nairn Railway, 21 September 1854, NAS/BR/INR/1/1, p.144. The Inverness and Nairn Railway opened in November 1855.

⁸⁶ Report to the 1st Ordinary General Meeting of the Inverness and Nairn Railway, 21 September 1854, NAS/BR/INR/1/1, p.144: the directors also stated that 'a commencement has already been made' to the direct Inverness-Perth route as a result of the authorisation of the Perth and Dunkeld Railway (17&18 Vic. cap.148, 1854).

⁸⁷ JE Campbell, *The Iron Track through the Highlands*, p.22.

⁸⁸ Minutes of the Inverness and Nairn Railway, 11 and 18 August 1855, NAS/BR/INR/1/1, p.280, recording Dougall's appointment; NT Sinclair, *Highland Railway: People and Places* (Derby, 2005), p.11; *Railway Times*, 7 December 1895, p.726, reporting that Dougall had resigned as general manager: he left the service of the Highland Railway in February 1896.

⁸⁹ The Inverness and Nairn Railway was amalgamated with the Inverness and Aberdeen Junction in 1861 under 24&25 Vic. cap.8, 1861, The Inverness and Aberdeen Junction Railway Act.

between Inverness and Aberdeen to establish territorial control, the Nairn company produced steady returns for its shareholders. As it was conceived on 'cheap' principles and supported by local capital, it was not burdened by heavy temporary debt, as experienced on the Great North branches during the same period. However, the close liaison between northern railways and local banks, already indicated in chapter 5 in relation to Great North branches, was replicated in Inverness. The Caledonian Bank in Inverness, of which Mitchell was a promoter and first director, offered to take half of the company's debentures in June 1855 before the line was completed; Waterston, its manager, joined the Nairn board in 1858.⁹⁰

Annual gross revenue grew steadily from £6,541 in 1856 to £14,329 in 1861 and the first dividend of 2 percent in 1856 reached 5 percent in 1860.⁹¹ The seasonal nature of northern traffic was immediately evident. In January 1856, the average gross traffic receipts per week were £120, but 88 percent higher in August at £226 per week.⁹² Similar variations between winter and summer traffic were reflected in the accounts of all the Inverness web companies, which required careful operational planning to meet the peaks of demand without any waste of scarce resources. Moreover, this seasonal trend often resulted in dividends being paid annually rather than half-yearly.⁹³

The economic success of this short, isolated line and its steady dividends was attributed to 'careful and energetic management'.⁹⁴ Nevertheless, the capital cost by

⁹⁰ Minutes of the Inverness and Nairn Railway, 12 June 1855, NAS/BR/INR/1/1, p.249; Minutes of the Inverness and Nairn Railway, 31 May 1858, NAS/BR/INR/1/1, p.544 and scroll minutes of the directors of the Inverness and Nairn Railway, 31 May 1858, NAS/BR/INR/1/4, item 4; J Mitchell, *Reminiscences of My Life in the Highlands*, vol.II, p.69.

⁹¹ Appendix, table 13(b): revenue grew by 34.2% in 1856-58, but, once the Inverness and Aberdeen Junction opened in 1858 to provide the through route from Inverness to Aberdeen, revenue rose by 69.1% between 1858 and 1860.

⁹² Data compiled from minutes of the Inverness and Nairn Railway, 12, 19 and 26 January, 9 February, 9 and 20 August, and 6 September 1856, NAS/BR/INR/1/1, pages 349, 352, 355, 357, 404, 406 and 408.

⁹³ K Fenwick, *The Inverness and Nairn Railway* (Highland Railway Society, 2005), p.30.

⁹⁴ *Railway Times*, 7 May 1859, p.525: 'These are the first effects of careful and energetic management – careful alike in keeping down expenditure, and in abstaining from exclusive

1857 was £8,003 per mile, 50.1 percent above estimate.⁹⁵ The provisional committee had been assured of landowner support by acceptance of feu-duty,⁹⁶ but, despite efforts to obtain land cheaply, land costs by 1857 accounted for 12.4 percent of capital expenditure, above the 11.8 percent incurred also by 1857 on the Great North's main line to Keith, which included the purchase of the Aberdeenshire Canal.⁹⁷ Land costs for the Nairn line, in fact, fell within the range paid for the 1837-38 inter-urban lines,⁹⁸ However, the capital cost per mile was similar to those reported for the Morayshire and Deeside, identified earlier as examples of lines built on 'cheap railway' principles.⁹⁹ The cost of the line and the inability to raise its full ordinary share capital forced the company to seek powers to issue a new 5 percent preference stock and increase its authorised borrowing, which rectified the deficit on the capital account.¹⁰⁰

With rising revenue, the debt gearing of this small company strengthened to a level similar to that of the successful Scottish Midland Junction Railway, illustrated in

arrangements, and energetic in so far as speedy completion of works and rapid development of local resources can be controlled by directorial supervision'.

⁹⁵ Appendix, table 13(a), note (4); see also table 55 of this chapter.

⁹⁶ Minutes of the Inverness and Nairn Railway, 2 November 1853, NAS/BR/INR/1/1, pp.25-26, recording 'All the Proprietors along the Line are favourable, and, in almost every instance, have expressed their readiness to accept a Feu duty, if desired, based on the agricultural value of the land required for the works'.

⁹⁷ Appendix 13(a), note (3) and note (4); Scroll minutes of the directors of the Inverness and Nairn Railway, 9 August 1859, NAS/BR/INR/1/4. item 3, showing that, four years after the line opened, £6,240 was held in a bank account principally to meet outstanding land claims; Accounts of the Great North of Scotland Railway, 1857, NAS/BR/RAC(S)/1/14, showing £99,709 paid for land and the canal and a total capital expenditure of £846,318 by 31 August 1857 (11.8%).

⁹⁸ CJA Robertson, *The Origins of the Scottish Railway System 1722-1844* (Edinburgh, 1983), pp.170-73, showing the range of land costs for the 1837-38 inter-urban lines in Scotland by 1845 to be between 12.1% to 19.8% of capital expenditure.

⁹⁹ Appendix, tables 7(a) and 17(b): capital costs per mile were £7,566 on the Morayshire (1854) and £8,011 on the Deeside (1855).

¹⁰⁰ Appendix, table 13(a); Minutes of an Extra-ordinary General Meeting of the Inverness and Nairn Railway, 14 July 1857, NAS/BR/INR/1/1, p.488; 20&21 Vic. cap. 5, 1857, The Inverness and Nairn Railway Act, which increased share capital from £80,000 to £105,000 by £25,000 of preference stock and increased borrowing powers proportionally.

chapter 4,¹⁰¹ and well above the Caledonian Railway benchmark of 1849 (table 51). The Caledonian's financial weaknesses, however, had been exacerbated by its rapid expansion and scale of operation, a path that the Inverness promoters had decided not to pursue in 1853.

Table 51: Financial indicators for the Inverness and Nairn Railway, 1855-61

31 August	1856	1857	1858	1859	1860	1861
Ratio of debentures to capital raised	33.5%	28.6%	30.2%	25.8%	23.1%	22.7%
Ratio of gross revenue to total debt	0.246	0.337	0.257	0.317	0.458	0.454
Source: Appendix, Table 13(c).						
(1): Comparative gearing ratios for the Caledonian Railway in 1849-50 were 24.5% for debentures/capital and 0.162 for gross revenue/debt.						

- **the host company: the Inverness and Aberdeen Junction Railway**

The Great North's directors must have comprehended the strategic intentions of Inverness because company and press reports referred openly to them. The expansionist ambitions of Inverness were displayed in the parliamentary notice for its proposed eastern extension by a clause proposing running powers over the Great North to Aberdeen, which the Great North promptly removed.¹⁰² With their own capital difficulties, detailed in the previous chapter, and with their expectation of rail access to Inverness over the Nairn line, the Great North saw self-advantage in the completion of a link between Nairn and Huntly, if necessary through the intervention of an intermediary, to ensure that traffic from the northern counties passed over its own line. Just over sixty miles separated these two railheads in 1855, by when

¹⁰¹ Appendix, table 20(c): the debt gearing of the Scottish Midland Junction Railway was 0.417 in 1855, just before its amalgamation with the Aberdeen Railway in 1856; see also chapter 4: 'The Scottish Central and Scottish Midland Junction Railways'.

¹⁰² Minutes of the Great North of Scotland Railway, 23 November 1855, NAS/BR/GNS/1/2, p.346; Minutes of the Inverness and Aberdeen Junction Railway, 12 July 1855, NAS/BR/IAJ/1/1, pp.26-27, setting out the agreement with the Great North for a Nairn-Elgin-River Spey line to join a Great North line from Keith to the River Spey, with the Spey bridge to be a shared expense.

capital was becoming increasingly expensive; bank discount rates reached 7 percent in October 1855 and peaked at 10 percent in November 1857.¹⁰³

The Inverness and Elgin Railway was resurrected under a provisional committee before either the Great North or Nairn lines had opened. A deputation comprising its deputy chairman and Nairn director, Captain William Fraser-Tytler, EW Mackintosh, also a Nairn director, and the Hon TC Bruce, commissioner to the Earl of Seafield, sought an agreement with the Great North.¹⁰⁴ The Earl of Seafield owned extensive timber interests and land in the area to be served by any new link line and was therefore a potential key source both of traffic and capital.

The Great North recognised that a new Nairn-Elgin line (21¼ miles) would leave it with heavy expense for a Huntly-Elgin connection (40 miles), including a difficult crossing of the River Spey and it sought 'an acceptable division between the two companies of the expensive works connected with the Spey crossing'.¹⁰⁵ In February 1855, the Great North recorded that the Inverness and Elgin '... are not in a position to carry out their undertaking', but the Great North pressed ahead with legislation to extend their line from Huntly to Keith (12½ miles).¹⁰⁶ The Great North's proposal that the Inverness company should construct beyond Elgin and share the cost of the Spey crossing caused a temporary delay, probably to assess the capital implications, but it gave an opportunity for the Inverness promoters to push the boundary of Aberdeen influence further east.

The Inverness and Elgin Railway was re-constituted as the Inverness and Aberdeen Junction Railway in 1855; its draft prospectus illustrates the involvement of the key landowners or their agents (table 52):

¹⁰³ Bradshaw's *Railway Almanack*, 1875, appendix 12, p.83.

¹⁰⁴ Minutes of the Great North of Scotland Railway, 25 August and 30 November 1854, NAS/BR/GNS/1/2, p.54 and p.149.

¹⁰⁵ Minutes of the Great North of Scotland Railway, 30 November 1854, NAS/BR/GNS/1/2, p.149.

¹⁰⁶ Minutes of the Great North of Scotland Railway, 5 February 1855, NAS/BR./GNS/1/2, p.194; 18 Vic. cap.28, 1855, The Great North of Scotland Railway Extension Act.

Table 52: Provisional committee of the Inverness and Aberdeen Junction Railway, 1855

Provisional Committee of the Inverness and Aberdeen Junction Railway	
Earl of Seafield	Chairman
Marquis of Stafford	Deputy Chairman
Lord Berriedale	
James Duff MP	Trustee of the Earl of Fife
WJ Tayler	Trustee of the Earl of Fife
Hon TC Bruce	Commissioner to the Earl of Seafield
Alexander Matheson MP	
EW Mackintosh	Inverness and Nairn Railway representative
Captain W Fraser-Tytler	Inverness and Nairn Railway representative
DC Marjoribanks MP	
George Loch	Commissioner to the Duke of Sutherland ¹⁰⁷
Source: Minutes of the Inverness and Aberdeen Junction Railway, 14 June and 18 July 1855, NAS/IAJ/1/2, p.2 and pp.33-34.	

The prospectus also explained the reason for extending the proposed line beyond Elgin at an estimated cost of £8,000 per mile including land:

... it has been thought preferable that the whole line from Keith to Nairn should be in the hands of one Company, and accordingly the scheme of last year has been extended, so as at once to complete the chain of Railway communication from Aberdeen to Inverness ... in order fully to accommodate the great counties of Ross, Sutherland and Caithness, it has been considered essential to carry a Line to the Harbour at Burghead.¹⁰⁸

The Inverness promoters therefore not only proposed to establish the Inverness-Aberdeen border well beyond Elgin, but to capture northern coastal trade by establishing a railhead at Burghead, previously identified by the Aberdeen Railway directors in 1852 as a key objective for the proposed Great North line.¹⁰⁹ On behalf

¹⁰⁷ James Loch, commissioner to the Duke of Sutherland died in 1855 and his son, George, succeeded to the post: *The Law Journal*, XII, 1877, p. 508; *The Law Times*, LXIII, 1877, p.297; E Richards, 'An anatomy of the Sutherland Fortune: Consumption, Investments and Returns, 1780-1880', *Business History*, XXI (1979), p.54: the Marquis of Stafford became the 3rd Duke of Sutherland in 1861.

¹⁰⁸ Minutes of the Inverness and Aberdeen Junction Railway, 14 June 1855, NAS/IAJ/1/2, p.2.

¹⁰⁹ Report of the Aberdeen Railway directors into the affairs of the Great North of Scotland Railway Company, 16 July 1852, NAS/BR/RAC(S)/1/14; PT Wheeler, 'The development of shipping services to the east coast of Sutherland', *Journal of Transport History*, VI, No.2 (November 1963), p.113, notes that Burghead was the northern harbour receiving the Sutherland-shire and eastern coast trade from 1809.

of the promoters, whom he described as 'a body incomparably more powerful than last year', Bruce offered to relieve the Great North of heavy capital expense but sought a subscription in return:

... we propose, instead of meeting at the Spey, to construct the whole line from Nairn to Keith, and shall trust that you will take stock in our line to the extent which you proposed last year ...¹¹⁰

The Inverness and Aberdeen Junction committee did, in fact, resolve to build only to the Spey near Orton if the Great North preferred to extend from Keith to the southern bank of the river, but the Great North decided that Inverness 'shall have the line up to Keith' and subscribed £40,000 in return for two seats at the board.¹¹¹

The difficulty of the Spey crossing and the associated capital expense had prompted investigation of an alternative route from Keith via Rothes to Elgin;¹¹² the Rothes line was later constructed to provide competitive access to Elgin, which is explored in chapter 7.¹¹³ To halve the cost of the Spey crossing, engineers Locke and Errington recommended the use of a steeper gradient than shown in the parliamentary plans.¹¹⁴

¹¹⁰ Letter of Thomas Bruce to Sir James Elphinstone, chairman of the Great North of Scotland Railway, 14 June 1855, in minutes of the Inverness and Aberdeen Junction Railway, 18 June 1855, NAS/BR/IAJ/1/1, pp.6-7: Bruce offered two board seats to the Great North in return for a subscription; Minutes of the Great North of Scotland Railway, 11 June 1855, NAS/BR/GNS/1/2, p.280.

¹¹¹ Minutes of the Inverness and Aberdeen Junction Railway, 18 June 1855, NAS/BR/IAJ/1/1, p.8; Minutes of the Great North of Scotland Railway, 26 October 1855, NAS/BR/GNS/1/2, pp.318-19. See also chapter 5, 'The results of monopoly power'.

¹¹² Minutes of the Inverness and Aberdeen Junction Railway, 9 July 1855, NAS/BR/IAJ/1/1, p.22; Minutes of the Great North of Scotland Railway, 20 July 1855, NAS/BR/GNS/1/2, p.290.

¹¹³ 23&24 Vic. cap.116, 1860, the Morayshire Railway (Junction) Act.

¹¹⁴ Minutes of the Inverness and Aberdeen Junction Railway, 12 September 1855, NAS/BR/IAJ/1/1, pp.50-51, containing a report from engineers Locke and Errington dated 8 September 1855: the cost of the Spey crossing at a gradient of 1:90 was estimated at £98,886, but reduced to £48,104 if a 1:60 gradient was used. They advised the provisional committee: 'The great disappointments which have been experienced in the result of so many Railways producing little or no return for the Capital is traceable to the great expenditure in original construction, in so many cases unnecessarily so expended'.

In 1855, the provisional committee listed anticipated subscriptions, which illustrates the heavy reliance on large investment by local landowners (table 53).

Table 53: Subscriptions anticipated for the Inverness and Aberdeen Junction Railway, September 1855

Subscriber	Amount (£)	Totals (£)	Note
Brassey and Falshaw (contractors) ¹¹⁵	82500	82500	(approximately one quarter of proposed capital)
Earl of Seafield	30000		
Earl of Fife trustees	30000		
Duke of Sutherland	20000	80000	
Great North of Scotland Railway	50000	50000	The level of subscription mooted in 1854
Alexander Matheson MP	5000		
DC Marjoribanks MP	3000		
G Loch	1000		Commissioner to the Duke of Sutherland
Hon TC Bruce	1500		Commissioner to the Earl of Seafield
Lord Berridale	1000		
WJ Taylor	1000		Commissioner to the Earl of Fife
Captain W Fraser-Tyler	2000		Inverness and Nairn director
EW Mackintosh of Raigmore	2000		Inverness and Nairn director
J Mitchell	1000		Engineer
A Smyth	2000		Inverness and Nairn director
Al Robertson	1000		
H Inglis	1000		Inverness and Nairn director
T Martin	1000		Parliamentary agent
Local subscriptions	15000	37500	Local subscriptions identified in 1854
		250000	
Share capital proposed		350000	

Source: Minutes of the Inverness and Aberdeen Junction Railway, 12 September 1855, NAS/BR/IAJ/1/1, p.44, recording the subscriptions that 'may be relied upon'.

A revised prospectus in December reduced the proposed share capital of the company from £350,000 to £325,000.¹¹⁶ The promoters had identified provisionally three-quarters of the capital required; a quarter was to come from three aristocratic landowners and a further quarter from contractors. Excluding contractors and the Great North, 32 percent of capital required was expected to be subscribed by sixteen

¹¹⁵ The construction contract was awarded to Falshaw for the Nairn-Elgin section, who took £40,000 of stock, and to Mitchell and Dean for the Elgin-Keith section, who took £37,000 of stock, recorded in minutes of the Inverness and Aberdeen Junction Railway, 13 December 1855, NAS/BR/IAJ/1/1, p.79.

¹¹⁶ Minutes of the Inverness and Aberdeen Junction Railway, 18 December 1855, NAS/BR/IAJ/1/1, p.118.

individuals, compared to 21 percent by four individuals for the Nairn line.¹¹⁷ By 1856-57, these expectations had translated into £243,900 of subscriptions, comprising £165,900 from 312 local shareholders and £78,000 from eight individuals.¹¹⁸ Thirty-two percent of capital for the Inverness and Aberdeen Junction was therefore offered by 2.5 percent of subscribers, but the large number of small subscribers demonstrates the significant degree of local support and reflects the subscription pattern for the earlier Inverness and Nairn. However, in contrast to the unsuccessful Inverness schemes of 1846 identified in chapter 3, the Nairn and Aberdeen Junction railways, forming part of a trunk route, relied substantially upon local capital and lacked any appreciable English investment.

In October 1857, by when subscriptions had been converted into firm investment, a recorded vote called by the Great North against the amalgamation of the Aberdeen Junction with the Inverness and Nairn revealed ownership of £194,160 of shares, representing approximately 84 percent of issued share capital (table 54).¹¹⁹ Eleven shareholdings accounted for over half the authorised share capital and approximately three-quarters of issued share capital of the company; fifteen individuals who had invested £1,000 or more held a quarter of authorised shares, representing almost two-fifths of issued share capital.¹²⁰

¹¹⁷ Minutes of the Inverness and Nairn Railway, 30 January 1854, NAS/BR/INR/1/1, p.68, showing subscriptions by Anderson (£1,400), Mackintosh (£8,000), Mitchell (£2,500) and Fraser-Tytler (£5,000) of the £80,000 capital (21.1%); Minutes of the Inverness and Aberdeen Junction Railway, 12 September 1855, NAS/BR/IAJ/1/1, p.44.

¹¹⁸ Bradshaw's *Railway Almanack*, 1857 edition, p.126, giving data for 1856-57 but without identifying the names of the eight individual shareholders.

¹¹⁹ Minutes of the Inverness and Aberdeen Junction Railway, 1 April 1857, NAS/BR/IAJ/1/1, pp.251-52, show calls being made on 22,940 £10 shares issued, six months before the recorded vote on 31 October 1857, while a minute of 19 May 1857, NAS/BR/IAJ/1/1, pp.276-77, records that £95,000 of ordinary stock remained unsold. Therefore, approximately £230,000 of share capital had been issued by the time of the recorded vote, of which £194,160 represents 84.4%.

¹²⁰ Minutes of the Inverness and Aberdeen Junction Railway, 31 October 1857, NAS/BR/IAJ/1/1, p.341: of the £194,160 of capital recorded in the vote, fifteen individual shareholders held £84,600 of shares (26.0% of authorised share capital), contractors or their trustees held £67,750 of shares (20.8% of authorised capital) and the Great North held £37,900 of shares (11.7% of authorised capital). The remaining £3,910 in the recorded vote was held by 15 small shareholders.

Table 54: Large shareholdings in the Inverness and Aberdeen Junction Railway, 1857

Shareholdings of £3,000 or more registered in a recorded vote at the Ordinary General Meeting held on 31 October 1857	Share value (£)
Great North of Scotland Railway	37900
Earl of Seafield	30000 (1)
Earl of Fife's Trustees	28100 (1)
J Falshaw (contractor)	20000
T Brassey (contractor)	20000
D Mitchell (contractor)	9250
C Brand (contractor)	9250
C Graham Monro (representing the trustees of J Brebner, contractor)	9250
A Matheson MP	5000
Duke of Sutherland	3000 (1)
DC Marjoribanks MP	3000
Shareholding of 11 individuals or groups (% of authorised capital)	174750 (53.5%)
Authorised share capital of the company	325000
Source: Data compiled from a recorded vote at the Ordinary General Meeting of the Inverness and Aberdeen Junction Railway, 31 October 1857, NAS/BR/IAJ/1/1, pp.346-47.	
(1): Three aristocratic sources (Seafield, Fife and Sutherland) held 18.8% of the company's authorised capital of £325,000.	

Competition arose between the northern ports for potential rail-linked traffic. Provost Grant of Elgin, chairman of the Morayshire Railway, offered half the cost of a 'good and sufficient daily steamer' for five years from Lossiemouth to the north side of the Moray Firth if the Burghead branch was withdrawn; the town of Nairn also objected to the Burghead branch, fearing a diminution in its sea trade.¹²¹ The Inverness promoters withdrew the Burghead branch and made a working agreement whereby the Morayshire Railway was given running rights over the main Inverness-Aberdeen route from Elgin to Orton for their traffic.¹²² The Morayshire re-applied for powers to construct a line from Orton to Craigellachie, thus completing the route originally authorised 1846.¹²³ As an Inverness shareholder, the Great North decided it 'should

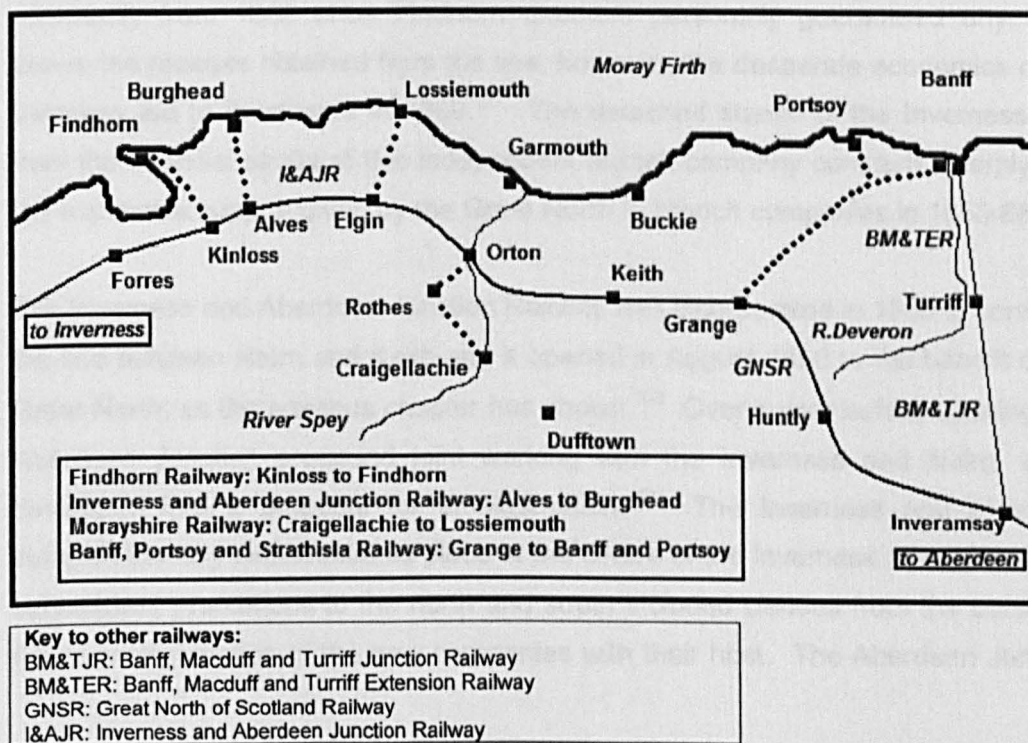
¹²¹ Minutes of the Inverness and Aberdeen Junction Railway, 6 November 1855, NAS/BR/IAJ/1/1, p.65.

¹²² Minutes of the Morayshire Railway, 12 November 1855, NAS/MOR/1/1, noting 'this amicable arrangement has been carried through by Mr Loch on the part of the Duke of Sutherland, and by the other Members of the Provisional Committee of the Inverness and Aberdeen Junction Railway ...'; Minutes of the Inverness and Aberdeen Junction Railway, 18 December 1855, NAS/BR/IAJ/1/1, pp.108-13, which set out the agreement with the Morayshire Railway, giving the right to the Morayshire run their own locomotives and stock over the Elgin-Orton section of the Inverness and Aberdeen Junction Railway.

¹²³ 19&20 Vic. cap.56, 1856, The Morayshire Railway Act; Minutes of the Morayshire Railway, 5 September 1851, NAS/BR/MOR/1/1, recording the approval of the Railway Commissioners on 7 July 1851 to the abandonment of the Orton-Craigellachie section of the Morayshire, authorised under 9&10 Vic. cap 178, 1846, The Morayshire Railway Act.

not interfere' in the port disputes, but its directors 'expressed their great regret at the withdrawal of the Branch'.¹²⁴

Map 8: Railway promotions to Moray Firth ports



The Morayshire agreement presented a potential strategic advantage to Inverness by linking the north-south axis of the extended Morayshire line with the east-west route of the Inverness and Aberdeen Junction, presenting a more secure barrier to any westward advance from Aberdeen, but the Morayshire proved to be a difficult partner and the Burghead branch was subsequently authorised in 1861 as a competitive response from Inverness to closer liaison between the Great North and Morayshire Railways.¹²⁵

¹²⁴ Minutes of the Great North of Scotland Railway, 26 October 1855, NAS/BR/GNS/1/2, p.320; Minutes of the Great North of Scotland Railway, 9 November 1855, NAS/BR/GNS/1/2, p.340.

¹²⁵ Minutes of the Great North of Scotland Railway, 20 December 1860, NAS/BR/GNS/1/4, p.31; 24&25 Vic cap.18, 1861, The Inverness and Aberdeen Junction (Branch) Act. The strategic role of the Morayshire Railway is examined in chapter 7.

The rivalry of northern ports also resulted in the promotion of the independent Findhorn Railway, authorised in 1859 to connect Findhorn harbour on the Moray Firth with the Inverness and Aberdeen Junction Railway three miles distant near Kinloss.¹²⁶ The Aberdeen Junction initially declined to work the line, but did so reluctantly from 1862 once Findhorn directors personally guaranteed any costs above the receipts obtained from the line; however, the desperate economics of the company led to its closure in 1869.¹²⁷ The detached stance of the Inverness web from the financial straits of this independent branch company contrasts sharply with the expansive support given by the Great North to branch companies in 1855-66.¹²⁸

The Inverness and Aberdeen Junction Railway was incorporated in 1856 to construct the line between Nairn and Keith and it opened in August 1858 to the benefit of the Great North, as the previous chapter has shown.¹²⁹ Over a year before opening, the Aberdeen Junction proposed joint working with the Inverness and Nairn, which developed into a proposal for amalgamation.¹³⁰ The Inverness and Aberdeen Junction thereby established its place at the centre of the Inverness railway web and subsequent promotions to the north and south included clauses from the outset for future amalgamation of the new companies with their host. The Aberdeen Junction

¹²⁶ 22 Vic. cap.8, 1859, The Findhorn Railway Act; IK Dawson, *The Findhorn Railway* (Trowbridge, 1983), pp.3-4.

¹²⁷ Minutes of the Inverness and Aberdeen Junction Railway, 3 August 1859, p.8 and 13 April 1861, p.226; Minutes of the Highland Railway, 5 January 1869, NAS/BR/HR/1/1, p.465, in which the Highland board resolved to withdraw working the Findhorn Railway from 31 January 1869 because the Findhorn directors could no longer guarantee the shortfall between the line receipts and the £800 required by the Highland for working the line; IK Dawson, *The Findhorn Railway*, p.11 and pp.12-14.

¹²⁸ See chapter 5, 'The Great North's branch line strategy'.

¹²⁹ 19&20 Vic. cap.110, 1856, The Inverness and Aberdeen Junction Railway Act, with authorised share capital of £325,000 and borrowing powers of £108,300.

¹³⁰ Minutes of the Inverness and Nairn Railway, 14 February, 1857, NAS/BR/INR/1/1, p.443 and 17 March 1857, NAS/BR/INR/1/1, p.458; Minutes of the Inverness and Aberdeen Junction Railway, 19 February 1857, NAS/BR/IAJ/1/1, p.240; Minutes of the Inverness and Aberdeen Junction Railway, 16 March 1857, NAS/BR/IAJ/1/1, pp.244-45.

worked the Nairn line from December 1857 when the first section of its own line opened and amalgamation was finalised in 1861.¹³¹

Like the Great North, both Inverness companies profited from the traffic passing over the through route, in effect receiving part of the monopoly power originally conferred on the Great North, although the route was still marred by the absence of a connecting line across Aberdeen. Inverness and Aberdeen Junction revenue rose steadily from £44,616 in 1860 to £63,607 in 1863, and dividend reached 5 percent during 1862.¹³² The seasonal fluctuations of traffic already noted on the Nairn line were repeated on the new line; average gross weekly receipts in August 1862 were £1,399, but fell to £884 per week in December 1862.¹³³

The Aberdeen Junction experienced immediate problems in raising sufficient share capital.¹³⁴ A £15,000 loan from the Scottish Union Insurance Company in October 1857 was personally guaranteed by eight directors, followed by a loan of £20,000 from the local Caledonian Bank in August 1858, guaranteed by five directors and Mitchell.¹³⁵ An additional £10,000 from the Caledonian Bank was taken in January 1859.¹³⁶ Increased costs and capital shortages resulted in the company seeking

¹³¹ Minutes of the Inverness and Nairn Railway, 17 March and 5 June 1857, NAS/BR/INR/1/1, p.448 and p.475; Minutes of the Inverness and Aberdeen Junction Railway, 16 March 1857, NAS/BR/IAJ/1/1, pp.244-45; Report to the 2nd Ordinary General Meeting of the Inverness and Aberdeen Junction Railway, 29 April 1857, NAS/BR/IAJ/1/1, p.268; 24&25 Vic. cap.8, 1861, The Inverness and Aberdeen Junction Railway Act.

¹³² Appendix, table 12(b): once the Inverness and Perth direct line opened in 1863, gross revenue on the Aberdeen Junction rose to £85,957 in 1864.

¹³³ Minutes of the Inverness and Aberdeen Junction Railway, 9 September 1862, 9 and 30 December 1862, NAS/BR/IAJ/1/2, pages 301, 394 and 397, reporting weekly traffic figures in August and December 1862.

¹³⁴ Appendix, table 12(a).

¹³⁵ Minutes of the Inverness and Aberdeen Junction Railway, 16 October 1857 and 3 August 1858, NAS/BR/IAJ/1/1, p.337 and p.457; Order of Business Book, Inverness and Aberdeen Junction Railway, 31 October 1857, records two £15,000 loans, one from the Scottish Union Insurance Company and another from the Colonial Life Assurance Company backed by debentures: shareholders had approved the use of borrowing powers at an Extra-ordinary General Meeting held on 18 August 1857, NAS/BR/IAJ/1/1, p.313.

¹³⁶ Minutes of the Inverness and Aberdeen Junction Railway, 17 January 1859, NAS/BR/IAJ/1/1, p.519.

authorisation to increase its capital powers by nearly fifty percent in 1860 through the issue of preference shares, which quickly reversed the deficit on the capital account, but opened divisions in relations with the Great North which held ordinary stock in the company.¹³⁷

Table 55: Comparative costs of the Inverness companies, 1853-60

Cost per mile (£)	Capital cost (estimated)	Actual capital cost (with plant)	Actual capital cost (without plant)	% above estimate	Land costs as % of capital expenditure
Inverness & Nairn - 1853 prospectus - 1854 Act - 1857 actual costs	5500 5333	8003	7221 (2)	50.1% 35.4%	12.4%
Inverness & Aberdeen Junction- - draft prospectus - 1855 Act - 1860 actual costs	8000 (1) 8176	13395 (2)	11704	63.8% 43.2%	7.2%

Sources: Appendix, table 26; *Railway Times*, 4 November 1865, p.1407.

(1): The estimated capital cost in the prospectus of the Inverness and Aberdeen Junction included the branch to Burghead, subsequently withdrawn.

(2): At the first shareholders' meeting of the Highland Railway on 27 October 1865, chairman Matheson reported that the Nairn line had cost £118,000 and the Aberdeen Junction £578,000, which increases the capital costs per mile to £7,867 for the Nairn line (without plant, as the Nairn line was worked by the Aberdeen Junction) and to £14,541 for the Aberdeen Junction line (with plant) by 1865 (*Railway Times*, 4 November 1865, p.1407).

The 1859 financial statement showed that the cost of the line was already £80,126 over estimate and a committee was established to investigate the causes, although company accounts show that construction costs and plant were the main items of capital growth.¹³⁸ The proportion of capital spent on land by 1860 (7.2 percent) was less than that spent on the Nairn line due to the acceptance of feu duties by large landowners, but the capital cost per mile in 1860 was £13,395, two-thirds above the

¹³⁷ Appendix, table 12(a); 23&24 Vic. cap.9, 1860, The Inverness and Aberdeen Junction Railway Act, which raised authorised share capital from £325,000 to £475,000 by £150,000 of preference shares with an additional £50,000 in borrowing powers.

¹³⁸ Minutes of the Inverness and Aberdeen Junction Railway, 25 June 1859, NAS/BR/IAJ/1/1, p.564; Accounts of the Inverness and Aberdeen Junction Railway to 29 February 1859 and 31 August 1859, reported to the Ordinary General Meeting held on 29 October 1859, NAS/BR/IAJ/1/2, pp.40-42, inserted printed report, which shows that capital expenditure on construction had risen in the half-year from £314,000 to £358,022 and expenditure on plant from £54,717 to £64,091.

estimate (table 55).¹³⁹ Matheson was later to report that the line cost £578,000, three-quarters above estimate, the consequences of which were inherited by the Highland Railway in 1865.¹⁴⁰ Nevertheless, this cost per mile and the £8,003 per mile for its amalgamated partner were significantly below the levels incurred on the earlier Scottish inter-urban lines.

The heavy reliance on investment by large shareholders continued between 1855 and 1865 (table 56). In 1864, seven shareholders held one-third of the £339,857 ordinary stock registered; these included the Duke of Sutherland (£15,000), the Earl of Seafield (£10,000), Brassey (£20,000) and Falshaw (£16,700).¹⁴¹

Table 56: Shareholder investment held in Inverness and Aberdeen Junction stock, 1864

Investment in I&AJR £10 shares held at 31.07.1864	Number of shareholders
£10	88
£20	51
£21-50	68
£51-100	34
£101-500	140
£501-1000	76
£1001-2000	34
£2001-5000	11 (1)
£5001-9999	1 (1)
£10000+	7 (1)
Total	510
Source: Data compiled for 31 July 1864 from the Register of Dividends, 1864-65, Inverness and Aberdeen Junction Railway, NAS/BR/IAJ/2/1.	
(1): Nineteen shareholders, each with shareholdings of £2,500 or more, held £158,750 of the issued £339,857 of ordinary share capital at 31 July 1864 (46.7%).	

Nineteen individuals or institutions, all with holdings of £2,500 or more, held 47 percent of the issued ordinary stock and were paid dividend in July 1864. Twenty-

¹³⁹ Appendix, table 12(a), note (4) and table 26.

¹⁴⁰ *Railway Times*, 4 November 1865, p.1407: the reported cost of £578,000 was £253,000 above the estimate of £325,000 (77.8%); see chapter 8, 'The legacy of the Inverness web: the Highland Railway'.

¹⁴¹ Data compiled for 31 July 1864 from the Register of Dividends, 1864-65, Inverness and Aberdeen Junction Railway, NAS/BR/IAJ/2/1; of the large shareholders, the register shows that £27,410 was held in Aberdeen Junction stock by two lawyers (£16,000 and £11,410), most likely in trust for clients, while the National Bank of Scotland held £24,190 of stock, probably as security for loans, but on which dividend was paid.

seven percent of shareholders held 2 shares or less,¹⁴² which suggests that the high degree of local support was maintained as on the Nairn Railway, although the significance of a few large shareholders remained greater in the Aberdeen Junction company. Five banks held ten percent of the issued stock in 1864, most probably as security for loans.¹⁴³ The £5,000 of Aberdeen stock held by Matheson in 1857 had, by 1864, been substantially transferred into investment in the new Ross-shire lines.¹⁴⁴

The financial records of the Inverness companies prior to 1865 do not provide the same degree of detail as those of the Great North; information on debt held outside the main accounts was rarely provided to Inverness shareholders other than by a general one-line statement of 'sundries'. Sundries, nowadays defined as items that do not need to be specified, amounted to £47,487 in 1862, approximately £2.4 million on a 2007 price base,¹⁴⁵ and comprised interest-bearing loans and bills of exchange.¹⁴⁶ Some debt interest was paid from its capital account, which allowed the retention of revenue to pay dividends, a practice which continued into the early years of the Highland Railway.¹⁴⁷

¹⁴² Register of Dividends, 1864-65, Inverness and Aberdeen Junction Railway, NAS/BR/IAJ/2/1: data to 31 July 1864 indicate that 17.2% of shareholders held just one share, 27.1% held one or two shares, and 47.1% held ten or less shares.

¹⁴³ Register of Dividends, 1864-65, Inverness and Aberdeen Junction Railway, NAS/BR/IAJ/2/1: £34,800 in ordinary shares was held by five banks on 31 July 1864 on which dividend was paid and, of this sum, £24,190 was held by the National Bank of Scotland.

¹⁴⁴ Data compiled for Ross-shire stock shareholders from the Register of Dividends, 1864-65, Inverness and Aberdeen Junction Railway, NAS/BR/IAJ/2/1: Matheson held £1,400 of Inverness and Aberdeen Junction 4½ % preference stock on 31 July 1864.

¹⁴⁵ See Glossary entry on 'price base'.

¹⁴⁶ Appendix, table 12(a).

¹⁴⁷ Appendix, table 12 (a), note (5); *Railway Times*, 5 May 1866, p.515, reporting the half-yearly meeting of the Highland Railway on 27 April 1866 when deputy chairman Bruce informed shareholders that one-third of interest paid had been charged to capital and, furthermore, that this practice had been followed 'since the early days on the Inverness and Nairn Railway 15 or 16 years ago'.

Table 57: Financial indicators for the Inverness and Aberdeen Junction Railway, 1860-63

	31 August	1860	1861	1862	1863
Ratio of debentures to capital raised		22.4%	27.6%	28.4%	23.7%
Ratio of gross revenue to total debt		0.174	0.191	0.161	0.217
Source: Appendix, table 12(c).					
(1): Comparative gearing ratios for the Caledonian Railway in 1849-50 were 24.5% for debentures/capital and 0.162 for gross revenue/debt.					
(2): The temporary weakening of debt gearing in 1862 was due principally to a revision in the total of debenture stock following the amalgamation with the Inverness and Nairn company in 1861.					

The early years of the Inverness and Aberdeen Junction produced a trend of rising revenue and a slow improvement in debt gearing (table 57),¹⁴⁸ but the company displayed only a marginal financial strength over the 1849 Caledonian benchmark until the revenue earned from working the new Perth–Inverness route, opened in 1863 and examined in the next chapter, began to impact on its finances.

- dissention and division between Inverness and Aberdeen

The company's manipulation of its finances brought it into conflict with the Great North through its two representatives on the Inverness board.¹⁴⁹ Matheson, chairman of the Aberdeen Junction, informed the directors in May 1857 that a further £70,000 was needed to complete the line and, as the company could not yet access its borrowing powers, it was proposed to seek powers to issue a preference stock, using bank loans as a short-term measure against the personal guarantees of directors.¹⁵⁰ Aberdeen Junction minutes record some director dissention to giving personal guarantees, but it is Great North records that provide details of the

¹⁴⁸ Appendix, table 12(b) and table 12(c).

¹⁴⁹ Minutes of the Great North of Scotland Railway, 26 October 1855, NAS/BR/GNS/1/2, pp.318-19; Minutes of the Great North of Scotland Railway, 16 November 1855, NAS/BR/GNS/1/2, p.343, nominating Sir James Elphinstone and John Blaikie as the Great North representatives on the board.

¹⁵⁰ Minutes of the Inverness and Aberdeen Junction Railway, 19 May 1857, NAS/BR/IAJ/1/1, pp.276-77; Matheson was appointed as chairman and Bruce as deputy chairman on 16 August 1856, NAS/BR/IAJ/1/1, p.186.

Aberdeen Junction's assets and liabilities in May 1857.¹⁵¹ Only £80,828 of the £325,000 share capital had been raised by calls; liabilities were £203,420 with only £135,543 of assets.¹⁵² As large shareholders, the Great North and contractor David Mitchell objected to the issue of preference shares as '... disastrous in the highest degree to the interests of the present shareholders and particularly unjust to the contractors...'.¹⁵³

Great North chairman Elphinstone, in a carefully argued letter to the Inverness and Aberdeen Junction board, suggested that £70,000 of new stock would be insufficient and that 'more and more preference stock will be issued until the original shares are worthless'.¹⁵⁴ This letter, which contained a further suggestion that the Great North might work the line to Elgin 'until the Traffic shall be developed when it will be much more easy to issue the remaining stock', received no response from Inverness.¹⁵⁵

Relationships worsened when the Aberdeen Junction board proposed in July 1857 to exercise borrowing powers. The shareholder's meeting was adjourned when questions were raised over the validity of the company claim that half its share capital had been paid up.¹⁵⁶ The Great North discovered that general manager

¹⁵¹ Minutes of the Inverness and Aberdeen Junction Railway, 25 May 1857, NAS/BR/IAJ/1/1, p.282: George Loch called this meeting to express concern and the decision that directors accepted personal liability for funds raised, made on 19 May 1857, was rescinded.

¹⁵² Minutes of the Great North of Scotland Railway, 2 June 1857, NAS/BR/GNS/1/3, pp.12-13, reporting a meeting of the directors of the Inverness and Aberdeen Junction Railway held on 25 May 1857.

¹⁵³ Minutes of the Great North of Scotland Railway, 2 June 1857, NAS/BR/GNS/1/3, p.15; Minutes of the Great North of Scotland Railway, 9 June 1857, NAS/BR/GNS/1/3, p.19.

¹⁵⁴ Letter from Sir James Elphinstone to Alexander Matheson, 8 June 1857, in minutes of the Great North of Scotland Railway, 12 June 1857, NAS/BR/GNS/1/3, p.28.

¹⁵⁵ Minutes of the Great North of Scotland Railway, 19 June 1857, NAS/BR/GNS/1/3, p.35, recording the concern of the board that no response had been received to Elphinstone's letter.

¹⁵⁶ Minutes of the Extra-ordinary General Meeting of the Inverness and Aberdeen Junction Railway, 21 July 1857, NAS/IAJ/1/1, p.306; a minute of 12 July 1857, NAS/BR/IAJ/1/1, p.304, records that the secretary reported arrangements with their Edinburgh law agents to ensure that half of the company capital was paid up by the time of the ordinary general meeting on 31 October 1857; Minutes of the Great North of Scotland Railway, 24 July 1857, NAS/BR/GNS/1/3, p.53, recording that the Great North had stopped the Sheriff signing the

Dougall had, under an 'arrangement', subscribed for 9,546 company shares, but that Matheson and Bruce had each provided £25,000 to meet the deposit and calls due on those shares; Dougall was holding the shares in trust for 'Directors and others, who had given an undertaking that calls on the shares would be paid'.¹⁵⁷ By releasing borrowing powers, funds would become available to repay the money advanced and the shares could be recovered. This dubious financial practice was unsuccessfully opposed by the Great North, although Great North directors subsequently applied a similar technique in 1859 on the Formartine and Buchan Railway, as the previous chapter has illustrated.¹⁵⁸ Great North minutes record Matheson's assertion that the Great North 'wished to grasp at the management of the line'.¹⁵⁹ Matheson restated to his shareholders the Inverness policy for local control of railways:

It was for the interest of this part of the country that the management of the line to Keith should remain in the hands of the Inverness board, and as long as he was a member of that board, he would oppose any amalgamation that would have the effect of taking away our interest in it.¹⁶⁰

In 1859, a further dispute between the companies arose when the Aberdeen Junction reported it had exceeded its authorised capital and proposed to seek new

certificate stating that half the capital of the Inverness and Aberdeen Junction had been subscribed and a hearing had been called.

¹⁵⁷ Minutes of the Great North of Scotland Railway, 14 August 1857, NAS/BR/GNS/1/3, p.63; Minutes of the Great North of Scotland Railway, 21 August 1857, NAS/BR/GNS/1/3, p.70.

¹⁵⁸ Minutes of the Formartine and Buchan Railway, 28 November, 1859, NAS/BR/FBR/1/1, p.128.

¹⁵⁹ Minutes of the adjourned Extra-ordinary General Meeting of the Inverness and Aberdeen Junction Railway, 18 August 1857, NAS/BR/IAJ/1/1, p.313; Minutes of the Great North of Scotland Railway, 21 August 1857, NAS/BR/GNS/1/13, p.70.

¹⁶⁰ *Herapath's Railway Journal*, 14 November 1857, p.1180, reporting the Ordinary General Meeting of the Inverness and Aberdeen Junction Railway held on 31 October 1857, at which borrowing powers were approved and Matheson commented that there would be 'no mystery, no secrecy' if the nominated Great North representatives attended Aberdeen Junction board meetings.

powers for preference stock.¹⁶¹ Without any prospect of gaining concessions from Inverness to extend westwards, the Great North offered to sell its £40,000 of stock back to the Inverness and Aberdeen Junction and withdraw from the board; Matheson and Bruce recognised the advantage in acceptance:

... after careful consideration of all the circumstances, and in particular the importance to this Company of being relieved from all future obstructions and interference ... and also taking into account the steady increase in the traffic of the Company, they had resolved to submit a proposal to the Great North for the purchase of their shares.¹⁶²

In January 1860, the Great North agreed to sell its shares at par¹⁶³ and the board reassured its shareholders that the £40,000 could now yield 5 percent to their company, rather than the 3½ percent paid by Inverness.¹⁶⁴ Despite the public

¹⁶¹ Report to the Ordinary General Meeting of the Inverness and Aberdeen Junction Railway, 28 October 1859, NAS/BR/IAJ/1/2, pp.40-42 and page 2 of inserted printed report; Appendix, table 12(a), which shows capital expenditure to 31 August 1859 of £501,421, although the authorised share and loan capital of the company was £433,500; Minutes of an Extraordinary General Meeting of the Inverness and Aberdeen Junction Railway, 20 December 1859, NAS/BR/IAJ/1/2, p.66, at which the company was authorised to seek new powers to raise capital and approved under 23 Vic. cap.9, 1860, The Inverness and Aberdeen Junction Railway Act, that raised authorised capital from £325,000 to £475,000 by £150,000 of preference stock with borrowing powers adjusted to raise an additional £50,000 of loan capital.

¹⁶² Minutes of the Inverness and Aberdeen Junction Railway, 25 January 1860, NAS/BR/IAJ/1/2, p.75: Matheson told the board that 'after the last general meeting of the Company at Inverness, a suggestion had been thrown out upon the part of the Great North of Scotland Company that they would not be indisposed to part with their interest in this Company – Conferences had subsequently take place between the Hon Mr Bruce and Mr Stewart and Mr Anderson, in which the view of the Great North were definitely ascertained'.

¹⁶³ Letter of law agents Adam and Anderson to R Milne, secretary of the Great North, in the minutes of the Traffic and Finance Committee of the Great North of Scotland Railway, 17 January 1860. NAS/BR/GNS/1/3, p.425: the Great North board agreed to payment of the £40,000 by two bills of £20,000, the first due in one year on 1 January 1861 and the second in two years on 1 January 1862, and the shares were transferred on 3 February 1860 and reported to the Traffic and Finance Committee, 7 February 1860, NAS/BR/GNS/1/3, p.432; Minutes of the Inverness and Aberdeen Junction Railway, 25 January 1860, NAS/BR/IAJ/1/2, p.76, recording that the interest payable on the two bills was to be at the level of the dividend paid on Inverness and Aberdeen Junction ordinary shares (Appendix, table 12(b) shows this rate to be an average of 4% in 1860 and 1861).

¹⁶⁴ Report of the deputy chairman, John Stewart, to the 15th Ordinary General Meeting of the Great North of Scotland Railway, 2 April 1860, NAS/BR/GNS/1/3, p.451 and page 3 of printed report of the meeting, stating that the transaction was profitable 'seeing that the

disagreement, the Inverness and Aberdeen companies shared a profitable monopoly over the line between Inverness and Aberdeen, but a clear territorial border had been established at Keith. At this time, the Great North was consolidating its territory by supporting the development of branch lines, but the dissent with Inverness prompted an exploration of new competitive routes to the north and west, which are examined in the following chapter.

The very difficult relations which ensued between Inverness and Aberdeen can obscure evidence of the continuation of both official and unofficial lines of communication, assisted by several Inverness directors who were also directors of companies associated with the Great North: WJ Tayler was chairman of the Banff, Macduff and Turriff Junction Railway,¹⁶⁵ a branch supported by the Great North, and Thomas Bruce was chairman of the Banff, Portsoy and Strathisla Railway,¹⁶⁶ which was worked by the Great North from 1863. Bruce was also deputy chairman of the Inverness and Aberdeen Junction and, ostensibly to try to remove Great North opposition to the Aberdeen Junction's bill for preference stock, suggested to the Great North in December 1859 that Inverness might contribute £20,000 towards a Great North scheme to make a connection across Aberdeen to the Scottish North-Eastern, thereby removing the discontinuity in the northern trunk route.¹⁶⁷ These discussions took place at the time the share resale was being negotiated, when outward relations between the companies were antagonistic, but contact continued after the withdrawal of the Great North from the Inverness and Aberdeen Junction Board.¹⁶⁸ Although the Inverness railway strategy was predicated on a direct line

Inverness Company were only paying three and a half percent, while this Company will be able to make five per cent out of the £40,000'.

¹⁶⁵ Minutes of the Banff, Macduff and Turriff Extension Railway, 24 September 1857, NAS/BR/BMEX/1/1, p.2.

¹⁶⁶ Minutes of the Banff, Portsoy and Strathisla Railway, 24 September 1857, NAS/BR/BAN/1/1, p.1.

¹⁶⁷ Minutes of the Great North of Scotland Railway, 23 December 1859, NAS/BR/GNS/1/3, p.418.

¹⁶⁸ Minutes of the Great North of Scotland Railway, 23 December 1859, NAS/BR/GNS/1/3, p.418; Minutes of the Great North of Scotland Railway, 7 April 1860, NAS/BR/GNS/1/3, p.465, recording correspondence between Bruce and Great North secretary Milne over plans for a cross-Aberdeen line via the Denburn Valley.

from Inverness to Perth to remove the detour via Aberdeen, the heavy capital costs of such a scheme might have encouraged this exploration of establishing a continuous route southwards via Aberdeen. The Great North considered meeting the Scottish North-Eastern and Aberdeen Junction companies 'for the purposes of ascertaining what amount of pecuniary support these parties would give and under what conditions' but no progress resulted.¹⁶⁹ In the following year, the monopoly of the Great North came under direct threat from both the Scottish North-Eastern and Inverness companies, dissatisfied with isolationist stance of the Great North.

Consolidation of the Inverness web

In contrast to the Great North's strategy to consolidate its territory by a network of branches, the Inverness promoters planned main lines south and west of Inverness to secure their control of highland railway routes. Other than the direct route over the Grampian Mountains to Perth surveyed by Mitchell for the 1846 scheme, the only other southern access to Inverness was via the Great Glen, already traversed by the Caledonian Canal. With a view to securing this route, deputy chairman Bruce informed the Inverness and Aberdeen Junction directors in 1860 'that the Government were most anxious to be relieved of the annual expense attendant on keeping up and working the Canal ...' and suggested a lease of the Canal 'provided that no expense or liability was incurred beyond wear and tear'.¹⁷⁰ The directors decided that any lease should also include the Crinan Canal, which was an integral part of the sea route to Glasgow.¹⁷¹ Although the Commissioners 'generally

¹⁶⁹ Minutes of the Great North of Scotland Railway, 7 April 1860, NAS/BR/GNS/1/3, p.465 and p.468; Minutes of the Scottish North-Eastern Railway, 19 May 1860, pp.292-93, recording a meeting between Stirling of the Scottish North-Eastern, Milne of the Great North and Bruce of the Aberdeen Junction 'in regard to the formation of a Locomotive Junction between the Railways at Aberdeen' and agreeing that the matter would be raised at each Board. Discussions were therefore continuing only two months before the provisional committee of the Perth Junction minuted arrangements for the sale of shares in the new direct line in July 1861; see also chapter 7, 'Defence and collapse of the Aberdeen monopoly'.

¹⁷⁰ Minutes of the Inverness and Aberdeen Junction Railway, 17 February 1860, NAS/BR/IAJ/1/2, p.91.

¹⁷¹ Minutes of the Inverness and Aberdeen Junction Railway, 22 February 1860, NAS/BR/IAJ/1/2, p.101.

approved' of the Aberdeen Junction proposals, they decided to advertise a lease.¹⁷² Both canals were heavily in debt and the Caledonian Canal was losing £1,000 per year by 1863.¹⁷³ The Inverness directors concluded that the direct line to Perth retained its priority in their strategy for northern railways and the subsequent 1861 promotion southwards is considered in the next chapter.

- west and north: the Inverness and Ross-shire Railway

Once the Inverness and Aberdeen Junction line had protected Inverness from the east by 1858, the Inverness and Ross-shire Railway was promoted as an extension of the railway web to the west and north of Inverness. The mountainous nature of the north-west highlands concentrated the population towards the eastern coastlands, but the deep indentations of the Moray, Cromarty and Dornoch Firths necessitated any substantial railway route via the east coast to be of some length. This area had aroused earlier interest from railway promoters in 1845 for an 'Inverness and Ross' line, but no bill was submitted.¹⁷⁴ The eastern seaboard of Ross-shire contained many farms that were 'textbook models of improvement agriculture',¹⁷⁵ financed largely by new landowners who had earned their wealth elsewhere,¹⁷⁶ among whom was Alexander Matheson, chairman of the Inverness and Aberdeen Junction Railway.

Mitchell presented details of a proposed extension to Dingwall to the Aberdeen Junction board in November 1858 and a meeting 'to consider the practicality and expediency of constructing a Railway from Inverness to Dingwall by Beauly' was

¹⁷² Minutes of the Inverness and Aberdeen Junction Railway, 29 February 1860, NAS/BR/IAJ/1/2, p.102.

¹⁷³ J Lindsay, *The Canals of Scotland* (Newton Abbot, 1968), p.129 and p.171.

¹⁷⁴ Bradshaw's *Railway Gazette*, 13 December 1845, p.843; 7 January 1846, pp.1090-92.

¹⁷⁵ JAR Smith, 'From Isolation to Integration: the development of roads in the northern Highlands of Scotland, 1800-1850' (unpublished PhD thesis, Aberdeen University, 2001), p.56.

¹⁷⁶ IRM Mowat, *Easter Ross 1750-1850: the double frontier*, p.31.

held in January 1859.¹⁷⁷ Eleven of the eighteen people present were directors or officers of the Inverness companies and so, unsurprisingly, the line was described as an extension of the Inverness and Nairn and Inverness and Aberdeen Junction companies and on which 'the utmost economy would require to be practised ...'; the meeting also produced 'a good deal of eagerness to know what prospect there was of accomplishing the work without any hope of a dividend'.¹⁷⁸ The public was urged to consider:

... estimating their profit on investments, not more by the actual dividend to be realised, than by the comfort, public advantage, and improved commercial and agricultural position, which a railway cannot fail to produce.¹⁷⁹

MJ Freeman argues that the development of managerial capitalism on the railways resulted in ownership by the shareholders becoming divorced from control and, consequently, railways were not always operated to earn maximum profits.¹⁸⁰ The record of this Ross-shire meeting provides an early example of the intention to construct highland railways where profit and investor returns were not the sole objectives of the promoters. The dominant investment of large landowners in northern railways, intended principally to open their highland estates to economic development and national trade, ensured that ownership and control were not separated in any of the Inverness companies. Moreover, there was no opposition to railway development in this region because it was isolated from the rest of the country.¹⁸¹ Inverness and Aberdeen Junction shareholders were advised:

¹⁷⁷ Minutes of the Inverness and Aberdeen Junction Railway, 2 November 1858, NAS/BR/IAJ/1/2, p.495; Minutes of the Inverness and Ross-shire Railway, 18 January 1859, NAS/BR/IRR/1/2, p.1.

¹⁷⁸ Minutes of the Inverness and Ross-shire Railway, 18 January 1859, NAS/BR/IRR/1/2, p.1.

¹⁷⁹ Minutes of the Inverness and Ross-shire Railway, 18 January 1859, NAS/BR/IRR/1/2, pp.2-4, inserted press report of the meeting.

¹⁸⁰ MJ Freeman, 'Introduction', in MJ Freeman and DH Aldcroft (eds.), *Transport in Victorian Britain*, pp.8-9.

¹⁸¹ *Railway Times*, 28 April 1860, p.461; C Heap and J Riemsdijk, *The Pre-grouping Railways*, part 3 (London 1985), p.73.

While retaining their objections to holding Stock in Branch Lines, your Directors regard the Extension to the North as exceptional and are disposed to recommend to you to take an adequate interest in what is, practically, a continuation of the Main Line into a new and wealthy district ...¹⁸²

Matheson later justified this western extension as an essential part of the Inverness strategic plan although, as a principal landowner in the district served by the new line, he recognised the potential economic benefits and became the largest shareholder in the Ross-shire company.¹⁸³

... a line from Inverness to Keith occupied by no means a safe position ... the next step taken by the Directors was to promote the Inverness and Ross-shire line as far as Invergordon and ultimately on to the confines of Sutherland at Bonar Bridge, thus completely securing the traffic of the whole country north of Inverness to the Junction line, and greatly strengthening the position of the Company. Without the extension to Bonar Bridge, we would not have succeeded in driving the steamers from the Moray Firth and the coast of Sutherland.¹⁸⁴

Like the short Inverness-Nairn line before, the Ross-shire line to Dingwall was not seen as a branch but part of a future main route into the far north. Subscriptions from Inverness companies were made conditional upon 'the undertaking being

¹⁸² Report to the Ordinary General Meeting of the Inverness and Aberdeen Junction Railway, 28 October 1859, NAS/BR/IAJ/1/2, p.40 and page 2 of printed report.

¹⁸³ Register of Dividends, 1864-65, Inverness and Aberdeen Junction Railway, NAS/BR/IAJ/2/1, in which Matheson is shown as holding £11,000 of the £58,318 of ordinary stock of the Inverness and Ross-shire Railway raised by subscription and recorded in the register for 31 July 1864, which represents 18.9% of the issued stock on which dividend was paid; Appendix, table 15(a).

¹⁸⁴ *Herapath's Railway Journal*, 4 November 1865, p.1217, reporting Matheson's address to the 1st Ordinary General Meeting of the Highland Railway held on 28 October 1865; *Railway Times*, 4 November 1865, p.1407, reporting Bruce's agreement with Matheson's argument at the 1st Ordinary General Meeting of the Highland Railway held on 28 October 1865: 'Had we not pushed into Ross-shire we would have been liable, at any moment to the threat, if not the performance, of a line which would render our property comparatively valueless ... But having these lines north, we have command of the traffic that concentrates at this town, and no other company can pass over it beyond Inverness; therefore they cannot touch the main source of our traffic'.

extended as far as Alness to capture 'the greater part of the Sutherlandshire and Easter Ross traffic'.¹⁸⁵ Alness was, perhaps coincidentally, very close to Matheson's estates at Ardross. The Inverness and Aberdeen Junction confirmed that the company would work the Ross-shire for 50 percent of receipts and subscribe £15,000 for two seats on the board, but required that £55,000 was raised by local subscription exclusive of any railway contractor or railway company subscriptions and that amalgamation should be sought within three years of the opening of the Ross-shire line.¹⁸⁶

The Ross-shire minutes omitted the Inverness conditions for local subscriptions and amalgamation, but the purpose of the Ross-shire as forming the western arm of the Inverness web was explicit.¹⁸⁷ The Inverness and Nairn Railway, already negotiating an amalgamation with the Inverness and Aberdeen Junction, advised its shareholders that the Ross-shire 'cannot fail, when opened, to throw additional traffic on your Line' and offered £10,000 on the same terms as the Aberdeen Junction.¹⁸⁸ The Ross-shire agreed to extend the line from Dingwall to Invergordon, two miles beyond Alness, and guaranteed an additional £6,000 capital.¹⁸⁹ The complete interweaving of the Inverness companies is illustrated by the minute of the Aberdeen

¹⁸⁵ Minutes of the Inverness and Ross-shire Railway, 22 October 1859, NAS/BR/IRR/1/2, p.36; Minutes of the Inverness and Nairn Railway, 27 October 1859, NAS/BR/INR/1/2, p.48; Minutes of the Inverness and Aberdeen Junction Railway, 27 October 1859, NAS/BR/IAJ/1/2, p.38.

¹⁸⁶ Minutes of the Inverness and Aberdeen Junction Railway, 2 September 1859 and 27 October 1859, NAS/BR/IAJ/1/2, p.17 and p.39; also scroll minutes of the directors of the Inverness and Nairn Railway, 27 October 1859, NAS/BR/INR/1/4, item 2, which repeat the conditions set by the Inverness and Aberdeen Junction board.

¹⁸⁷ Minutes of the Inverness and Ross-shire Railway, 27 October 1859, NAS/BR/IRR/1/2, p.39, recording the minutes of the Inverness and Nairn and Inverness and Aberdeen Junction Railways, both dated 27 October 1859.

¹⁸⁸ Report to the Ordinary General Meeting of the Inverness and Nairn Railway, 28 October 1858, NAS/BR/INR/1/2, p.50; Minutes of the Inverness and Nairn Railway, 27 October 1859, NAS/BR/INR/1/2, p.48.

¹⁸⁹ Minutes of the Inverness and Ross-shire Railway, 4 November 1859, NAS/IRR/1/2, pp.42-44, recording the guarantee of subscribers to provide an additional £6,000 to extend the line to the west end of Invergordon; Scroll minutes of the directors of the Inverness and Nairn Railway, 7 November 1859, NAS/BR/INR/1/4, item 2, recording that the Ross-shire promoters had agreed that £6,000 was to be raised locally for the Invergordon section, 'independent of what may be subscribed for the line to Dingwall and Alness'.

Junction board, of which Matheson was chairman, recording 'their gratification' to the Ross-shire for agreeing to extend their line; the Ross-shire sub-committee that agreed to do so was also chaired by Matheson, and Matheson was subsequently appointed the first chairman of the Ross-shire board in 1860.¹⁹⁰

In December 1859, Mitchell estimated the revised cost of the extended line at £214,418¹⁹¹ and, in the following June, advised the cost per mile would be £6,852.¹⁹² Authorised capital of the company was set at £215,000, giving a projected capital cost per mile of £6,880.¹⁹³ The *Inverness Courier* was enthusiastic:

This line ... is the next great step in the progress of railway communication northwards ... favourable arrangements have been made with landowners, the contract price is moderate, and the shareholders are sanguine that this will be one of the best paying railway undertakings in the North.¹⁹⁴

Even with the application of 'cheap railway' principles, however, financial difficulties were immediately encountered. The directors endeavoured to keep tight control of costs and pressed for an early opening to generate revenue:

¹⁹⁰ Minutes of the Inverness and Aberdeen Junction Railway, 4 November 1859, NAS/BR/IAJ/1/2, p.45; Minutes of the Inverness and Ross-shire Railway, 8 January 1859, NAS/BR/IRR/1/12, p.5, recording Matheson's appointment as chairman of the sub-committee; Minutes of the Inverness and Ross-shire Railway, 23 July 1860, p.106, recording the appointment of Matheson as interim chairman and confirmed after the 1st Ordinary General Meeting on 31 August 1860, NAS/BR/IRR/1/2, p.119 and p.126.

¹⁹¹ Minutes of the Inverness and Ross-shire Railway, 31 December 1859, NAS/BR/IRR/1/2, p.60.

¹⁹² Minutes of the Inverness and Ross-shire Railway, 23 June 1860, NAS/BR/IRR/1/2, p.101: the Inverness-Invergordon line was 31¼ miles in length which produces a capital cost per mile of £6,861 based on Mitchell's estimate of £214,418 rather than the £6,852 quoted in the company's minutes.

¹⁹³ 23&24 Vic. cap.131, 1860, The Inverness and Ross-shire Railway Act, with authorised capital of £215,000 and borrowing powers of £71,600: the act also authorised subscriptions of £15,000 from the Inverness and Aberdeen Junction Railway and £10,000 from the Inverness and Nairn Railway.

¹⁹⁴ *Inverness Courier*, 20 September 1860, contained in the minute book of the Inverness and Ross-shire Railway, NAS/BR/IRR/1/2, p.126.

The Board being desirous of ensuring the strictest economy in the construction of the Line and being strongly of opinion that the ultimate success of the Lines in the North, where the Country is thinly populated and great competition for the traffic exists by sea, depend very much on the amount of the original cost, it was resolved that ... no deviation from Plans or Contracts involving extra expenditure of money, however small, be entered into without obtaining the express sanction of the Board by a minute ...¹⁹⁵

Detailed capital accounts for the Ross-shire have not survived but the accounts of the Inverness and Aberdeen Junction for August 1862 show that £129,751 of Ross-shire stock had been issued, representing 60 percent of authorised capital, but an unspecified proportion of this sum had been issued as security for loans;¹⁹⁶ for example, the Caledonian Bank had granted a £20,000 loan against security of company stock and the personal guarantee of the directors in May 1861.¹⁹⁷ Matheson informed the Board in April 1861 that £150,000 was required to complete the line and that Parliament would not agree to the conversion of unissued ordinary stock as preference stock unless 'the Company refrained from exercising their borrowing powers'.¹⁹⁸ The Ross-shire board obtained shareholder approval to take

¹⁹⁵ Minutes of the Inverness and Ross-shire Railway, 11 March 1861, NAS/BR/IRR/1/2 (NB: numbered pages in the minute book cease after August 1860): the minute also recorded that 'all the stations on the line to be constructed of timber and in the most economical manner'.

¹⁹⁶ Appendix, table 15(a), note (4). Some indication of the scale of loans secured on Ross-shire stock can be deduced from 1864 data; 3½ % dividend was paid on £58,318 of Ross-shire stock for the half year to 31 July 1864 (in Register of Dividends, 1864-65, Inverness and Aberdeen Junction Railway, NAS/BR./IAJ/1/2), but £136,671 of stock is shown in Aberdeen Junction accounts as issued share capital, which suggests that £78,353 (57.3% of issued share capital) was held as bank security against loans. However, after amalgamation in June 1862, Ross-shire stock was used by the Aberdeen Junction to raise loans for the wider use of Inverness web companies (in minutes of the Inverness and Aberdeen Junction Railway, 2 January 1864, NAS/BR/IAJ/1/2, p.521) and so the level of lending secured on Ross-shire stock cannot be attributed solely to the capital cost of the Ross-shire line to Invergordon.

¹⁹⁷ Accounts of the Inverness and Aberdeen Junction Railway reported to the Ordinary General Meeting, 28 October 1862, NAS/BR/IAJ/1/2, p.375, publishing the capital account to 31 August 1862: the Inverness and Ross-shire Railway was amalgamated with the Inverness and Aberdeen Junction Railway on 30 June 1862; Minutes of the Inverness and Ross-shire Railway, 28 May 1861, NAS/BR/IRR/1/2.

¹⁹⁸ Minutes of the Inverness and Ross-shire Railway, 29 April 1861, NAS/BR/IRR/1/2.

borrowing powers in October 1861,¹⁹⁹ which implied that £107,500 of capital had been paid up, but the Aberdeen Junction records show that only £83,000 was subscribed by that date and so it must be assumed that the previous creative financial techniques of the host company were applied to secure this result.²⁰⁰ Also in October 1861, the Ross-shire approved an amalgamation with the Aberdeen Junction in return for two seats on the board and a modest guaranteed dividend on the stock, even though the line was yet to open.²⁰¹ The release of borrowing powers produced a rapid stream of debenture loans; within four months, £62,770 of the authorised £71,600 had been raised at 4½ percent interest.²⁰² The Ross-shire found itself holding £25,000 cash in the Caledonian Bank at 2 percent interest and chairman Matheson reported that the Aberdeen Junction 'would take the temporary use of any sum that this Company could conveniently spare'; £20,000 was transferred to the Aberdeen Junction at a rate of interest to be agreed.²⁰³

The Inverness and Ross-shire opened to Dingwall in June 1862 and was amalgamated with the Inverness and Aberdeen Junction that month, although the

¹⁹⁹ Resolution of the Ordinary General Meeting of the Ross-shire Railway, 29 October 1861, NAS/BR/IRR/1/2.

²⁰⁰ Minutes of the Inverness and Ross-shire Railway, 16 October 1861, minute 3, NAS/BR/IRR/1/2; Minutes of the Inverness and Aberdeen Junction Railway, 16 October 1861, NAS/BR/IAJ/1/2, p.274, recording that £83,000 of the £245,000 Ross-shire capital had been subscribed. The dividend register for 1864-65 (NAS/BR/IAJ/2/1), shows that £58,318 of ordinary Ross-shire stock was still extant on 31 July 1864 on which dividend was paid and, as the Inverness and Nairn and Inverness and Aberdeen Junction had subscribed £25,000 to the Ross-shire before all three companies were amalgamated, these data produces a total of Ross-shire stock of £83,318, which corresponds almost exactly to the total quoted as subscribed in 1861 in Inverness and Aberdeen Junction company minutes. Thus, half the share capital of the Ross-shire could not have been paid up by the date borrowing powers were released.

²⁰¹ Minutes of the Inverness and Ross-shire Railway, 16 October 1861, minute 12, NAS/BR/IRR/1/2; Minutes of the Inverness and Aberdeen Junction Railway, 16 October 1861, NAS/BR/IAJ/1/2, p.274: guaranteed dividend on ordinary Ross-shire stock was fixed at 3%, rising by ½ % per year until it reach the dividend level of the Inverness and Aberdeen Junction stock, when the two stocks would be merged.

²⁰² Minutes of the Inverness and Ross-shire Railway, 8, 14 and 23 November 1861, 27 and 28 December 1861, 17 and 31 January 1862, and 18 February 1862, NAS/BR/IRR/1/2 (bank discount rates were 3% in November 1861 and 2½ % in January 1862).

²⁰³ Minutes of the Inverness and Ross-shire Railway, 18 February 1862, NAS/BR/IRR/1/2; Minutes of the Inverness and Aberdeen Junction Railway, 18 February 1862, NAS/BR/IAJ/1/2, p.308.

extension to Invergordon did not open until March 1863.²⁰⁴ The Inverness directors had intended that Invergordon would be the northern terminus of the web,²⁰⁵ but the Ross-shire extension was promoted to Bonar Bridge in 1862,²⁰⁶ following the proffered investment of the Duke of Sutherland, anxious to connect his vast northern estates with the railway network.²⁰⁷ As no revenue flowed until after amalgamation, the comparative financial stability of this constituent company of the Inverness web cannot be determined. However, the pattern of Ross-shire shareholdings in 1864 matches those identified earlier for the Nairn and Aberdeen Junction companies and suggests many small local subscriptions and the dominance of a few large investors (table 58).²⁰⁸ By 1864, £58,318 of original stock remained extant: 13.1 percent of shareholders held just one share and 62.1 percent held five shares or fewer. The largest shareholders were Matheson (£11,000) and the Duke of Sutherland (£5,000), holding 27.4 percent of the stock between them, although the National Bank of Scotland held £6,000, probably as security for loans; fourteen shareholders (6.8 percent) held £40,360 (69.2 percent) of issued stock on which dividend was paid.²⁰⁹

²⁰⁴ 25&26 Vic. cap. 113, 1862, The Inverness and Aberdeen Junction Railway Act.

²⁰⁵ *Inverness Courier*, 15 August 1903, reproducing an article on reminiscences of the opening of the Highland line on 9 September 1863 by DM of Inverness, and contained in 'Miscellaneous memoranda on the history of the Highland Railway', NAS/BR/HR/4/3/2.

²⁰⁶ The Ross-shire extension is examined in chapter 9, 'The far north lines: ownership and control'; 26&27 Vic. cap.32, 1863, The Inverness and Aberdeen Junction Railway (Bonar Bridge Extension) Act 1863, with authorised capital of £160,000 and borrowing powers of £53,000.

²⁰⁷ Minutes of the Inverness and Aberdeen Junction Railway, 18 March 1862, NAS/BR/IAJ/1/2, p.314, reporting a subscription list of £50,000 for an extension from Invergordon to Bonar Bridge, of which £30,000 had been offered by the Duke of Sutherland; *Herapath's Railway Journal*, 22 November 1862, p.1208, reporting Matheson's address to the Ordinary General Meeting of the Inverness and Aberdeen Junction Railway held on 28 October 1862, advising that 'once they got in connection with the southern lines at Perth and had reached Bonar-bridge in the north, they ought to pause'; J Mitchell, *Reminiscences of My Life in the Highlands*, vol.II, p.91, recording that, by 1838, the Duke of Sutherland owned 1.2 million acres of the 1.84 million acres comprising the county of Sutherland.

²⁰⁸ Data compiled for Ross-shire stock shareholders at 31 July 1864 from the Register of Dividends, 1864-65, Inverness and Aberdeen Junction Railway, NAS/BR/IAJ/2/1; Appendix, table 15.

²⁰⁹ Data to 31 July 1864 for Ross-shire stock shareholders holding £1,000 or more in ordinary shares, compiled from the Register of Dividends, 1864-65, Inverness and Aberdeen Junction Railway, NAS/BR/IAJ/2/1.

Table 58: Shareholder investment held in Inverness and Ross-shire stock, 1864

Amount invested (£): 31 July 1864	Number of shareholders	
£10 shares		
£10	27	
£20	27	
£30	24	
£40	7	
£50	43	
£60	3	
£70	2	
£80	2	
£90	0	
£100	24	
£101-200	21	
£201-300	4	
£301-400	0	
£401-500	5	
£501-1000	7	
£1001-2000	4	
£2001-3000	3	
£3001-4000	0	
£4001-5000	1	Duke of Sutherland (£5,000)
£5001-10000	1	National Bank (£6,000)
£10000+	1	Alexander Matheson (£11,000)
Total	206	
Total paid up (31 July 1864): £58,318		
Source: Data compiled for Ross-shire stock shareholders at 31 July 1864 from the Register of Dividends, 1864-65, Inverness and Aberdeen Junction Railway, NAS/BR/IAJ/2/1.		

- the unified company

By 1862, the management of the web companies had been consolidated. From an initial position of little overt overlap across the boards of the first two Inverness companies, the 'host' Inverness and Aberdeen Junction gradually extended its influence and control and provided the core direction for the Inverness web. Matheson and Bruce appear as the principal board strategists, loyally supported throughout by directors Fraser-Tytler and Mackintosh and joined by Loch, representative of the Duke of Sutherland, as the railway web was extended, and aided by secretary Dougall, engineer Mitchell and banker Waterston. Although the final constituent of the Inverness railway web, the Inverness and Perth Junction Railway, is examined in the following chapter, its relationship with the host company is included in table 59 to illustrate the significant aristocratic influence on its board.

Table 59: First directors named in parliamentary bills for Inverness web companies, 1854-1861

	Inverness and Nairn	Inverness and Aberdeen Junction	Inverness and Ross-shire	Inverness and Perth Junction
Act of incorporation	1854	1856	1860	1861
Amalgamation	1861	Host company	1862	1865
Ewen MacPherson of Cluny	■ (First chairman)			1 st board
Eneas W Mackintosh	■ (Chairman 1857)	(2) (1865)	■	■
Lt Col A Findlay	■			
Capt W Fraser Tytler	■ (Deputy)	■	■	■
Henry W White	■			
Charles Stewart	■			
John Dunbar	■			
Alexander Forbes	■			
Colin Lyon Mackenzie	■		■	
Robert Fraser	■			
Alexander Smyth	■	■		
Lt Col Hugh Inglis	■			[■]
Hon Lewis A Grant		■		
Marquis of Stafford		■		
William James Tayler		■		
Alexander Matheson		■ (Chairman)	■ (Chairman)	■ (Deputy)
DC Marjoribanks		■		
Hon TC Bruce		■ (Deputy)	■	■ (Chairman)
George Loch		■		■
Alexander Inglis Robertson		■		[■]
James C Brodie		■		
Edward Mortimer		■		
Sir James EH Elphinstone		■ (Great North)		
John Blaikie		■ (Great North)		
Sir AP Gordon-Cumming		■ (from 1859)	■	■
Hon Simon Fraser of Lovat		(2)	■ (Deputy)	1 st board
Sir James Matheson			■	
Sir Kenneth S Mackenzie			■	1 st board
Keith WS Mackenzie			■	
R B Aeneas MacLeod		(2)	■	
AC Mackenzie			■	
Duke of Athole				■
Duke of Sutherland		(2)		■
Marquis of Breadalbane				■
Earl of Seafield		(2)		■
Sir R Menzies				■
Major C Cumming-Bruce				■
Evan Baillie				[■]
Sources: Acts of Parliament relating to constituent companies of the Highland Railway, NAS/BR/AP(S)/1/123; Scroll minutes of the 1 st Ordinary General Meeting of the Inverness and Perth Junction Railway, 19 September 1861, NAS/BR/IPJ/1/2.				
(1): The symbol [■] in the column for the Inverness and Perth Junction Railway indicates directors named in the legislation who were not put forward for election at the first ordinary general meeting of the Company; those not named in the act but elected at the ordinary general meeting are indicated as '1 st board'.				
(2): Individuals marked as (2) had joined the Aberdeen Junction board by October 1862 (NAS/BR/IAJ/1/2, p.375), indicating the strengthening of the cross-web representation on the board of the host company.				

Although the state had rejected proposals in 1846 for a direct line from Inverness to the south in favour of the Great North's Aberdeen-Inverness route, this chapter has

shown that the declared intent of Inverness strategists in 1845 to secure the control of railways serving the northern counties of Scotland had been translated into a sagacious plan that only shortage of capital prevented from being launched in full in 1853. The implementation of this plan was therefore staged between 1853 and 1862, initially to block the Great North and its Aberdonian influence in the east at Keith and then to secure the west and north of the highlands by an extension into the agricultural seaboard of Easter Ross. The immediate consequence of the progressive realisation of the Inverness railway strategy was to isolate its rival, the Great North, which was denied access to Inverness and still lacked a continuous southern route across Aberdeen.

The ultimate objective of a direct line from Inverness to connect with the southern railway system and open the highlands to national networks of trade was made explicit by the Inverness promoters from the outset. The Inverness companies were nominally independent, but the intent to consolidate them into one was equally apparent and facilitated by the inter-weaving of directors across the boards. The amalgamations of these Inverness companies, which provided end-on routes across the northern counties, were approved by the state without dissent, which lends support to Simmons's assertion that the state showed less concern over railway amalgamations along a continuous route. The chapter has identified the influential individuals that designed and developed the Inverness railway web. New wealthy landowners, such as Alexander Matheson, joined with established proprietors, exemplified by the Duke of Sutherland and the Earl of Seafield with their commissioners, George Loch and Thomas Bruce, to promote railways that would improve transport links with their extensive estates and seek thereby to increase land values and regional trade, and from which wider economic and social benefits might accrue to the northern counties.

The widespread and successful application of the principles of the 'cheap railway' to these remote main lines not only produced capital costs per mile that were significantly below those of the earlier inter-urban Scottish lines and the 1845 trunk route to Aberdeen, but also yielded sufficient revenue, distinctly seasonal in its pattern, that allowed the companies to provide modest dividends to shareholders. The Inverness railway web was financed almost exclusively from local capital.

English investment in these companies was insignificant, which corroborates the argument that the relative size and remoteness of northern lines were unattractive features in a national capital market. All three Inverness companies relied heavily upon substantial capital injection from landowners, supplemented by small individual subscriptions from large numbers of local residents, and the longer-term holding of these local subscriptions has been illustrated.

The dominance of local landowners in capital supply retained a unity of ownership and control within the Inverness railway web as it expanded. However, share capital for the Inverness companies was difficult to raise and even the large investment of local landowners was insufficient to meet the capital costs of these lines. Mirroring the experience of the Great North and its constituents outlined in the previous chapter, the Inverness web companies turned to the banking sector for an alternative source of capital. The contacts between railway directors and banks assisted the availability of credit, bolstered by the personal guarantees of some wealthy directors, which made such bank lending virtually risk-free. The chapter suggests, however, that the problems of capital supply became more acute as the network was extended north of Inverness, an issue that is explored further in chapter 9, although the offer of capital from the Duke of Sutherland prompted the Ross-shire extension to Bonar Bridge, an example of capital supply inducing railway development.

The Inverness web had demonstrated that railways could be constructed and operated successfully in northern Scotland, although, like the Great North, the longer-term consequences of its accumulating capital debt were yet to impact, which chapter 8 will explore. Only the ultimate objective of an independent main line southwards to Perth remained for the Inverness strategists to accomplish. By 1860, the widespread dissatisfaction with the Great North's monopoly over the Aberdeen-Keith main line and the discontinuity of route across Aberdeen prompted new and vigorous competition not just from Inverness, but also from the south. These competitive developments, strongly influenced by several small independent companies, reduced the Great North to the status of an isolated rural branch line system within five years and form the subject of the next chapter.

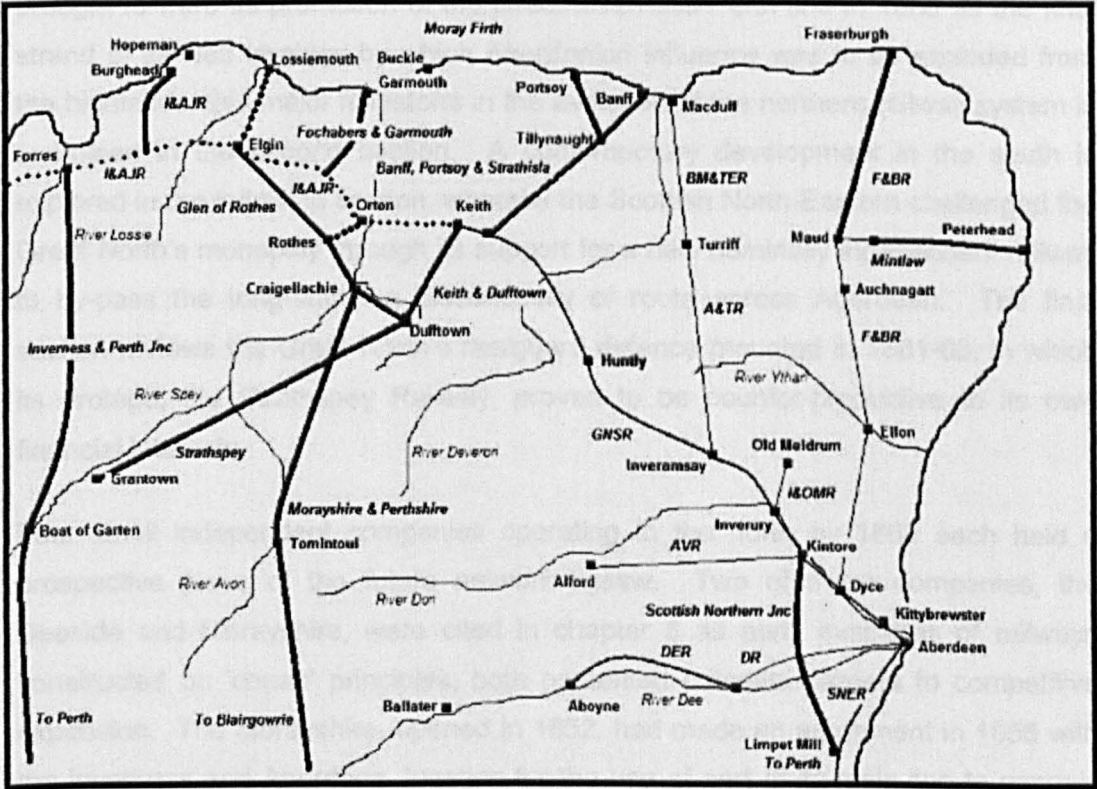
Chapter 7: Strategy and competition, 1860-65

The outline of a northern railway system had emerged by 1860, but it was focused on an elongated main line running from Perth to Inverness via Aberdeen. The route north of Aberdeen remained disconnected from the national railway network because of the failure to construct the cross-Aberdeen link authorised by the state in 1846. The Great North of Scotland and the Inverness and Aberdeen Junction Railways had each established a regional land-based monopoly. They were inter-dependent by virtue of their reliance on northern traffic crossing the joint main line, but both companies were actively planning to extend their operational compass at the expense of the other. This point, mid-way in the three decades covered by this study, provides an opportunity to review the factors that had influenced the early development of railways in northern Scotland.

Three broad questions concerning the role of state, the contribution of strategic planning, and the sources and management of finance to realise this new railway system were posed in the opening chapter. Subsequent chapters have shown the importance of the state blueprint for a Scottish railway network, from which the legislature authorised the first Anglo-Scottish trunk route to the north, and the significance of the strategic planning applied by private enterprise to develop the two northern railway webs centred on Aberdeen and Inverness, each designed to enhance the economic pre-eminence of their region. The study has identified a diminution in the capital costs of railways as lines were extended north of Aberdeen, particularly through the adoption of 'cheap railway' principles. Capital constraints arose primarily because of the almost universal difficulty in raising share capital rather than from any consequences of inaccuracies in the estimation of costs. The previous chapter has highlighted the fundamental role of local capital in financing the Inverness railway companies and the insignificance of English investment within them at a time when railways were increasingly relying on a national capital market, which suggests that the uncertain returns and the remote nature of these relatively small companies were major barriers in attracting nationwide investment. The widespread and substantial involvement of the banking sector in providing funds for the development of northern railways substantiates the historiographical argument

that loans became an alternative rather than a complementary source of railway finance.¹

Map 9: New railways projected in the north of Scotland, 1860-65



New competitive and defensive promotions	Other lines
<p>Banff, Portsoy and Strathisla (Independent) Burghead branch (Inverness web) Fochabers and Garmouth (Inverness web) Glen of Rothes (Morayshire and Great North of Scotland): the existing Morayshire line ran from Lossiemouth via Elgin, Orton, and Rothes to Craigellachie Inverness and Perth Junction (Inverness web) Morayshire and Perthshire Direct (Morayshire) Scottish Northern Junction (Scottish North-Eastern) Strathspey (Great North of Scotland)</p>	<p>AVR: Alford Valley Railway BM&TER: Banff, Macduff and Turriff Extension Railway DR: Deeside Railway DER: Deeside Extension Railway F&BR: Formartine and Buchan Railway GNSR: Great North of Scotland Railway I&AJR: Inverness and Aberdeen Junction Railway I&OMR: Inverury and Old Meldrum Railway SNER: Scottish North-Eastern Railway</p>

This chapter investigates the complex pattern of lines that were promoted in 1860-65 as Aberdeen and Inverness strove to maintain and extend their control over northern

¹ MC Reed, *Investment in Railways in Britain, 1820-1844* (London, 1975), p.72.

traffic. The severe financial consequences for both companies arising from their difficulties in raising capital for earlier routes and compounded as a result of these competitive conflicts is analysed in the following chapter. The first section considers the westward expansion of the Great North, instigated in 1859-60 to circumvent the Inverness-Aberdeen boundary established at Keith. In response, the Inverness web brought forward its promotion of the direct Inverness-Perth line in 1860 as the final strand of its web strategy by which Aberdonian influence was to be excluded from the highlands; this major milestone in the evolution of the northern railway system is examined in the second section. A contemporary development in the south is explored in the following section, whereby the Scottish North-Eastern challenged the Great North's monopoly through its support for a new nominally independent railway to by-pass the long-standing discontinuity of route across Aberdeen. The final section reviews the Great North's rearguard defence mounted in 1861-63, in which its protégé, the Strathspey Railway, proved to be counter-productive to its own financial interests.

Four small independent companies operating in the north by 1860 each held a prospective piece of the future network jigsaw. Two of these companies, the Deeside and Morayshire, were cited in chapter 6 as early examples of railways constructed on 'cheap' principles; both presented potential barriers to competitive expansion. The Morayshire, opened in 1852, had made an agreement in 1855 with the Inverness and Aberdeen Junction for the use of part of its main line to connect the Spey valley to Lossiemouth harbour on the Moray Firth, which reinforced the check on any north-westerly expansion by the Great North towards Elgin.² Also in 1852, the Deeside had opened a line running westwards along the Dee valley from Aberdeen, which presented a possible obstacle to any new northerly incursions in the east of the region. The two other small companies operated established lines along strategically important routes. In the south, the Perth and Dunkeld Railway, opened in 1856, offered a connection to the southern railway network for a direct line

² Minutes of the Morayshire Railway, 12 November 1855, NAS/MOR/1/1 (NB: Morayshire minute books have no page numbering until volume 3, NAS/BR/MOR/1/3, 1861-67); Minutes of the Inverness and Aberdeen Junction Railway, 18 December 1855, NAS/BR/IAJ/1/1, pp.108-13.

from Inverness.³ In the north, the Banff, Portsoy and Strathisla Railway, opened in 1859 from Grange on the Great North main line to the Moray Firth ports of Banff and Portsoy, gave scope to develop a coastal route by which the Great North might reach Elgin.⁴ The significance of each company is explained within the appropriate sections of this chapter.

Western expansion: the Great North and Morayshire Railway

The running rights granted by Inverness to the Morayshire could not be exercised until the Morayshire's Orton-Rothes branch and the Aberdeen Junction's main line opened in 1858, when disagreements immediately arose.⁵ The Inverness board had to instruct the Morayshire not to use the line before Board of Trade approval and complaints about Morayshire operations quickly followed.⁶ Only weeks after opening, Inverness barred Morayshire rolling stock from the main line.⁷ Inverness shareholders approved a new working agreement in October 1858, but Morayshire shareholders sought improved terms and relationships continued to deteriorate.⁸ In

³ See Chapter 4; 17&18 Vic. cap.148, 1854, The Perth and Dunkeld Railway Act; *Herapath's Railway Journal*, 19 and 26 April 1856, p.390 and p.439; *Railway Times*, 5 April 1856, p.446, reporting the opening of the Perth and Dunkeld line on 7 April 1856.

⁴ 20&21 Vic. cap.53, 1857, The Banff, Portsoy and Strathisla Railway Act, with authorised capital of £90,000 and borrowing powers of £30,000; the act included powers for a working agreement with the Great North of Scotland Railway, but an agreement was not made and implemented until 1863.

⁵ 19&20 Vic. cap.86, 1856, The Morayshire Railway (Extension) Act, authorising construction of the Orton to Craigellachie section, previously abandoned under warrant of the Railway Commissioners on 7 July 1851, reported in minutes of the Morayshire Railway, 5 September 1851, NAS/BR/MOR/1/1.

⁶ Minutes of the Inverness and Aberdeen Junction Railway, 10 June 1858, NAS/BR/IAJ/1/1, p.435; Minutes of the Inverness and Aberdeen Junction Railway, 9 and 21 September 1858, NAS/BR/IAJ/1/1, p.470 and p.472, recording 'Trains of the Morayshire Railway Company, while running over this Company's main line between Elgin and Orton, are very frequently out of time owing to the inefficiency of their plant'.

⁷ Minutes of the Inverness and Aberdeen Junction Railway, 21 September 1858, NAS/BR/IAJ/1/1, pp.472-73, noting the need for plant to be 'sufficient for the work' and resolving that '... until the Morayshire Company are able to procure such plant, management will be made for conveying their traffic between Elgin and Orton by this Company's trains'.

⁸ Minutes of a Special General Meeting of the Inverness and Aberdeen Junction Railway, 20 October 1858, NAS/BR/IAJ/1/1, p.489; Minutes of the Annual General Meeting of the

August 1859, Inverness minuted the 'continued attempts of the Morayshire Company to abstract and divert legitimate traffic of this Company by carriers and by sea'.⁹ The Morayshire responded by promoting a direct line from Rothes to Elgin to obviate the need to use the Aberdeen Junction main line.¹⁰ The *Railway Times* urged that there should be 'no waste of capital in forcing a useless line into the district',¹¹ but the Morayshire saw financial advantage in building its own line to Elgin to avoid disputes over traffic rates paid to Inverness.¹² This new Morayshire route, which represented the first significant example of duplication in the northern network,¹³ also offered a strategic opportunity to the Great North for westerly expansion, which prompted its renewed financial support for the moribund Keith and Dufftown Railway, outlined in chapter 5.¹⁴

Morayshire Railway, 30 October 1858, NAS/BR/MOR/1/2 and minutes of the Morayshire Railway, 13 April 1859, NAS/BR/MOR/1/2; Minutes of the Morayshire Railway, 9 November 1858, NAS/BR/MOR/1/2, resolving that 'a desire existed somewhere on the part of the Junction Company to cause disappointment and consequent loss to this Company'.

⁹ Minutes of the Inverness and Aberdeen Junction Railway, 3 August 1859, NAS/BR/IAJ/1/2, p.8; Order of Business Book, Inverness and Aberdeen Junction Railway, 3 August 1858, NAS/BR/IAJ/1/5, item 5, recording that the Morayshire Railway had 'unhinged the agreement between the Companies ...'.

¹⁰ Minutes of the Morayshire Railway, 31 August 1859, and resolution of a Special General Meeting of the Morayshire Railway, 31 October 1859, NAS/BR/MOR/1/2; Minutes of the Inverness and Aberdeen Junction Railway, 13 June 1859, NAS/BR/IAJ/1/2, p.62. This route had been considered in 1855 for the Inverness-Keith main line: see also chapter 6, 'The host company: the Inverness and Aberdeen Junction railway'.

¹¹ *Railway Times*, 12 November 1859, p.1245, reporting that 'The dispute between these two small and remote companies is conducted as fiercely as was the battle of the gauges ... we gather that the Morayshire is decidedly at fault' and urged that 'there will be no foray through the Glen of Rothes, no waste of capital in forcing a useless line into the district'.

¹² Appendix, tables 17(c); Minutes of the Morayshire Railway, 30 August 1858, 13 April 1859 and 7 June 1859, NAS/BR/MOR/1/2; Sir M Barclay-Harvey, *A History of the Great North of Scotland Railway* (London, 1949, reprinted Shepperton, 1998), p.33; J Roake, 'The Morayshire connection', *The Highland Railway Journal*, 1, No.7 (Winter, 1988), p.7.

¹³ M Casson, *The Evolution of the British Railway Network, 1825-1914*, Economic and Social Research Council Report, R000239586 (January 2005), pp.6-7, identifies significant duplication in the British railway network following 'Parliament's failure to heed the advice of the Board of Trade ...' in 1845.

¹⁴ 23&24 Vic. cap. 63, 1860, The Keith and Dufftown Railway Deviation Act; Minutes of the Great North of Scotland Railway, 26 August 1859, NAS/BR/GNS/1/3. p.367 and p.408.

The Morayshire therefore attracted the competitive attention of both Aberdeen and Inverness. With authorisation granted for the Morayshire line in July 1860,¹⁵ the Great North produced a draft agreement in October to work the Keith and Dufftown and Morayshire companies, thereby giving access to Elgin and the port of Lossiemouth and circumventing the Inverness barrier established at Keith.¹⁶ Inverness, which announced proposals in July to connect Inverness with Perth via a new direct line from Forres to Dunkeld,¹⁷ immediately countered by offering a 4½ percent guaranteed lease to the Morayshire provided the Rothes-Elgin route was withdrawn.¹⁸ Inverness also published notices for a branch from its main line to Burghead, supported by an offer of £10,000 from the Duke of Sutherland, to establish its own independent route to a Moray Firth port, included in its original promotion but withdrawn primarily because of pressure from the Morayshire.¹⁹

¹⁵ 23&24 Vic. cap.116, 1860, the Morayshire Railway (Junction) Act, with increased capital powers of 'not more than £40,000' which could be issued as preference stock at a rate not exceeding 5%.

¹⁶ Minutes of the Great North of Scotland Railway, 16 October 1860, NAS/BR/GNS/1/4, pp.4-9; Minutes of the Special General Meeting of the Morayshire Railway, 31 October 1860, NAS/BR/MOR/1/2, recording that the Great North would work the Morayshire's lines at 45% of gross receipts, but rising to 55% once revenue was sufficient to pay a 5% dividend: the Great North was also to subscribe £20,000 towards a junction line over the River Spey between the Morayshire and Strathspey Railways. This junction line was authorised in 1861 under 24 Vic. cap.30, 1861, The Morayshire Railway Act.

¹⁷ *Herapath's Railway Journal*, 7 July 1860, p.679; Scroll minutes of the Inverness and Perth Junction Railway, 10 July 1860, NAS/BR/IPJ/1/2; Report to the Ordinary General Meeting of the Inverness and Aberdeen Junction Railway, 30 October 1860, NAS/BR/IAJ/1/2, p.181; Minutes of the Great North of Scotland Railway, 13 July 1860, NAS/BR/GNS/1/4, pp.500, reporting the proposed line from Forres to Dunkeld and an extension of the Keith and Dufftown line to Grantown.

¹⁸ Minutes of the Inverness and Aberdeen Junction Railway, 18 October 1860, NAS/BR/IAJ/1/2, p.182; Minutes of the Great North of Scotland Railway, 16 October 1860, NAS/BR/GNS/1/4, p.12, reporting a lease offer made by the Inverness and Aberdeen Junction Railway to the Morayshire Railway on 25 October 1860; Minutes of the Morayshire Railway, 25 October 1860, NAS/BR/MOR/1/2, resolving to circulate the Great North agreement and Inverness lease proposal to shareholders.

¹⁹ Minutes of the Inverness and Aberdeen Junction Railway, 15 and 18 October 1860, NAS/BR/IAJ/1/2, p.181 and pp.182-83; 24&25 Vic. cap.18, 1861, The Inverness and Aberdeen Junction (Branch) Act, authorising a branch to Burghead; Minutes of the Morayshire Railway, 12 November 1855, NAS/BR/MOR/1/1, recording the agreement made with the Inverness and Aberdeen Junction Railway to withdraw the Aberdeen Junction's proposed branch to Burghead; D Ross, *The Highland Railway* (Stroud, 2005), p.26, notes that Burghead had been the connecting port for the Sutherland estates since 1809.

Morayshire shareholders accepted the Great North agreement, which created the through route to Elgin controlled by Aberdeen.²⁰ The Morayshire's Rothes-Elgin line was likened to Aytoun's satirical *Glenmutchkin* scheme.²¹ The *Glenmutchkin* analogy, however, was more applicable to a concurrent Morayshire proposal for an ambitious main line, in competition to the Inverness-Perth promotion, to run from its terminus at Craigellachie to Blairgowrie, served by the Scottish North-Eastern system.²² Surveys revealed the engineering difficulties of the line, for which the proposed share capital was £636,000, five times that of the existing company.²³ The scale of the promotion was beyond the capacity of the Morayshire, which acknowledged that 'the position of the Company's affairs require them to practice economy in every possible way'.²⁴ The Morayshire relied on local capital: four-fifths of its shareholders lived in the immediate locality.²⁵ Capital expenditure was already 28.5 percent above its revised estimate and it had resorted to temporary loans from banks.²⁶ The Morayshire sought support for the Blairgowrie line from other

²⁰ Minutes of a Special General Meeting of the Morayshire Railway, 31 October 1860, NAS/BR/MOR/1/2; *Herapath's Railway Journal*, 17 November 1860, pp.1164-65.

²¹ *Railway Times*, 10 November 1860, p.1262; WE Aytoun, 'How we got up the Glenmutchkin Railway and how we got out of it', *Blackwood's Edinburgh Magazine* 58 (November 1845), 453-466.

²² Minutes of the Morayshire Railway, 5 October 1860, NAS/BR/MOR/1/1; Prospectus of the Morayshire and Perthshire Direct Junction Railway, 1860, NAS/BR/PROS(S)/1/22, for a Craigellachie-Blairgowrie line with branches to Grantown and Ballindalloch. The 5 mile Blairgowrie branch of the Scottish North-Eastern connected into its main line between Perth and Aberdeen.

²³ Engineer's report on the proposed Morayshire and Perthshire Direct Junction Railway, 1 September 1860, NAS/BR/PROS(S)/1/22; Report to a Special General Meeting of the Great North of Scotland Railway, 17 July 1860, p.502, in which Great North engineer Gibb advised that the summit tunnel on the Morayshire's projected line from Elgin to Blairgowrie would have to be 'not less than six miles', which contrasted with the Morayshire's estimate of a tunnel of two miles; Appendix, table 17(a).

²⁴ Minutes of the Morayshire Railway, 15 August 1860, NAS/BR/MOR/1/2.

²⁵ Shareholder list for the Morayshire Railway, 1869, NAS/BR/MOR/2/1, which shows 79.3% of shareholders living in the Lossiemouth-Elgin-Rothes area, 12.1% living elsewhere in Scotland, 7.4% living in England and 1.2% in Ireland or abroad.

²⁶ Minutes of the Morayshire Railway, 22 November 1859, approving a £5,000 loan from the Commercial Bank, with security of £5,000 preference shares and with an 'understanding' that it was renewable for three years; Appendix, table 17(a) and 17(b): capital expenditure in 1859 was £70,330 with authorised share capital of £54,700, set in 1856.

companies, quoting the value of Anglo-Scottish traffic, but without success.²⁷ The *Railway Times* ridiculed the proposed Morayshire scheme as 'all but impracticable',²⁸ but also, surprisingly, dismissed any threat to Aberdeen from the proposed Inverness direct line.²⁹

Difficulties in raising capital for the Morayshire line to Elgin and the short junction line needed to connect it to the Great North system sent the Morayshire's capital account into deficit and the debts of the company steadily increased.³⁰ By July 1862, the Great North held £21,000 of fixed-interest Morayshire stock in return for cash advances in addition to £10,000 of ordinary shares.³¹ Morayshire dividend ceased after 1862 and, by 1864, interest absorbed three-fifths of gross revenue.³²

Revenue dipped once the Inverness-Perth direct line opened in 1863 and grew only slowly thereafter because the Morayshire route was nearly ten miles longer than the original Elgin-Keith main line.³³ The debt gearing of the Morayshire deteriorated once the capital costs of its new lines impacted and, from 1863 to 1874, the company remained as structurally weak as the branches allied to the Great North

²⁷ Copy of a circular letter from James Grant to railway companies (unspecified) seeking support for the Morayshire and Perthshire Direct Junction Railway as a competitor to the direct line from Inverness, 1860, NAS/BR/PROS(S)/1/22.

²⁸ *Railway Times*, 7 July 1860, p.773: 'To those who know the respective districts this scheme is all but impracticable, passing as it would through a desolate country ... with the gradients and other engineering works of a most costly character ... We cannot believe that the Morayshire can be serious in producing such a scheme ...'.

²⁹ *Railway Times*, 1 December 1860, p.1364: 'We refuse to entertain the idea that the Inverness and Perth can inflict the remotest injury on the Great North of Scotland ...'.

³⁰ Appendix, tables 17(b) and 17(d); Minutes of the Morayshire Railway, 20 February 1861, NAS/BR/MOR/1/2; 24&25 Vic. cap.30, 1861, The Morayshire Railway Act, in which the Great North was authorised to subscribe not more than £20,000 and to work the line once the Strathspey line opened.

³¹ Minutes of the Morayshire Railway, 2 July 1862, NAS/BR/MOR/1/3, p.86.

³² Appendix, table 17(c): 2½% dividend was paid on ordinary shares in 1862.

³³ HA Vallance, *The Great North of Scotland Railway* (Newton Abbot, 1965), p.45.

(table 60).³⁴ The *Railway Times* hoped 'that its misfortune may become a warning in all time to come'.³⁵

Table 60: Revenue and financial indicators for the Morayshire Railway, 1862-74

30 September	1862	1863	1864	1865	1866	1867	
Gross annual revenue (£)	8166	8595	6486	7602	8137	8225	
Ratio of debentures to total capital raised	24.2%	26.2%	24.6%	25.6%	25.0%	25.1%	
Ratio of gross revenue to total debt	0.177	0.097	0.078	0.090	0.091	0.113	
	1868	1869	1870	1871	1872	1873	1874
Gross annual revenue (£)	8085	8010	8327	8567	8961	8982	9262
Ratio of debentures to total capital raised	25.2%	25.2%	25.2%	25.2%	25.2%	25.2%	25.0%
Ratio of gross revenue to total debt	0.112	0.110	0.114	0.114	0.113	0.113	0.118
Source: Appendix, tables 17(c) and 17(d).							
(1): Comparative gearing ratios for the Caledonian Railway in 1849-50 were 24.5% for debentures/capital and 0.162 for gross revenue/debt.							

The value of the Morayshire to the Great North, however, was as a through route to Elgin,³⁶ but both the Morayshire and Keith and Dufftown companies that comprised it were financially insecure and required significant support from Aberdeen. The Great North was warned of 'a faltering Morayshire on one side, and an imperative extension through Strathspey on the other', which had the potential to 'convert misfortune into calamity'.³⁷ In 1866, the two companies failed to agree terms for amalgamation because of Morayshire debt and operational disputes.³⁸ An approach

³⁴ Appendix, table 17(d).

³⁵ *Railway Times*, 16 June 1860, p.685.

³⁶ *Inverness Courier*, 8 November 1860, quoted in *Herapath's Railway Journal*, 17 November, 1860, pp.1164-65.

³⁷ *Railway Times*, 1 December 1860, p.1363.

³⁸ Minutes of the Morayshire Railway, 25 September 1866, NAS/BR/MOR/1/3, p.409, recording the closure of the Morayshire's Rothes-Orton line by the Great North 'without the sanction of this Company or intimation being made to them that such was to be done'; Minutes of the Morayshire Railway 12 and 18 November 1866, NAS/BR/MOR/1/3, pp.418-19 and p.421; Appendix, tables 17 (c) and 17(d); 29&30 Vic. cap.288, 1866, The Great North of Scotland Railway (Amalgamation) Act, section 52, which granted general powers for lease of, or amalgamation with, the Morayshire Railway; 29&30 Vic. cap.20, 1866, The Morayshire Railway Act, including powers to amalgamate with the Great North, but 'terms to be agreed upon'.

by the Morayshire to the Highland Railway in 1867 for amalgamation was rejected once Inverness realised the scale of Morayshire liabilities.³⁹ For a brief period in the early 1860s, the Morayshire held a strong bargaining position with the two regional monopolies, but it failed to capitalise upon its potential power. The company was finally absorbed by the Great North in 1880.⁴⁰ The Great North had, nevertheless, succeeded in using the Morayshire to establish a new inter-company boundary at Elgin, although Keith remained the principal point of exchange for northern traffic until the turn of the century.⁴¹

The final link of the Inverness web: the central highlands route

In rejecting the 1846 Perth and Inverness Railway bill, the parliamentary committee left open an option for a future direct line from the highlands.⁴² The subsequent staged implementation of the Inverness strategy to obtain control of northern railway development has been outlined in the previous chapter.⁴³

³⁹ Minutes of the Highland Railway, 11 January 1867, NAS/BR/HR/1/1, p.258, 5 April 1867, NAS/BR/HR/1/1, p.275 and 10 May 1867, NAS/BR/HR/1/1, p.298; Minutes of the Morayshire Railway, 31 January 1867, NAS/BR/MOR/1/3, p.438, 26 March 1867, NAS/BR/MOR/1/3, pp.443-44, and 9 April 1867, NAS/BR/MOR/1/3, p.448.

⁴⁰ Agreement between the Morayshire and the Great North of Scotland Railways, 18 January 1881, in minutes of the Morayshire Railway, NAS/BR/MOR/1/4, pp.467-68: the date of amalgamation was set retrospectively at 1 October 1880 and confirmed under 44&45 Vic. cap.201, The Great North of Scotland Railway Act.

⁴¹ D Ross, *The Highland Railway*, p.83, 93 and p.112: the resolve of successive Inverness boards to maintain Keith as the point of traffic transfer reduced the Great North's Elgin route to the status of a local line and resulted in a long-running conflict stretching beyond the time period covered by this thesis. A short-lived agreement in 1883 was followed by further disputes and an eventual reference to the Railway and Canal Commissioners in 1896, whose determination assigned an equal number of trains to Keith and Elgin for traffic exchange.

⁴² Report of the House of Commons Select Committee Group 4, published in *Railway Times*, 16 May 1846, p.697; *Railway Times*, 16 May 1846, p.697; see chapter 3, 'The aftermath of the Railway Board in northern Scotland, 1845-46'.

⁴³ Minutes of the Inverness and Nairn Railway, 8 December 1853, NAS/BR/INR/1/1, pp.47-48; G and P Anderson, *Handbook to the Inverness and Nairn Railway and scenes adjoining it* (Inverness, 1856), p.29.

1860 was a catalytic year for railway development in northern Scotland. In January, the Great North withdrew from the board of the Inverness and Aberdeen Junction, acknowledging that Inverness intended Keith to remain the territorial boundary.⁴⁴ Instead, the Great North executed its westward expansion via the Keith and Dufftown and Morayshire Railways and began working this alternative route to Elgin from 1863.⁴⁵ The strained relationships between Inverness and the Great North and Morayshire alliance, which now presented the threat of renewed competition for northern traffic, stimulated the launch of the direct Inverness-Perth line.

A most important scheme for connecting Inverness and the North, by a direct line, with Perth and the general Railway System of the kingdom ... will be presented to Parliament in the ensuing session ... It will secure a free and unfettered outlet to the South for the Traffic of the Northern railways ... there is every reason to believe that it will be made at the cost of £6,000 per mile

...⁴⁶

The promoters of the Inverness and Perth Junction Railway clearly envisaged the adoption of 'cheap railway' principles, but applied to a main trunk line of over 100 miles from Forres on the Inverness and Aberdeen Junction line to Dunkeld, where a connection was to be made with the Perth and Dunkeld Railway. A standing committee, including the web principals of Matheson, Bruce, Mackintosh and Fraser-Tytler with Inverness banker Waterston, was appointed to negotiate with landowners and to seek capital from southern railway companies.⁴⁷ It later transpired that the

⁴⁴ See chapter 6. 'Dissent and division between Inverness and Aberdeen': Minutes of the Inverness and Aberdeen Junction Railway, 25 January 1860, NAS/BR/IAJ/1/2, p.75 and 6 February 1860, NAS/BR/IAJ/1/2, p.79; Minutes of the Great North of Scotland Railway, 17 January 1860, NAS/BR/GNS/1/3, p.425, and 7 February 1860, NAS/BR/GNS/1/3, p.432, recording the transfer of its shares in the Inverness and Aberdeen Junction company,

⁴⁵ Minutes of the Morayshire Railway, 27 December 1862, NAS/BR/MOR/1/3, p.32, reporting that the Glen of Rothes line would open on 1 January 1862; Minutes of the Morayshire Railway, 20 October 1863, NAS/BR/MOR/1/3, p.268, reporting that the working agreement with the Great North commenced on 1 July 1863 with a working charge of 45% of receipts.

⁴⁶ Report to the Ordinary General Meeting of the Inverness and Aberdeen Junction Railway, 30 October 1860, NAS/BR/IAJ/1/2, p.185; *Railway Times*, 10 November 1860, p.1262.

⁴⁷ Scroll minutes of the Inverness and Perth Junction Railway, 20 September 1860 and 6 October 1860, NAS/BR/IPJ/1/2: in October, George Loch was included on the committee appointed 'to confer with the Southern railway Companies in reference to subscriptions of stock'.

direct line to Perth was brought forward sooner than had been anticipated by the Inverness promoters 'in consequence of the obstructive policy of the Great North of Scotland ...' and for territorial defence, 'because the lines already made were far from safe so long as another Company could push into the north from the south...'.⁴⁸

- **southern network access: the Perth and Dunkeld Railway**

For its southerly network connection, the Inverness promoters planned to use the route of the Perth and Dunkeld Railway, incorporated in 1854 after two earlier proposals that identified the potential value of the route as part of a northern trunk railway to Inverness were not progressed.⁴⁹ By the time the Inverness-Perth line was launched in 1860, the Perth and Dunkeld was well-established as a successful local 8¼ mile line from Dunkeld to Stanley on the Scottish-North Eastern main line from Perth to Aberdeen.

This first railway into the central highlands received strong support from Perth; all eighteen shareholders present at the first general meeting were local Scots and thirteen gave Perth addresses.⁵⁰ These individuals held 55 percent of the £29,200 capital raised by July 1854.⁵¹ The Perth Banking Company and the Central Bank

⁴⁸ *Herapath's Railway Journal*, 4 November 1865, p.1217, quoting from the address by Alexander Matheson, chairman, to the 1st Ordinary General Meeting of the Highland Railway held on 27 October 1865: Matheson also stated that 'they found that it was impossible to develop the traffic on the lines constructed along the coast, with the great detour via Aberdeen ...'.

⁴⁹ 17&18 Vic. cap.148, 1854, The Perth and Dunkeld Railway Act, with authorised capital of £80,000 and borrowing powers of £20,000 to build a line from Stanley Junction on the Scottish Midland Junction Railway to Dunkeld, and to be worked by the Scottish Midland Junction company; Report to the 3rd Ordinary General Meeting of the Scottish Midland Junction Railway, 26 August 1846, NAS/BR/RAC(S)/1/37; Minutes of the Scottish Midland Junction Railway, 28 December 1852, p.290.

⁵⁰ Minutes of the 1st Ordinary General Meeting of the Perth and Dunkeld Railway, 9 August 1854, NAS/BR/PDR/1/1, pp.8-10; NT Sinclair, *The Highland Main Line* (Penryn, 1998), p.17 and p.28.

⁵¹ Minutes of the Perth and Dunkeld Railway, 7 July 1854, NAS/BR/PDR/1/1, p.3: 1168 £25 shares had been taken by this date, representing £29,200, of which the eighteen shareholders at the 1st Ordinary General Meeting held on 9 August 1854 (pp.8-10) held 638 shares (£15,950), which represented 54.6% of the share capital raised.

offered funding, backed by future calls, at 5½ percent interest, only ½ percent above prevailing bank discount rates.⁵² A working agreement was concluded with the Scottish Midland Junction in 1855, whereby the Dunkeld company was 'relieved of the whole expense of maintaining an outdoor working establishment ...'.⁵³ However, disputes over operations and services with the Scottish Midland, amalgamated into the Scottish North-Eastern from 1856, were frequent.⁵⁴

The strategic value of the line re-emerged in 1860 when publication of the Inverness proposals for the Perth direct line prompted the Scottish North-Eastern to offer to purchase the Dunkeld company with a guaranteed dividend of 5 percent, provided the Inverness line connected at Dunkeld so that northern traffic would pass over its route to Perth.⁵⁵ The Duke of Athole reported, however, that the Scottish North-Eastern 'had started a line in opposition to the Inverness scheme from Birnam to Aberfeldy and were surveying the land between these points even against the

⁵² Minutes of the Perth and Dunkeld Railway, 18 December 1854, NAS/BR/PDR/1/1 (NB: no page numbers are given after 20 November 1854 in the minute book): the minutes record the offer of the Perth Banking Company and the Central Bank of Scotland to advance to the Perth and Dunkeld 'whatever sums they may require from time to time to meet the expenses of the undertaking in anticipation of the Calls on the Stock of the Company ..', at interest of 5½ percent; Bradshaw's *Railway Almanack*, 1875 edition, appendix 12, p.83, quotes the bank discount rate at 5% between August 1854 and April 1855.

⁵³ Report to the 3rd Ordinary General Meeting of the Perth and Dunkeld Railway, 26 September 1855; Minutes of a Special General Meeting of the Perth and Dunkeld Railway, 20 December 1855, at which the working agreement was approved, setting charges at a maximum of 50% of receipts 'but not lower than 45 percent' if traffic improved; *Railway Times*, 6 October 1855, p.1068; *Herapath's Railway Journal*, 27 October 1855, p.1093.

⁵⁴ Examples of complaints include: Minutes of the Perth and Dunkeld Railway, 11 April 1856, reporting that the Scottish Midland Junction had commenced operations on 9 April 1856 but found the unfinished state of the line an 'impediment to the traffic'; Minutes of the Perth and Dunkeld Railway, 3 July 1856, NAS/BR/PDR/1/1, recording 'certain irregularities ... the want of men at some of the stations ... the want of proper advertising'; Minutes of the Perth and Dunkeld Railway, 14 March 1860, NAS/BR/PDR/1/1, recording a complaint to the Scottish North-Eastern Railway about 'the disgraceful carriages on the Perth and Dunkeld line'; NT Sinclair, *The Highland Main Line*, p.19; The Scottish Midland Junction and the Aberdeen railway were amalgamated under 19&20 Vic. cap.134, 29 July 1856, The Scottish North-Eastern Railway Company's Act.

⁵⁵ Report to the Ordinary General Meeting of the Inverness and Aberdeen Junction Railway, 30 October 1860, NAS/BR/IAJ/1/2, p.185; Minutes of the Perth and Dunkeld Railway, 23 October 1860, NAS/BR/PDR/1/1; Minutes of the Scottish North-Eastern Railway, 19 October 1860, NAS/BR/SNE/1/1, p.364.

wishes of some of the proprietors'.⁵⁶ The Scottish North-Eastern was seeking to protect its interests by securing the southern part of the Inverness-Perth route. It withdrew its proposed leasing bill for the Perth and Dunkeld after opening negotiations directly with the Inverness promoters to provide the use of its line from Stanley into Perth.⁵⁷

The Inverness and Perth Junction Bill included running powers over the Perth and Dunkeld,⁵⁸ which was authorised to subscribe £15,000 although that power was never exercised.⁵⁹ The Dunkeld company, however, experienced little difficulty in raising capital. Eighty-two percent of its share capital had been issued by August 1856 with 92 percent of calls paid.⁶⁰ All debentures had been issued by 1859, although the capital account records a separate 'assignment' made with the Central Bank in 1860-62 for £3,000 to settle contractor claims and so the company technically exceeded its authorised loan limit.⁶¹ The only temporary loan taken was

⁵⁶ Minutes of the Perth and Dunkeld Railway, 10 November 1860, NAS/BR/PDR/1/1; Minutes of the Locomotive Committee of the Scottish North-Eastern Railway, 5 November 1860, NAS/BR/SNE/1/1, p.367, recording instructions to prepare a parliamentary bill for a line from Birnam to Aberfeldy.

⁵⁷ Minutes of the Perth and Dunkeld Railway, 23 January 1861, NAS/BR/PDR/1/1; Chairman's notes, Perth and Dunkeld Railway, 23 January 1861, NAS/BR/PDR/1/5, minute 3; Chairman's notes, Perth and Dunkeld Railway, 13 February 1861, NAS/BR/PDR/1/5, minute 2; Minutes of the Scottish North-Eastern Railway, 19 October 1860, NAS/BR/SNE/1/1, p.364; Minutes of the Scottish North-Eastern Railway, 7 February 1861, NAS/BR/SNE/1/1, p.397 and p.400; Minutes of the Scottish North-Eastern Railway, 21 February 1861, NAS/BR/SNE/1/1, p.407, recording the agreement of the Perth Junction to pay three-quarters of the cost of the Scottish North-Eastern's Dunkeld leasing bill once the Perth Junction bill was passed by Parliament: the agreement between the Scottish North-Eastern and the Perth Junction was signed on 8 March 1861 (p.419).

⁵⁸ Report to the Ordinary General Meeting of the Perth and Dunkeld Railway, 30 March 1861, NAS/BR/PDR/1/1.

⁵⁹ Minutes of the Ordinary General Meeting of the Perth and Dunkeld Railway, 30 March 1861, and of the Special General Meeting, 20 April 1861, NAS/BR/PDR/1/1; 24&25 Vic. cap.186, 1861, The Inverness and Perth Junction Railway Act.

⁶⁰ Minutes of the Perth and Dunkeld Railway, 16 August 1856, NAS/BR/PDR/1/1, recording that 2,648 of the 3,200 authorised £25 shares had been issued with £59,580 called and £54,642 received (91.7% of calls paid).

⁶¹ Minutes of the Perth and Dunkeld Railway, 12 November 1858, NAS/BR/PDR/1/1, recording a loan of £4,000 from the Central Bank of Scotland with 250 shares as a guarantee plus personal guarantees from several directors: also 7 May 1862, NAS/BR/PDR/1/1, recording repayment of the loan; Chairman's notes, Perth and Dunkeld Railway, 14 March 1860, NAS/BR/PDR/1/5, minute 4, recording an 'assignment' for £3,000 with the Central

for £4,000 from the Central Bank in 1858-62, which was not recorded in the published accounts. The company became embroiled in disputes over the value of land, the cause of the withdrawal of the proposed Dunkeld branch in 1852.⁶² Although the capital account was maintained close to balance, capital costs rose 10.3 percent above estimate by 1859, principally as the result of high land costs which comprised 17.9 percent of capital expenditure.⁶³ After long legal arguments, that proportion had risen to 20.3% by the time the line was leased by the Inverness and Perth Junction Railway in 1863.

Table 61: Revenue and financial indicators for the Perth and Dunkeld Railway, 1859-63

	31 July	1859	1860	1861	1862	1863
Gross annual revenue	(£)	6444	6646	6974	8345	8496
Dividend – half year to 31 January		2	2	2 ½	3	4
Dividend – half year to 31 July		2	2 ½	2	4	4 ½
Ratio of debentures to capital raised		23.6%	22.5%	22.4%	20.9%	20.8%
Ratio of gross revenue to total debt		0.269	0.246	0.258	0.363	0.425
Source: Appendix, tables 18(b) and 18(c).						
(1): Comparative gearing ratios for the Caledonian Railway in 1849-50 were 24.5% for debentures/capital and 0.162 for gross revenue/debt.						

Gross revenue rose steadily and, with little temporary debt, the company was able to pay dividends consistently; its debt gearing strengthened to rival those of its first working partner, the Scottish Midland Junction (table 61).⁶⁴ When, in 1861, the Inverness and Perth Junction opened discussions with the Dunkeld company to gain

Bank whereby the bank paid outstanding claims due to the contractor; Minutes of the Perth and Dunkeld Railway, 26 September 1862, NAS/BR/PDR/1/1, reporting the discharge of the £3,000 debt due to the Central Bank of Scotland.

⁶² Minutes of the Scottish Midland Junction Railway, 28 December 1852, p.290.

⁶³ Appendix, table 18(a), note (2); Data from minutes and accounts of the Perth and Dunkeld Railway, 1853-64, NAS/BR/PDR/1-2.

⁶⁴ Appendix, table 20 (c); the debt gearing for the Scottish Midland Junction in July 1855, just before its amalgamation into the Scottish North-Eastern, was 0.417: Appendix, table 21: the debt gearing for the successor Scottish North-Eastern Railway ranged from 0.274 in 1856 to 0.288 in 1862.

access over its line to Stanley, this small company was able to negotiate from a position of strength.⁶⁵ Shareholders were advised by their chairman:

... not to be in too great a hurry in making an agreement with the Inverness, as he thought it would eventually be found that the Dunkeld was never more valuable than at the present moment, or that the Inverness supposed it to be.⁶⁶

That value was reflected by the sale of 263 unissued shares at par value in 1862.⁶⁷ In 1863, the Board advised Inverness of its terms; 'that an amalgamation should take place ... [and] that the Perth and Dunkeld Railway Company should receive a preferential dividend of six percent ...'.⁶⁸ Following a lease from June 1863,⁶⁹ Dunkeld ordinary stock was translated into a 6 percent preference stock and amalgamation was finalised in February 1864.⁷⁰

⁶⁵ *Herapath's Railway Journal*, 12 October 1861, p.1045, reporting the announcement of the chairman of the Perth and Dunkeld company that negotiations were in progress with the Inverness and Perth Junction over purchase of the line, a year before a formal entry was made in Inverness and Perth company minutes; Minutes of the Inverness and Perth Junction Railway, 4 and 23 October 1862, NAS/BR/IPJ/1/1, p.66 and p.70; Report to the Ordinary General Meeting of the Inverness and Perth Junction Railway, 28 October 1862, NAS/BR/IPJ/1/1, p.72, informing shareholders that negotiations were in progress with the Perth and Dunkeld 'with the view of fixing terms for effecting an Amalgamation of Companies ...'.

⁶⁶ *Railway Times*, 5 October 1861, p.1256, reporting the Earl of Mansfield's advice to Perth and Dunkeld shareholders at the Ordinary General Meeting held on 27 September 1861.

⁶⁷ Report to the Ordinary General Meeting of the Perth and Dunkeld Railway, 26 September 1862, NAS/BR/PDR/1/1, recording the sale of 263 shares at par value of £25 during the previous six months, the proceeds of which had settled some land compensation claims and discharged the £3,000 'assignment' to the Central Bank.

⁶⁸ Minutes of the Perth and Dunkeld Railway, 12 February 1863, NAS/BR/PDR/1/1.

⁶⁹ The Dunkeld-Pitlochry section of the Inverness and Perth Railway opened on 1 June 1863 and the full line to Inverness opened on 9 September 1863.

⁷⁰ Report to the Ordinary General Meeting of the Perth and Dunkeld Railway, 30 September 1863 reporting amalgamation was to take place either on 31 August 1863 or 28 February 1864 once the through line had opened: a rent of £380 per month was paid from June 1863 until amalgamation in February 1864; 26&27 Vic. cap.58, 1863, The Inverness and Perth Junction and Perth and Dunkeld Railways Amalgamation Act; Accounts of the Inverness and Perth Junction Railway to 31 July 1864, NAS/BR/IPJ/1/1, showing expenditure on 'Purchase of the Perth and Dunkeld Railway' for £96,000, offset by the creation of £76,000 6% Perth and Dunkeld preference stock to replace Dunkeld ordinary stock and an additional £20,000 of debentures to replace Dunkeld debentures, which allowed the winding-up of the Perth and Dunkeld Railway, authorised by the company board on 10 June 1863 (10 June 1863,

The Perth and Dunkeld exemplifies a small northern railway company that paid modest but consistent returns to its shareholders because it had accommodated cost increases within its borrowing powers and not acquired large temporary debt. It had an advantage over some branch companies further north in that it was able to raise much of its share capital relatively easily and locally. The value of the company was, however, enhanced by its location in the Tay valley at the southern extremity of the Inverness-Perth route where there was little scope for an alternative route. It was therefore able to exercise its market power to secure a favourable financial settlement for its shareholders.

- **the direct line: the Inverness and Perth Junction Railway**

The Inverness and Perth Junction Railway, also described as the Great Highland Central Railway, was promoted as 'the last section of the great central line from London' which would 'enable a passenger to travel without change of carriage from London to Inverness in 16 hours'.⁷¹ The prospectus justified the promotion of a southern trunk route to avoid the detour via Aberdeen,⁷² but it produced a complacent monopolist's response from the Great North's deputy chairman:

Where the inducements are to make a new line I cannot see. That, however, is not our business, and we do not need to inquire.⁷³

NAS/BR/PDR/1/1). The amalgamation was, in essence, a take-over of the company as no Perth and Dunkeld directors joined the Inverness board.

⁷¹ Prospectus of the Inverness and Perth Junction Railway, 1860, NAS/BR/PROS(S)/1/18.

⁷² Prospectus of the Inverness and Perth Junction Railway, 1860, NAS/BR/PROS(S)/1/18: 'The additional mileage involved in going round by Aberdeen has been found to neutralize, in a great measure, the advantages of railway communication in respect of through traffic both in passengers and goods ... Perth at the one extremity and Inverness at the other, may, therefore, be regarded as two great termini, between which the population and traffic of a very large proportion of Scotland must inevitably pass'.

⁷³ Report of deputy chairman John Stewart to the 16th Ordinary General Meeting of the Great North of Scotland Railway, 1 October 1860, NAS/BR/GNS/1/3, p.548.

Great North shareholders were advised to 'have no interest in the projected line from Forres to Dunkeld'.⁷⁴ Instead, the Great North sponsored a new nominally independent company, the Strathspey Railway, to extend its system south-westwards from the new Elgin route down the Spey valley, rejecting both requested support for the Morayshire's ambitious southerly line to Blairgowrie and a Morayshire proposal of amalgamation.⁷⁵ This defensive promotion of the Great North is examined in the final section of this chapter. With both Aberdeen and Inverness embarked on schemes of competitive and costly expansion in 1860, the only truce drawn was that the promoters agreed not to oppose each other's bills in Parliament to avoid extra expense.⁷⁶

The Inverness-Perth line differed from the 1846 scheme by re-locating its northerly junction from Nairn further east to Forres, which Sinclair concludes had three purposes; to gain traffic from the counties of Moray and Banff, to serve the important town of Grantown, and to secure the timber traffic from the Earl of Seafield's estates in Strathspey.⁷⁷ Seafield joined the first board of the Inverness and Perth Junction Railway and his commissioner, Thomas Bruce, became its chairman with Alexander Matheson, chairman of the Inverness and Aberdeen Junction, as deputy chairman.⁷⁸

⁷⁴ Report of engineer Gibb to a Special General Meeting of the Great North of Scotland Railway, 17 July 1860, BR/NAS/GNS/1/3, pp.501-502.

⁷⁵ Minutes of the Special General Meeting of the Great North of Scotland Railway, 17 July 1860, NAS/BR/GNS/1/13, p.502; Minutes of the Great North of Scotland Railway, 24 July and 25 September 1860, NAS/BR/GNS/1/3, p.505 and p.531; Report of the 16th Ordinary General Meeting of the Great North of Scotland Railway, 1 October 1860, NAS/BR/GNS/1/3, p.548; Minutes of the Great North of Scotland Railway, 12 October 1860, NAS/BR/GNS/1/4, p.3, recording the decision of the Great North board that the name of the new company was to be the Strathspey Railway.

⁷⁶ Minutes of the Great North of Scotland Railway, 27 November 1860 and 18 and 20 December 1860, NAS/BR/GNS/1/4, pages 21, 24, 27, and 31; Minutes of the Great North of Scotland Railway, 22 March 1861, NAS/BR/GNS/1/4, p.75, reporting a memorandum of agreement between the Great North, the Inverness and Perth Junction, the Morayshire and Strathspey Railways to withdraw mutual opposition to each others' parliamentary bills; Scroll minutes of the Inverness and Perth Junction Railway, 7 December 1860, NAS/BR/IPJ/1/2.

⁷⁷ NT Sinclair, 'Boat of Garten in the nineteenth century', *Great North Review*, 12, No.46 (August 1975), p.122.

⁷⁸ Scroll minutes of the Inverness and Perth Junction Railway, 31 August, 1861, NAS/IPJ/1/2, recording the election of Thomas Bruce as chairman and Alexander Matheson as deputy chairman (a reversal of their roles in the Inverness and Aberdeen Junction

The *Railway Times* reported that the line was 'supported by all the leading proprietors whose property will be traversed by it; indeed the provisional committee comprises most of their names ...'.⁷⁹ Parliament, satisfied that technological advances now overcame the reservations expressed in 1846, authorised the company in 1861.⁸⁰ Its first elected board included four peers, three baronets and two members of parliament; moreover, three-fifths of the board held directorships of other Inverness web companies.⁸¹ A quarter of the new direct route passed over land belonging to the Duke of Athole, who abandoned his initial reluctance for a through line and urged support for the promoters.⁸²

The parliamentary estimate for the line was only £5,813 per mile, exceptionally low for a main trunk route crossing the Grampian mountains, albeit over a single line.⁸³ Nevertheless, the eventual cost was to exceed this figure by approximately £3,000

Railway); Report of the 1st Ordinary General Meeting of the Inverness and Perth Junction Railway, 19 September 1861, NAS/BR/IPJ/1/2, recording the election of directors.

⁷⁹ *Railway Times*, 7 July 1860, p.773; see chapter 6, table 59, giving details of Inverness directors; NT Sinclair, *The Highland Main Line*, p.22, notes that all fifteen of the first Inverness and Perth Junction Railway board were highland landowners or commissioners to landowners.

⁸⁰ 24&25 Vic. cap.186, 1861, The Inverness and Perth Junction Railway Act, authorising share capital of £654,000 with borrowing powers of £218,000.

⁸¹ Scroll minutes of the 1st Ordinary General Meeting of the Inverness and Perth Junction Railway, 19 September 1861, NAS/BR/IPJ/1/2; see chapter 6, table 59.

⁸² *Herapath's Railway Journal*, 24 November 1860, p.1172, quoting the Duke of Athole at a public meeting in Dunkeld: 'I am now convinced as to the great advantage that a line of railway to the north would be to the north country ... We all ought to put our shoulders to the wheel and help the promoters of this railway as much as we can'; *Railway Times*, 24 November 1860, p.1339, carried a report of the same meeting, at which the Duke remarked 'I can make sacrifices for a through line, which I believe will be a great national benefit, as well as a benefit to the districts locally affected ...'; *Railway Times*, 24 November 1860, p.1316-17, records that 'a fourth part' of the Inverness and Perth Junction Railway was to cross land owned by the Duke of Athole.

⁸³ Appendix, table 14(a): the planned system comprised the Forres-Dunkeld main line (103¼ miles) and the Aberfeldy branch (8¾ miles) with running rights southwards over the Perth and Dunkeld Railway to Stanley and then over the Scottish North-Eastern into Perth, for which share capital of £654,000 was authorised; Prospectus of the Inverness and Perth Junction Railway, 1860, NAS/BR/PROS(S)/1/18: the prospectus gave an estimated capital cost of £6,000 per mile, including land.

per mile.⁸⁴ The promoters agreed to ask the Edinburgh and Glasgow and Scottish Central Railways to subscribe £200,000 and work the southern half of the line,⁸⁵ although the Act authorised subscriptions from six railway companies comprising 51 percent of the total share capital.⁸⁶ The southern companies did not invest, however, with the result that shortage of capital became a critical factor immediately. The Inverness and Aberdeen Junction, in the process of amalgamation with the Inverness and Nairn, had agreed that the combined company would subscribe £50,000 and work the Perth line at 50 percent of receipts, but specified that an amalgamation was to be sought within three years of the line opening, thus declaring the intended consolidation of the Inverness railway web.⁸⁷ By December 1860, subscriptions amounted to £148,000, just 22.6 percent of authorised share capital, and £37,000 was borrowed from the Commercial Bank towards the parliamentary deposit, secured on the personal guarantee of provisional committee members.⁸⁸ Bruce was placed in charge of arrangements for 'careful supervision of details and

⁸⁴ Appendix, table 14(a), note (4) and note (5); see chapter 8, table 73, for the actual costs of Inverness railway companies given by chairman Alexander Matheson to the first Ordinary General Meeting of the Highland Railway, 27 October 1865 and reported in *Herapath's Railway Journal*, 4 November 1865, p.1218 and *Railway Times*, 4 November 1865, p.1407.

⁸⁵ Scroll Minutes of the Inverness and Perth Junction Railway, 15 October 1860, NAS/BR/IPJ/1/2; Minutes of the Scottish North-Eastern Railway, 29 November 1860, NAS/BR/SNE/1/1, p.378, reporting a meeting of the company with the Scottish Central, Edinburgh and Glasgow and Caledonian Railways over 'the proposed Inverness and Perth direct line'.

⁸⁶ 24&25 Vic. cap.186, 1861, The Inverness and Perth Junction Railway Act, which authorised subscriptions of £35,000 from the Inverness and Aberdeen Junction Railway, £15,000 from the Inverness and Nairn Railway, £30,000 from the Inverness and Ross-shire Railway, £15,000 from the Perth and Dunkeld Railway and not more than £120,000 from each of the Scottish Central and Edinburgh and Glasgow Railways.

⁸⁷ Minutes of the Inverness and Aberdeen Junction Railway, 13 December 1860, NAS/BR/IAJ/1/2, pp.199-200; confirmation of the agreement was made on 3 December 1861, p.290, reporting that '... the works having been commenced at both ends of the Line'; Minutes of the Inverness and Perth Junction Railway, 3 December 1861, NAS/BR/IPJ/1/1, p.11; Scroll minutes of the directors of the Inverness and Nairn Railway, 15 December 1860, NAS/BR/INR/1/4, item 7, approving the Inverness and Aberdeen Junction board's decision of 13 December 1860 requiring future amalgamation as a condition of subscription to the Inverness and Perth Junction Railway.

⁸⁸ Scroll minutes of the Inverness and Perth Junction Railway, 28 December 1860, NAS/BR/IPJ/1/2: the guarantors were Matheson, Bruce, Fraser-Tytler, Mackintosh, Seafield, Gordon-Cumming, and Inglis.

strict economy of expenditure ...' at a salary of £500 per annum,⁸⁹ and confirmed in 1863 as 'Managing Director of all the Company's lines ...' on the same salary.⁹⁰

Capital problems intensified. In April 1862, Bruce reported that £100,000 above company powers would be required to complete the line and loans were to be arranged from the Commercial, National and Caledonian Banks for that amount.⁹¹ An advertisement was placed for debenture loans at 4½ percent in July 1862 in anticipation of the release of borrowing powers at the shareholders' meeting in October.⁹² With bank discount rates at 3 percent, three-quarters of authorised loan capital was received by 1 December 1862; only 7.8 percent of funds and 2.5 percent of lenders were English.⁹³ By mid-January 1863, 93 percent of debentures had been issued and the inflow of funds moved the capital account into surplus.⁹⁴ However, only 35 percent of share capital had been subscribed by February 1863 and, by August, £171,441 was owed to bankers to balance the capital account.⁹⁵ Although

⁸⁹ Scroll minutes of the Inverness and Perth Junction Railway, 26 March 1861, NAS/BR/IPJ/1/2, recording the appointment of Bruce from 1 January 1861.

⁹⁰ Minutes of the Inverness and Aberdeen Junction Railway, 27 October 1863, NAS/BR/IAJ/1/2, p.490.

⁹¹ Minutes of the Inverness and Perth Junction Railway, 23 April 1862, NAS/BR/IPJ/1/1, p.34: Matheson and Bruce were charged to arrange the loans.

⁹² Minutes of the Inverness and Perth Junction Railway, 10 July 1862, NAS/BR/IPJ/1/1, p.51, and Special General Meeting of the Inverness and Perth Junction Railway, 28 October 1862, pp.75-76, approving the exercise of borrowing powers and the working agreement with the Inverness and Aberdeen Junction Railway.

⁹³ Minutes of the Inverness and Perth Junction Railway, 6 and 17 November and 1 December, 1862, NAS/BR/IPJ/1/1, pp.80-84, p.85 and p.87, recording £165,690 of debentures issued to 242 individuals of whom 59 provided £1,000 or more each; Bradshaw's *Railway Almanack*, 1875 edition, appendix 12, p.83, showing bank discount rates.

⁹⁴ Minutes of the Inverness and Perth Junction Railway, 10 January 1863, NAS/IPJ/1/1, p.p.98-99: to that date £202,678 of debentures had been issued in 299 lots (recorded on 6 and 17 November, 1862, 1, 15 and 30 December 1862 and 10 January 1863, pp.80-99) and no further details of debenture loans are given in subsequent minutes; Appendix, table 14(a), showing a capital account surplus of £20,271 in February 1863.

⁹⁵ Minutes of the Inverness and Perth Junction Railway, 27 October 1863, NAS/IPJ/1/1, p.167, reporting the accounts to August 1863 which showed a deficit in the capital account of £173,883 and £171,441 owed to bankers held below the line in the general balance sheet as temporary debt; Appendix, table 14(a); with total capital raised of £432,534 in February 1863 and £202,678 of debentures recorded in the minutes as issued by 10 January 1863, share capital (not separately identified in the accounts) comprised approximately £229,856 of the £654,000 authorised share capital (35.1%).

shareholder records have not survived, the earlier pattern of investment in Inverness web companies, whereby large landowners provided the majority of funds, was almost certainly repeated, especially as these individuals dominated the board. The shortage of capital resulted in the company converting £254,000 of unissued ordinary shares, comprising two-fifths of authorised share capital, into 4½ percent preference stock.⁹⁶ Therefore, six months before the full line opened in September 1863, 54.1 percent of authorised capital committed the company to fixed interest payments.⁹⁷

Interest paid from revenue and capital in the year to August 1863 was £19,533, which implies that the company also held approximately £200,000 of temporary debt.⁹⁸ In August 1863, the Commercial and National Banks in Edinburgh each agreed to lend £50,000 to the company for two years.⁹⁹ In January 1864, the National Bank advanced a further £50,000¹⁰⁰ and the Commercial Bank gave an 'occasional overdraft' of £45,000 in March 1864.¹⁰¹ These two latter advances alone

⁹⁶ Special General Meeting of the Inverness and Perth Junction Railway, 27 October 1863, NAS/BR/IPJ/1/1, p.169.

⁹⁷ Report to the Ordinary General Meeting of the Inverness and Perth Railway, 27 October 1863, p.164, recording opening dates: Dunkeld to Pitlochry, 1 June 1863; Forres to Aviemore, 3 August 1863; the full line opened on 9 September 1863; 24&25 Vic. cap 186, 1861, The Inverness and Perth Junction Railway Act authorised share capital of £654,000 and borrowing powers of £218,000: however, with £254,000 of authorised ordinary shares converted to preference stock and £218,000 of authorised debenture loans, £472,000 of the authorised share and loan capital of £872,000 required fixed interest payments (54.1%).

⁹⁸ Appendix, table 14(a): accounts to 31 August 1863 show that interest paid from capital was £19,133 and a further £400 from revenue for debenture interest; therefore, assuming that £223,000 of debentures were issued (which is the first published figure given in the accounts, but for the following year, 1864) at an overall interest rate of 4½ %, interest paid of £19,513 would imply a total debt of £433,622, leaving £210,622 as an estimate of temporary debt.

⁹⁹ Minutes of the Inverness and Perth Junction Railway, 25 August 1863, NAS/BR/IPJ/1/1, p.149: these loans were offered at 4½% interest.

¹⁰⁰ Minutes of the Inverness and Perth Junction Railway, 2 January 1864, p.181, recording a £50,000 loan from the National Bank with £50,000 Perth Junction preference stock held as a guarantee: the National Bank also made a £25,000 loan to the Inverness and Aberdeen Junction as part of the same negotiations, for which £25,000 Ross-shire stock was provided as security.

¹⁰¹ Minutes of the Inverness and Perth Junction Railway, 30 March 1864, NAS/BR/IPJ/1/1, p.195, recording an overdraft of £45,000, but with £49,500 of preference stock as security.

demanded £99,500 of preference stock as guarantees, comprising 96.4 percent of the preference stock issued by July 1864.¹⁰² The company was therefore heavily dependent upon the support of the banking sector from its inception, no doubt assisted by Matheson's close financial connections as a director of the Bank of England.

The line was constructed in only twenty-three months.¹⁰³ Strict economy was exercised; stations were constructed of wood and contractors huts used initially to house railway staff.¹⁰⁴ By March 1865, 'a considerable sum' for land remained outstanding.¹⁰⁵ In October, Matheson reported that the Inverness-Perth line had cost £1,056,000, three-fifths above its parliamentary estimate, and land 'estimated to cost £50,000 ... has actually cost nearly three times that sum'.¹⁰⁶ Mitchell gave the cost of the 104 miles between Forres and Dunkeld as £8,860 per mile for construction, land, law and engineering.¹⁰⁷ The capital expenditure reported by Matheson, however, produces a cost of £9,387 per mile for the Dunkeld-Forres and Aberfeldy lines, significantly above the optimistic estimate of £6,000 in the prospectus, but remarkably inexpensive compared to other trunk lines.¹⁰⁸ Revised plans contributed

¹⁰² Appendix, table 14(a), showing that £103,236 of 4½ % preference stock had been issued by July 1864.

¹⁰³ J Mitchell, *Reminiscences of My Life in the Highlands, vol. II* (private publication, 2 volumes, London, 1883 and 1884, reprinted Newton Abbot, 1971), p.197, giving 17 October 1861 as the date of cutting the first sod and 9 September 1863 as the date the line was approved by the Board of Trade for opening.

¹⁰⁴ NT Sinclair, *The Highland Main Line*, p. 28, quoting the *Illustrated London News* dated 19 September 1863.

¹⁰⁵ Report to the Ordinary General Meeting of the Inverness and Perth Junction Railway, 28 March 1865, NAS/BR/IPJ/1/1, p.260.

¹⁰⁶ *Railway Times*, 4 November, 1865, p.1407, reporting the address of chairman Alexander Matheson to the first Ordinary General Meeting of the Highland Railway, 27 October 1865 on the cost of the Inverness lines: from the data presented by Matheson, land estimates for the Inverness and Perth Junction Railway were £50,000 (7.6% of original authorised capital) whereas by 1865 land costs were approximately £150,000 (14.2% of the actual capital expenditure reported to shareholders).

¹⁰⁷ J Mitchell, *The Construction and Works of the Highland Railway*, a paper read to the British Association in Dundee, British Association records (September 1867), p.159, NAS/BR/HR/4/100.

¹⁰⁸ Appendix, table 26 and table 14(a), note (5): the capital cost per mile of £9,387 is calculated on Matheson's statement of expenditure of £1,056,000 and based on the 112½

to some increase in costs;¹⁰⁹ furthermore, the company acquired its southern outlet by amalgamation, whereas its plans had envisaged a working agreement over the Perth and Dunkeld that would have been a charge to revenue.¹¹⁰

The inaccuracy of estimates and the difficulties in raising ordinary share capital for the Perth Junction resulted in a reliance upon preference stock and bank loans. Bank advances to Inverness web companies were backed by considerable personal guarantees given by directors, as chapter 8 will illustrate. Inverness practice was to charge only a part of the interest due on bank loans to revenue, equivalent to the dividends that would have been payable on ordinary and preference stock to the value of the advance and, because bank interest was invariably higher than dividends, charging any interest above that level to capital as part of the costs of constructing the lines.¹¹¹ By so doing, some dividend for ordinary shareholders could be preserved, but the convention transferred financial pressures from the revenue to

miles of the Forres-Dunkeld and Aberfeldy lines. If, however, Matheson's estimate of expenditure included the £96,000 capital cost of the Perth and Dunkeld Railway, originally planned to be subject to a working agreement paid from revenue, the capital cost for the Forres-Stanley and Aberfeldy lines comprising 120¾ miles falls to £8,745 per mile. Primary sources do not record any details of the items included in the overall expenditure reported by Matheson.

¹⁰⁹ 26&27 Vic. cap.61, 1863, The Inverness and Perth Junction (Deviations) Act.

¹¹⁰ Accounts of the Inverness and Perth Junction Railway to 31 July 1864, reported to the Ordinary General Meeting held on 28 September 1864, NAS/IPJ/1/1, inserted printed report at p.233, showing £96,000 nominal expenditure within the capital account during the previous half-year as 'Purchase of the Perth and Dunkeld Railway', offset by the creation of £76,000 Perth and Dunkeld 6% preference stock and an additional £20,000 of debentures; Accounts of the Perth and Dunkeld Railway to 31 July 1863, reported to the Ordinary General Meeting held on 30 September 1863, NAS/BR/PDR/1/2, showing that £76,000 of share capital and £20,000 of debenture capital had been raised by that date; 26&27 Vic. cap.58, 1863, The Inverness and Perth Junction and Perth and Dunkeld Railways Amalgamation Act, which merged the capital powers of the two companies.

¹¹¹ *Herapath's Railway Journal*, 4 November 1865, p.1217, reporting the Inverness practice of charging bank loan interest to revenue equivalent to the dividend that would have been payable on stock to the amount of bank advances and 'to carry the excess to capital as part of the cost of the undertaking'; *Railway Times*, 5 May 1866, p.515, reporting a statement by Bruce to the Ordinary General Meeting of the Highland Railway held on 23 April 1866 in which he stated that 'about £60,000 of interest' had been charged to capital 'since the early days on the Inverness and Nairn Railway'.

the capital account. On the Perth Junction, maintenance of dividends may have been calculated to try to attract new investment into the company.¹¹²

The Inverness web adhered to its policy of declining to subscribe to branch railways. The Perth Junction gave only verbal support to a proposed railway from Fort William to connect with its line at Newtonmore,¹¹³ although the Aberdeen Junction offered to work the Fort William line on the same terms as it worked the Perth Junction at 50 percent of receipts.¹¹⁴ The £250,000 capital cost of the Fort William scheme deterred progress,¹¹⁵ and, within the year, Inverness shareholders were informed of a proposed line from Dingwall to the west coast opposite Skye, nominally independent of the Inverness web but intended as a means of opening up western estates and securing traffic which might otherwise be diverted either to a prospective Fort William line or to the Callander and Oban protégé of the Caledonian Railway, authorised in 1865.¹¹⁶ This development is examined in chapter 9.

The Perth Junction, anxious to confirm its southerly network connection, hurriedly accepted Scottish North-Eastern terms in 1861 for running rights into Perth from

¹¹² Appendix, table 14(b), showing a 3% dividend paid to January 1864, 3½% to July 1864 and 4% to January 1865.

¹¹³ Minutes of the Inverness and Perth Junction Railway, 27 October 1863 and 21 March 1864, NAS/BR/IPJ/1/1, p.160 and p.197; *Railway Times*, 24 November 1860, p.1317 and 9 April 1864, p.521; J Mitchell, *Reminiscences of My Life in the Highlands*, vol.II, p.210, noted that a proposed Fort William line was to run to Kingussie; Matheson also identified Kingussie as the potential junction (*Herapath's Railway Journal*, 7 November 1863, p.1181). However, J McGregor, *The West Highland Railway: Plans, Politics and People* (Edinburgh, 2005), pp.43-44, reproduces the notes of a meeting held on 6 October 1863 establishing a provisional committee for a Fort-William - Newtonmore line. Kingussie is 2¼ miles further north than Newtonmore.

¹¹⁴ Minutes of the Inverness and Aberdeen Junction Railway, 27 October 1863, NAS/BR/IAJ/1/2, p.489.

¹¹⁵ J McGregor, *The West Highland Railway: Plans, Politics and People*, p.5, p.25 and pp.43-44.

¹¹⁶ Report to the Ordinary General Meeting of the Inverness and Aberdeen Junction Railway, 28 September 1864, p.44 and page 2 of printed report to shareholders; 28&29 Vic. cap.266, 1865, The Callander and Oban Railway Act; CEJ Fryer, *The Callander and Oban Railway* (Headington, 1989), p.15.

Stanley,¹¹⁷ which proved to be expensive immediately the line opened and gave rise to later disputes.¹¹⁸ The company paid a three percent dividend for the first five months of operation¹¹⁹ and shareholders were told that 'the Directors consider the success of the undertaking placed beyond all doubt ...'.¹²⁰ The direct line relied almost exclusively on through traffic for its revenue and the seasonal nature of the traffic, already apparent on earlier Inverness lines, featured strongly. Average weekly gross revenue between January and March 1864 was £1,043 whereas the average for the period July to September 1864 was £2,574, with a peak of £3,029 in mid-August.¹²¹ The company secured a seven-year northern mail contract in June 1864, not just for Inverness-shire and counties north but also for Nairn, Moray and Banff, that Inverness directors predicted would add 1½ percent annually to ordinary dividend and which, significantly, also removed guaranteed traffic from the rival Great North line via Aberdeen.¹²² Mail revenue remained a staple component of railway revenue for the Inverness web throughout the century. The impact of the direct line on the Great North was immediate:

It very speedily showed that it was to act very detrimentally to the interest of this Company. In the first place, we have had the mails taken off, which is

¹¹⁷ Minutes of the Scottish North-Eastern Railway, 7 February 1861, NAS/BR/SNE/1/1, pp.397-98 and p.400, reporting that Perth Junction terms were refused by the Scottish North-Eastern on 7 February 1861, but that Scottish North-Eastern terms were then accepted on the same day by the Perth Junction: the agreement was signed on 18 March 1861, NAS.BR/SNE/1/1, p.419.

¹¹⁸ Minutes of the Scottish North-Eastern Railway, 4 August 1863. NAS/BR/SNE/1/2, p.55, reporting a refusal to amend agreed tolls with the Inverness and Perth Junction Railway; and 5 November 1863, NAS/BR/SNE/1/1, pp.142-43, recording that a further request from the Perth Junction to amend tolls was also refused.

¹¹⁹ Appendix, table 14(b); Minutes of the Inverness and Perth Junction Railway, 14 March 1864, NAS/BR/IPJ/1/1, p.191.

¹²⁰ Report to the Ordinary General Meeting of the Inverness and Perth Junction Railway, 30 March 1864, NAS/BR/IPJ/1/1, p.201.

¹²¹ Data compiled from the weekly traffic receipts recorded in minutes of the Inverness and Perth Junction Railway, 10 January – 27 March 1864, and 3 July – 18 September 1864, NAS/BR/IPJ/1/1, pages 186-205 and 218-29.

¹²² Report to the Ordinary General Meeting of the Inverness and Perth Junction Railway, 30 March 1864, p.201.

equal to £95 per week; then we have lost the through traffic amounting to something like £300 per week.¹²³

Amalgamation of the Inverness and Perth and Inverness and Aberdeen Junction Railways was authorised in June 1865 and so the Perth Junction was in existence for only two years as an independent concern.¹²⁴ Therefore financial indicators for the company require caution, not least because the level of temporary debt, as with all Inverness companies, is not explicit in the accounts. Nevertheless, its debt gearing for 1863-64 appears slightly stronger than the weak Caledonian benchmark of 1849.¹²⁵ The line had only recently been opened and was already producing a strong growth in revenue, which indicated the potential of the new company ultimately to repay its debts.¹²⁶ This factor, coupled with the personal guarantees of directors, ensured the backing of the banking sector. However, the Perth Junction and its working partner, the Aberdeen Junction, had accumulated a substantial amount of temporary debt by the time they coalesced as the Highland Railway in 1865 and the impact of that debt is analysed in the following chapter.

Following a decade of careful planning and landowner negotiation, the high cost of land assumed an unexpected significance in the large excess of capital expenditure over estimate for the Perth Junction.¹²⁷ These data suggest validity in Robertson's

¹²³ Report to the 24th Ordinary General Meeting of the Great North of Scotland Railway, 28 September 1864, NAS/BR/GNS/1/15, pp.224-25, page 2 of printed report of the meeting.

¹²⁴ 28&29 Vic. cap.168, 1865, The Highland Railway Act, authorising the amalgamation of the Inverness and Aberdeen Junction and the Inverness and Perth Junction Railways.

¹²⁵ Appendix, table 14 (c), showing a gearing of gross revenue to total debt of 0.189 in 1864, but caution is required in the interpretation of such an indicator for this company because it had been in operation for only one year and it was about to form part of the new Highland Railway. The December 1849 debt gearing for the Caledonian Railway was 0.162 (chapter 3, table 18).

¹²⁶ Appendix, table 14(b).

¹²⁷ Appendix, table 14(a): taking the Highland Railway chairman's estimate of final land costs as £150,000 and a capital expenditure of £1,056,000 (*Railway Times*, 4 November, 1865, p.1407), land costs comprised 14.2% of capital expenditure, therefore falling within the range of land costs for the three 1837-38 inter-urban lines (12.4% to 18.1%, 1843-45, chapter 2, table 6 and appendix, table 26). Capital expenditure rose 61.5% above the parliamentary estimate of £654,000.

suspicion that estimates for some Scottish lines may have been deliberately kept low.¹²⁸ Even so, the capital cost of circa £9,000 per mile for this main trunk route was singularly economical and represents a prime example of the successful application of 'cheap railway' principles.¹²⁹ The opening of the direct line in 1863 marked the culmination of the Inverness strategy for the control of northern railways, confirming the prediction of the *Railway Times*: 'the territory, though large, will be thoroughly secure'.¹³⁰

Competition from the south: the Aberdeen link

No progress had been made to bridge the gap in the through route across Aberdeen since the fracture of the Aberdeen railway web in 1848. Two decades later, Thomas Cook was warning tourists:

... the Great North of Scotland Line has an independent station, denominated the Waterloo, at a distance of half-a-mile or more from the Guild Street Station; and this is the only positive disconnection of rails between Penzance, in Cornwall, and Inverness, a distance little short of 900 miles.¹³¹

Earlier unsuccessful attempts to provide a continuous route were outlined in chapter 4,¹³² while chapter 5 showed that the Great North, operating the Aberdeen-Keith

¹²⁸ CJA Robertson, *The Origins of the Scottish Railway System 1722-1844* (Edinburgh, 1983), p.323.

¹²⁹ Appendix, table 14(a), note (4) and note (5).

¹³⁰ *Railway Times*, 2 November 1861, p.1349, predicting consolidation of the Inverness companies on completion of the Inverness and Perth Railway.

¹³¹ T Cook, *Scottish Tourist Practical Directory* (London, 1866), p.59; AC O'Dell, 'Railway Routes of the North-East', *Geography of the Railways of Scotland* (unfinished manuscript, chapter 18 and chapter 19), in REH Mellor (ed.), *The Railways of Scotland: the papers of Andrew C O'Dell* (Aberdeen, 1984), p.41: O'Dell described the discontinuity at Aberdeen thus: 'At the time of the opening of the Canal line there were 700 yards separating Guild Street Station and Waterloo Station and no locomotives were allowed on the quays'.

¹³² Scroll minutes of the Aberdeen Railway, 16 June 1850, NAS/BR/ABN/1/10; *Railway Times*, 26 October 1850, p.1098; Minutes of the Great North of Scotland Railway,

section of the northern main line, made widespread use of sea transport to forward traffic south of Aberdeen.¹³³ Sporadic attempts were made to achieve a link,¹³⁴ but even with the announcement in 1860 of the proposed direct line from Inverness to Perth, the Great North and Scottish North-Eastern failed to agree plans to construct it.¹³⁵ Projected costs were high given the urban environment; an 1861 estimate for the 1¾ mile line through the Denburn Valley amounted to £227,410, but the Great North directors considered 'there was not sufficient time to mature so important an undertaking for the ensuing session of Parliament'.¹³⁶ Although the Great North proposed that the 1861 scheme should be submitted to the following parliamentary session, the Scottish North-Eastern replied that it remained 'uncommitted' and resolved to stop all expenditure on the scheme.¹³⁷ The Scottish North-Eastern was already exploring alternative plans to isolate the Great North, but faced a potential barrier presented by the Deeside Railway, which ran westwards from Aberdeen to Aboyne.

NAS/BR/GNS/1/1, 2 September 1849, p.202, 29 December 1849, p.229, 20 July 1853, p.409, and 27 August 1853, pp.420-22.

¹³³ Minutes of the Great North of Scotland Railway, 26 September 1862, NAS/BR/GNS/1/4, page 1 of printed report between pp.414-15, *Herapath's Railway Journal*, 11 October 1862, p.1060.

¹³⁴ *Railway Times*, 22 November 1856, p.1203; Minutes of the Great North of Scotland Railway, 23 December 1859, NAS/BR/GNS/1/3, p.418.

¹³⁵ Minutes of the Scottish North-Eastern Railway, 19 May 1860, NAS/BR/SNE/1/1, pp.292-93, recording a meeting between the Scottish North-Eastern, Great North and Inverness and Aberdeen Junction Railways concerning a cross-Aberdeen link; Minutes of the Scottish North-Eastern Railway, 5 September 1861, NAS/BR/SNE/1/1, p.560; Minutes of a special meeting of the Great North of Scotland Railway, 6 November 1861, NAS/BR/RAC(S)/1/14; Minutes of the Scottish North-Eastern Railway, 16 October 1861, NAS/BR/SNE/1/1, p.578.

¹³⁶ Special meeting of the board of the Great North of Scotland Railway, 6 November 1861, NAS/BR/RAC(S)/1/14 reporting estimates ranging from £147,032 to £159,000 with an additional £80,378 for approach work; HA Vallance, *The Great North of Scotland Railway*, p.70, giving the length of the Denburn Valley route across Aberdeen as 1¾ miles.

¹³⁷ Minutes of the Scottish North-Eastern Railway, 16 October 1861, NAS/BR/SNE/1/1, p.584.

- the Deeside railway system

The Deeside Railway, originally authorised in 1846, was re-incorporated in 1852 to build a line from Aberdeen to Banchory.¹³⁸ Two key individuals joined the Deeside from the outset. John Duncan, a director of the post-insolvent Caledonian and later its chairman, became Deeside chairman in 1851.¹³⁹ William Ferguson was appointed secretary in 1853 with a salary supplemented by an early example of a performance bonus.¹⁴⁰ Both assumed similar posts in the Great North following its financial collapse in 1865-66 and were central in its subsequent recovery.¹⁴¹

¹³⁸ 15 Vic. cap.61, 1852, The Deeside Railway Act, authorising construction of a 16 mile line between Aberdeen and Banchory with share capital of £106,250 and borrowing powers of £35,400.

¹³⁹ Report to the Ordinary General Meeting of the Caledonian Railway, 28 March 1850, in accounts and director reports of the Caledonian Railway, 1845-68, NAS/BR/RAC(S)/1/3, showing John Duncan elected as a director of the new Caledonian board on 20 March 1850 and serving as chairman from December 1850 until after the Ordinary General Meeting of September 1852; Minutes of the Deeside Railway, 9 September 1851, NAS/BR/DEE/1/1, pp.74-75, showing John Duncan elected to the board; Minutes of the Deeside Railway, 26 November 1851, NAS/BR/DEE/1/1, p.92, recording that John Duncan was elected as chairman.

¹⁴⁰ Minutes of the Deeside Railway, 1 March 1853, NAS/BR/DEE/1/1, p.178, recording the appointment of William Ferguson as secretary to the company at a salary of £150 per annum with an unspecified bonus once dividend reached 4%; Minutes of the Ordinary General Meeting of the Deeside Railway, 24 October 1854, p.257, recording that William Ferguson's salary as secretary had been adjusted to £250 per annum plus £50 for every ¼% dividend above 5%, presumably amended because dividend had already reached 5%.

¹⁴¹ Report to the 23rd Ordinary General Meeting of the Great North of Scotland Railway, 30 March 1864, NAS/BR/GNS/1/5, p.128 and page 2 of inserted printed report, detailing the appointment of John Duncan, advocate, to the board of the Great North; Minutes of the Great North of Scotland Railway, 28 September 1864, NAS/BR/GNS/1/5, p.226, recording Duncan's election as deputy chairman in place of John Stewart, and 12 February 1867, NAS/BR/GNS/1/6, p.216, recording Duncan's election as chairman of the re-constituted board of the Great North; Minutes of the Great North of Scotland Railway for the Deeside Arrangement Committee, 26 October 1866, NAS/BR/GNS/1/6, p.110, recording the recommendation that the duties of Robert Milne, secretary and general manager of the Great North, should be split and that William Ferguson should become secretary (to include finance) of the whole Great North and Deeside system and Milne should act as general manager for the whole Great North and Deeside system.

As only 56.4 percent of Deeside share capital had been issued by March 1853, Duncan took an additional 23.5 percent and other directors a further 8.5 percent.¹⁴² Once opened in 1854, strong dividends made the company attractive. The Deeside quickly established itself as an exemplar of a financially secure branch railway built on 'cheap railway' principles and it returned a steady increase in gross revenue without the burden of large temporary debt.¹⁴³ Consequently, the Deeside produced one of the strongest debt gearing ratios in the north and paid high dividends consistently (table 62).

Table 62: Revenue and financial indicators for the Deeside Railway, 1854-66

	31 August	1854	1855	1856	1857	1858	1859	1860
Gross annual revenue (£)		8836	10808	12392	12834	13072	14296	14569
Ratio of debentures to capital raised		33.2%	31.6%	29.3%	28.1%	28.1%	27.3%	27.0%
Ratio of gross revenue to total debt		0.238	0.250	0.254	0.314	0.297	0.323	0.330
Dividend (%)		5	5	5	5	5	6	6
		1861	1862	1863	1864	1865	1866	
Gross annual revenue (£)		15102	15458	15398	16763	19792	18638	
Ratio of debentures to capital raised		25.9%	25.0%	23.6%	23.6%	23.3%	26.2%	
Ratio of gross revenue to total debt		0.318	0.304	0.431	0.471	0.481	0.393	
Dividend (%)		6	7 ¼	7	7	7	7	
Source: Appendix, tables 7(b) and 7(c).								
(1): Comparative gearing ratios for the Caledonian Railway in 1849-50 were 24.5% for debentures/capital and 0.162 for gross revenue/debt.								

Despite high land costs, which comprised 13.8 percent of capital expenditure by 1855,¹⁴⁴ the line attracted commendation:

¹⁴² Minutes of the Deeside Railway, 21 March 1853, NAS/BR/DEE/1/1. p.131, recording 5,988 shares issued to 103 shareholders, with an extra 2,500 then taken by John Duncan and a further 900 by directors, making a total of 9,388 £10 shares issued (88.4%).

¹⁴³ *Railway Times*, 22 October 1859, p.1173: a leading article on the Deeside noted that 'The sole secret of this success lies in economy of construction, and a rigid regard to outlay of capital'; Appendix, tables 7(a) and 7(b), showing the capital cost per mile by 1854 to be £6,803 by 1854, only 2.5% above estimate, but £8,011 per mile by 1855, 20.6% above estimate, although one-quarter of this increase was due to the purchase of additional plant to work the increasing traffic.

¹⁴⁴ Appendix, table 7(a).

There is, indeed, much to be proud of in the construction, management, and development of the Deeside. It is the first practical success in the economic system. Abating the unexpected extortion of some of the landowners ... everything else is worthy of approbation ...¹⁴⁵

When approached for support for a line projected from the Deeside to Alford in 1855 in competition to the Alford Valley Railway,¹⁴⁶ outlined in chapter 5, the board made an important statement of policy that under-pinned the financial stability of the Deeside:

The Directors have deemed it the wisest policy to avoid all guarantees and subscriptions to branch lines, as a Company, and have resolved to keep each undertaking separate and distinct ...¹⁴⁷

A westward extension to Aboyne was promoted in October 1856 for which the parliamentary authorisation specifically required the shareholder lists of the two concerns to be separated until dividends were equivalent.¹⁴⁸ The Deeside board agreed to act as the nominal promoter provided 'that no part of the Revenue or Capital of the Deeside Railway proper shall be applicable to the purpose of the Extension or be in any way burdened by it'.¹⁴⁹ Nevertheless, the Deeside subscribed £5,000, worked the line and managed extension affairs through its board with the addition of two extension directors; company accounts were, however, distinctly divided.¹⁵⁰ By 1860, capital expenditure on the extension was a quarter above

¹⁴⁵ *Railway Times*, 28 October 1854, p.1173: this leader article noted that the Deeside Railway earned only £10 per mile per week in revenue, but it paid a 5% dividend.

¹⁴⁶ *Herapath's Railway Journal*, 20 October 1855, p.1081.

¹⁴⁷ Minutes of the Deeside Railway, 24 October 1855, NAS/BR/DEE/1/1. p.343; *Herapath's Railway Journal*, 24 October 1855, p.1090.

¹⁴⁸ 20&21 Vic. cap.49, 1857, The Deeside Railway Extension Act, authorising an extension from Banchory to Aboyne with share capital of £80,000 and borrowing powers of £26,000.

¹⁴⁹ Minutes of the Deeside Railway, 5 November 1856, NAS/BR/DEE/1/1, pp.446-47.

¹⁵⁰ Minutes of an Extra-Ordinary General Meeting of the Deeside Railway, 17 November 1856, NAS/BR/DEE/1/1. pp.454-57; Minutes of the 6th Ordinary General Meeting of the Deeside Railway, 27 October 1857, NAS/DEE/1/2, pp.50-58, setting out the working

estimates, although the capital cost was contained at £6,529 per mile and land costs comprised just 8.2 percent of capital expenditure.¹⁵¹ Extension capital was difficult to raise. To meet parliamentary Standing Orders, Duncan signed for more shares than he intended to purchase, but the board declined his request to limit calls on these shares to £4,000.¹⁵² The capital account for the extension slipped into deficit in 1859 and the company resorted to temporary loans until 1862, when, as a defensive measure, the Great North bought all unallocated stock to secure the route.¹⁵³

Table 63: Revenue and financial indicators for the Deeside Extension Railway, 1860-66

31 August	1860	1861	1862	1863	1864	1865	1866
Gross annual revenue (£)	3383 (8 months)	5327	5569	5657	5777	6003	6724
Dividend (%)	1¼	0	1	2	2	2	2¼
Ratio of debentures to capital raised	31.9%	33.3%	23.4%	22.5%	23.4%	23.4%	23.2%
Ratio of gross revenue to total debt	-	0.116	0.150	0.230	0.238	0.247	0.269
Source: Appendix, table 7(e) and 7(f).							
(1): Comparative gearing ratios for the Caledonian Railway in 1849-50 were 24.5% for debentures/capital and 0.162 for gross revenue/debt.							
(2): The Deeside Extension Railway opened in December 1859.							

The Deeside extension was much less secure financially than its parent company (table 63). It served a more sparsely populated district and its gross revenue rose only slowly, but it paid a small dividend, which increased once its capital difficulties were resolved by Great North.¹⁵⁴ That Great North intervention in 1862 was

agreement for the extension railway; Appendix, table 7(a), showing the Deeside subscription of £5,000 to the extension company.

¹⁵¹ Appendix, table 7(d), note (2), and table 26: in 1860, capital expenditure was £101,192, 26.5% above estimate.

¹⁵² Minutes of the Deeside Railway, 20 July 1858, NAS/BR/DEE/1/2, p.117; Minutes of the Deeside Railway, 28 July 1858, NAS/BR/DEE/1/2, p.121.

¹⁵³ Appendix, table 7(d), showing 'sundries' in the general balance sheet of £30,699 against capital by 1861; Minutes of the Great North of Scotland Railway, 11 February, 1862, NAS/BR/GNS/1/4, pp.259-60; Minutes of the Deeside Railway, 18 February 1862, NAS/BR/DEE/1/3, pp.100-101.

¹⁵⁴ Minutes of the Deeside Railway, 25 February 1862, NAS/BR/DEE/1/3, p.108, recording that the Great North had bought all unallocated Deeside extension shares (a Scottish North-Eastern minute of 7 February 1862 records this amount as £31,272, NAS/BR/SNE/1/1, pp.623-24) and, from the proceeds, £29,830 had been used by the Deeside to pay off its debt at the Commercial Bank of Scotland.

reflected in the improved debt gearing of the company by 1863. A lease of the Deeside and its extension by the Great North from 1866 ensured guaranteed dividends until amalgamation in 1876.¹⁵⁵

In addition to its exemplary financial performance, the Deeside is also noteworthy as an example of a company foregoing profit by providing a revenue subsidy to a new railway company, authorised in 1865 to link the Aboyne terminus of the Deeside Extension with Braemar to the west.¹⁵⁶ The western limit of the Aboyne and Braemar Railway was fixed further east, however, due to royal resistance to a railway near Balmoral Castle,¹⁵⁷ although Queen Victoria provided an indirect subscription to the railway and used the Deeside route.¹⁵⁸ Despite the Deeside policy not to subscribe to branch lines, £10,000 was invested.¹⁵⁹ Moreover, the Deeside agreed to make no revenue charge for working the Braemar line for ten

¹⁵⁵ Report to the 15th Ordinary General Meeting of the Deeside Railway, 24 October 1866, NAS/BR/DEE/1/3, pp.308-10, reporting the lease of the Great North on 30 July 1866 under 29&30 Vic. cap 288, 1866, the Great North of Scotland (Amalgamation) Act, with a guaranteed dividend of 7½ % on the Deeside and 3% rising to 3½ % in the second year on the Deeside Extension, and with any excess of gross revenue over £27,000 per annum to be divided in the proportions of 17/32 to the Deeside and 15/32 to the Extension shareholders (see Appendix, table 7(b) for dividends 1866-74). Amalgamation of the Deeside and Deeside Extension Railways with the Great North was implemented from 31 August 1875 and authorised retrospectively under 39&40 Vic. cap.124, 1876, The Great North of Scotland (Further Powers) Act.

¹⁵⁶ 28&29 Vic. cap.279, 1865, The Aboyne and Braemar Railway Act, with authorised capital of £66,000 and borrowing powers of £22,000.

¹⁵⁷ *Herapath's Journal* also reported on 24 June 1865, p.687 that 'Her Majesty was opposed to the construction of a railway as far as Braemar'; Sir M Barclay-Harvey, *A History of the Great North of Scotland Railway*, p.59; W Ferguson, *The Great North of Scotland Railway – A Guide* (Edinburgh, 1881), section IX; J Simmons, 'Railways, Hotels and Tourism in Great Britain, 1839-1814', *Journal of Contemporary History*, 19, No.2 (April 1984), p.211.

¹⁵⁸ Sir M Barclay-Harvey, *A History of the Great North of Scotland Railway*, pp.165-67, recording that two royal journeys were made each year over the line from 1862; Minutes of the Aboyne and Braemar Railway, 11 July 1865, NAS/BR/ABR/1/1, p.9, which records 'it was in [company chairman] Col Farquharson's power to have got a considerably larger sum than he has done from Her Majesty if he would have given his consent to the Line terminating at Ballater and the Tramway commencing there instead of at Bridge of Gairn'; The line was built only to Ballater under an agreement with the Queen's representatives, agreement (3), 11 July 1865, NAS/ABR/1/1, p.1.

¹⁵⁹ Minutes of the Deeside Railway, 28 September 1866, NAS/BR/DEE/1/3, p.301: the £10,000 subscription represented 15.2% of the authorised share capital of the Aboyne and Braemar Railway.

years following its opening in October 1866 or until dividend reached 4½ percent.¹⁶⁰ While the marginal cost of providing a service over the eleven miles from Aboyne to Ballater would have been relatively low, royal patronage may have prompted this entrepreneurial benevolence as, without a subsidy, revenue would have been insufficient to meet working expenses and interest and the Braemar company would have become bankrupt.¹⁶¹ Perversely, the line paid a small dividend from 1869 because working charges were never applied before amalgamation into the Great North in 1876.¹⁶² The capital account of the Braemar company remained in deficit from 1866 to 1874,¹⁶³ its trend of gross revenue was almost static and it exhibited similar weak debt gearing characterised by most other northern branch lines, despite its generous subsidy (table 64).

Table 64: Revenue and financial indicators for the Aboyne and Braemar Railway, 1867-74

31 July	1867	1868	1869	1870	1871	1872	1873	1874
Gross annual revenue (£)	1852	3269	3159	3113	3369	3562	3524	3780
Dividend (%)	0	0	2	2	2	3	2 ½	2 ¼
Ratio of debentures to capital raised	35.4%	35.4%	36.5%	36.5%	36.5%	36.5%	36.5%	36.5%
Ratio of gross revenue to total debt	0.072	0.102	0.097	0.103	0.119	0.126	0.123	0.132
Source: Appendix, tables 2(b) and 2(c).								
(1): Comparative gearing ratios for the Caledonian Railway in 1849-50 were 24.5% for debentures/capital and 0.162 for gross revenue/debt.								

The Deeside system provides a contrast between the strong financial returns of the parent Deeside Railway, unburdened by debt, and the economic deficiencies of the isolated Aboyne and Braemar which, without subsidy, would have failed to survive. Nevertheless, the Deeside lines formed a potential shield to any northerly advances

¹⁶⁰ Statement in report and accounts to the 5th Ordinary General Meeting of the Aboyne and Braemar Railway, 27 March 1868, p.137; *Herapath's Railway Journal*, 24 June 1865, p.687, reporting the Extra-Ordinary General Meeting of the Deeside Railway on 16 June 1865 at which the working of the Aboyne and Braemar without charge for ten years was approved with one objection.

¹⁶¹ Appendix, table 2(b) and 2 (c), note (3).

¹⁶² 39&40 Vic. cap.124, 1876, The Great North of Scotland (Further Powers) Act, under which the Aboyne and Braemar Railway was amalgamated with the Great North from 31 January 1876.

¹⁶³ Appendix, table 2(a).

that might seek to by-pass the Great North's monopoly of northern traffic routed via Aberdeen.

- **competitive leverage: the Scottish Northern Junction Railway**

By 1861, the Scottish North-Eastern was producing a healthy surplus on its revenue account, but its capital account remained in deficit.¹⁶⁴ A cross-Aberdeen link to access northern traffic remained a principal objective for the company despite the possibility of significant capital outlay.¹⁶⁵ The line was seen, however, as a Great North responsibility because its original 1846 powers had included an end-on junction with the southern network.¹⁶⁶ The Great North had a positive balance on its capital account in 1861 and dividend reached 7 percent; it therefore felt little pressure to embark on an expensive link that was expected to transfer existing traffic rather than increase it.¹⁶⁷ The Scottish North-Eastern acknowledged the future impact of the direct Inverness-Perth line on its traffic,¹⁶⁸ but the Great North

¹⁶⁴ Appendix, table 21(a): in July 1861, the revenue balance for the Scottish North-Eastern Railway was £106,240 before dividend payments, but the capital account was in deficit by £74,039.

¹⁶⁵ Report to the Ordinary General Meeting of the Scottish North-Eastern Railway, 24 September 1858, NAS/BR/RAC(S)/1/36, in which directors anticipated the extra traffic from the north with the opening of the through line between Inverness and Aberdeen in August 1858.

¹⁶⁶ *Herapath's Railway Journal*, 15 March 1862, p.291, quoting the report to shareholders for the Ordinary General Meeting of the Scottish North-Eastern Railway held on 14 March 1862 in which directors reminded shareholders that '... the Great North of Scotland Railway was originally intended to form a junction with the Scottish North Eastern by the Valley of the Denburn, and that powers were conferred upon that Company for that purpose ... they decline to complete this section of their original design. Hence the break at Aberdeen, which is the only interruption in the through line of railway between London and Inverness.'; 13&14 Vic. cap.78, 1850, the Aberdeen Railway Act, included a clause requiring the Aberdeen Railway to grant facilities to assist the Great North to make a junction with the Aberdeen Railway.

¹⁶⁷ Appendix, table 10(c), showing the capital account surplus for the Great North of Scotland Railway in the first half of 1861 to be £72,261; and table 10(d): first half-year dividend in 1861 was 6½ % and second half-year dividend was 7%; *Herapath's Railway Journal*, 27 September 1862, p.1022.

¹⁶⁸ *Herapath's Railway Journal*, 16 March 1861, p.301, reporting a statement by John Stirling, chairman of the Scottish North-Eastern, who predicted that '... the Inverness line will affect us to a certain extent in our passenger traffic. Our goods traffic received very little benefit from that quarter'.

appeared unconcerned by the potential threat from Inverness, which may have encouraged their vacillation over the cross-Aberdeen link. Deputy chairman Stewart told shareholders that the maximum traffic the Great North could lose annually as a result of the opening of 'the Highland line' was £4,302.¹⁶⁹ The traits of a complacent monopolist were further illustrated in the following year when Stewart claimed that the Great North gained little benefit from through traffic with the Scottish North-Eastern, although it had offered half the cost of the Aberdeen connection:

We don't owe such a debt of gratitude to parties as to put our hands into our pockets for the advantage of the city of Aberdeen and of through passengers
...¹⁷⁰

Although suggesting that 'it is essential to the city of Aberdeen that there should be through communication',¹⁷¹ the Great North issued a veiled threat to Aberdonian commerce by identifying the proposed Strathspey Railway as an alternative route for northern traffic:

Our wish is to bring it by Aberdeen; but if we cannot get facilities here, we are under no obligation to do so.¹⁷²

The widespread use of sea transport by the Great North undoubtedly contributed to its perception of the lack of benefit to be derived from a continuous route. The low rates charged by shipping companies and the consequent loss of traffic caused serious concern to the Scottish North-Eastern and in 1859 it had offered a one-year

¹⁶⁹ Statement by John Stewart, deputy chairman, to the 16th Ordinary General Meeting of the Great North of Scotland Railway, 1 October 1860, NAS/BR/GNS/1/3, p.548: '... supposing the worst comes to the worst; suppose the Highland line to be opened and in full operation, that is the outside that could be taken from us'. Stewart had made this estimate from Railway Clearing House data of traffic between stations on the proposed Inverness-Perth line and Edinburgh and Glasgow.

¹⁷⁰ *Herapath's Railway Journal*, 28 September 1861, pp.996-97, reporting the 18th Ordinary General Meeting of the Great North of Scotland Railway, 20 September, 1861.

¹⁷¹ Report to the 18th Ordinary General Meeting of the Great North of Scotland Railway, 20 September 1861, NAS/BR/GNS/1/3, p.171 and page 3 of printed report.

¹⁷² *Herapath's Railway Journal*, 28 September 1861, pp.996-97.

contribution to the Great North towards a subsidised shipping service to the Moray Firth.¹⁷³

In 1860, the dissatisfaction of the Scottish North-Eastern prompted an approach to Inverness to explore a diversion of the proposed Forres-Dunkeld line.¹⁷⁴ Instead of a junction at Dunkeld and a southerly route via the Perth and Dunkeld Railway, the Scottish North-Eastern suggested a connection with their Perth-Aberdeen main via the Blairgowrie branch,¹⁷⁵ although the Scottish North-Eastern was also concurrently protecting its interests by exploring a lease with the Perth and Dunkeld and a northerly extension, as indicated earlier.¹⁷⁶ The Scottish North-Eastern refused any support for the rival Morayshire line from Craigellachie to Blairgowrie,¹⁷⁷ but, with Inverness unwilling to divert its planned connection with the Perth and Dunkeld, an alternative proposal was made for a line from the Inverness and Aberdeen Junction at Keith to join the Scottish North-Eastern at Aberdeen, thereby removing the Great North as an obstacle altogether.¹⁷⁸ The prime objective for Inverness, however, was to eradicate the detour via Aberdeen and the scale of the direct Perth line confined their resources to that route. The Scottish North-Eastern therefore made an agreement with the promoters of the Inverness and Perth Junction in February 1861

¹⁷³ Report to the Ordinary General Meeting of the Scottish North-Eastern Railway, 20 October 1859, NAS/BR/RAC(S)/1/36; Minutes of the Scottish North-Eastern Railway, 13 September 1859, NAS/BR/SNE/1/1, p.124: the Scottish North-Eastern offered the Great North a contribution of 20% of the extra traffic generated by a steamer service between the Moray Firth and Granton, although the Great North had requested 50%. See chapter 5, 'The results of monopoly power': the Great North subsidised a steamer service north from Aberdeen in 1859-60, but withdrew following losses.

¹⁷⁴ Minutes of the Scottish North-Eastern Railway, 19 October 1860, NAS/BR/SNE/1/1, p.364.

¹⁷⁵ Minutes of the Scottish North-Eastern Railway, 25 September 1860, NAS/BR/SNE/1/1, p.352, commissioning a report on 'having the Railway which is projected to run from Forres to Dunkeld diverted so as to join this Company's line at Blairgowrie'.

¹⁷⁶ Minutes of the Perth and Dunkeld Railway, 10 November 1860, NAS/BR/PDR/1/1; Minutes of the Locomotive Committee of the Scottish North-Eastern Railway, 5 November 1860, NAS/BR/SNE/1/1, p.368, recording instructions to prepare a parliamentary bill for a line from Birnam to Aberfeldy.

¹⁷⁷ Minutes of the Scottish North-Eastern Railway, 25 September 1860, NAS/BR/SNE/1/1, p.352.

¹⁷⁸ Minutes of the Scottish North-Eastern Railway, 25 September 1860, NAS/BR/SNE/1/1, p.353, and 19 October 1860, NAS/BR/SNE/1/1, p.364.

that provided running powers from Stanley into Perth to ensure northern traffic passed onto its main line.¹⁷⁹

A line avoiding Aberdeen was then promoted in December 1861 as the Scottish Northern Junction Railway to connect Limpet Mill, three miles north of Stonehaven on the main Perth-Aberdeen line, to Kintore on the Great North's line to Keith. The perceived independence of the Scottish Northern Junction was purely nominal because the Scottish North-Eastern agreed to be joint promoter of the new company, to supply three-fifths of its capital,¹⁸⁰ to pay its parliamentary expenses, and to work the line, paying an immediate 4½ percent guarantee on stock 'provided the Gross Revenue of the Line is sufficient for that purpose'.¹⁸¹ This new 22 mile line crossed the Deeside Railway and therefore the Scottish North-Eastern sought an agreement to lease the Deeside lines, offering ultimate guarantees of 8 percent on Deeside shares and 4 percent on Deeside extension shares in addition to the purchase of all unissued Deeside extension stock, outbidding a Great North offer of 6 percent on Deeside shares.¹⁸² In a defensive move, the Great North purchased all

¹⁷⁹ Minutes of the Scottish North-Eastern Railway, 7 February 1861, NAS/BR/SNE/1.1, pp.397-98; Minutes of the Scottish North-Eastern Railway, 21 February 1861, NAS/BR/SNE/1/1, p.407, recording the agreement of the Inverness and Perth Junction to pay three-quarters of the cost of the Scottish North-Eastern's Dunkeld leasing bill once the Perth Junction bill was passed by Parliament: the agreement between the Scottish North-Eastern and the Perth Junction was signed on 8 March 1861, p.419; Scroll minutes of the Inverness and Perth Junction Railway, 3 December, 1861, NAS/BR/IPJ/1/2, confirming the agreement of 8 March 1861 with the Scottish North-Eastern Railway to pay three-quarters of the cost of the Scottish North-Eastern's bill for lease of the Perth and Dunkeld, since withdrawn.

¹⁸⁰ 25&28 Vic. cap.79, 1862, the Scottish Northern Junction Act, authorised the Scottish North-Eastern to subscribe £90,000 of the £150,000 share capital; 25&26 Vic. cap.64, 1862, the Scottish North-Eastern Railway Amendment Act, authorising an additional £350,000 share capital at a preference not exceeding 5% and borrowing powers of £50,000, to be released in two tranches as shares were paid up, from which the capital subscription to the Scottish Northern Junction was to be paid.

¹⁸¹ Minutes of the Scottish North Eastern Railway, 4 December 1861, NAS/BR/SNE/1/1, p.593: the 4½ % guarantee was for the first two years of operation, rising thereafter to 4¾ % if revenue was sufficient.

¹⁸² Minutes of the Scottish North-Eastern Railway, 7 February 1862, NAS/BR/SNE/1/1, pp.623-24; Deeside shares were to be guaranteed 7% for the first two years, backdated to September 1861, 7½ % in the third year and 8% thereafter, whilst Deeside extension shares were to be guaranteed 2% in the first year, also backdated to September 1861, rising by ½% per year until the level reached 4%; Minutes of the Great North of Scotland Railway, 22 January 1862, NAS/BR/GNS/1/4, p.250. Both Sir M Barclay-Harvey, *A History of the Great*

unappropriated Deeside stock within two weeks of the Scottish North-Eastern offer,¹⁸³ aided by John Duncan who used his casting vote as chairman at the Deeside Board to secure acceptance of the Great North's terms.¹⁸⁴ A bitter legal wrangle ensued over the Deeside's decision in favour of the Great North, which resulted in the issue of interdicts by both Deeside shareholders and the Scottish North-Eastern that prevented the transfer of the Deeside to the Great North 'under the colours of a working agreement' and delayed the lease of the Deeside by the Great North until 1866.¹⁸⁵

The Scottish Northern Junction promotion may have been conceived as a lever to force action from the Great North to provide the Aberdeen link, but the Deeside dispute resulted in the involvement of the state. The Northern Junction bill was provisionally approved in June 1862,¹⁸⁶ but, after the Great North offered to construct

North of Scotland Railway, p.78, and HA Vallance, *The Great North of Scotland Railway*, p.68, give the length of the proposed Scottish North Junction line as 22 miles.

¹⁸³ Minutes of the Great North of Scotland Railway, 11 February 1862, NAS/BR/GNS/1/4, pp.259-60 and p.262, resolving to purchase all unappropriated Deeside stock at par, and 21 February 1862, NAS/BR/GNS/1/4, p.263, reporting the completion of the purchase of Deeside stock; Minutes of the Scottish North-Eastern Railway, 7 February 1862, NAS/BR/SNE/1/1, pp.623-24, recording an offer 'to take off at par the whole unallocated shares of the Extension Line, amounting in value to £31,272 ...'.

¹⁸⁴ Minutes of the Deeside Railway, 18 February 1862, NAS/BR/DEE/1/2, p.107, showing Duncan held two-fifths of the Deeside Railway stock and p.105, recording that three directors voted for the Scottish North-Eastern offer and three for the Great North, with John Duncan as chairman using his casting vote in favour of the Great North; Minutes of the Great North of Scotland Railway, 9 November 1863, NAS/BR/GNS/1/5, p.42, recording Great North board agreement to purchase Deeside shares from John Duncan and Patrick Davidson, directors of the Deeside, '... giving a majority of votes in the Deeside Railway, thereby enabling them to secure and protect their property'.

¹⁸⁵ *Herapath's Railway Journal*, 13 September 1862, p.980; Report to the Ordinary General Meeting of the Scottish North-Eastern Railway, 12 September 1862, NAS/BR/SNE/1/1, p.738, recording two interdicts against the Great North's lease of the Deeside Railway; Report to the 15th Ordinary General Meeting of the Deeside Railway, 24 October 1866, NAS/BR/DEE/1/3, pp.308-10, reporting the lease of the Deeside by the Great North had been authorised on 30 July 1866 under 29&30 Vic. cap 288, 1866, The Great North of Scotland (Amalgamation) Act.

¹⁸⁶ 28&29 Vic. cap.79, 1862, The Scottish Northern Junction Railway Act, with authorised share capital of £150,000 and borrowing powers of £50,000; the Scottish North-Eastern was empowered to subscribe £90,000 and to work the line. However, no construction was to be undertaken before 1 January 1863 and, if the Great North had submitted a bill by that date, then the Scottish North Junction Railway Act was to be further suspended until the Great

the cross-Aberdeen line during the scrutiny of the bill, a clause was inserted by Parliament delaying its implementation for a year to allow time for the Great North to submit its own bill and, if subsequently approved, powers for the Northern Junction were to be rescinded.¹⁸⁷ Thus, the state gave the Great North the opportunity to create the through route approved sixteen years earlier in its act of incorporation.

In September 1862, the Great North and Scottish North-Eastern briefly considered proposals for a joint-purse agreement and an ultimate amalgamation,¹⁸⁸ but terms were not agreed.¹⁸⁹ Conflict was resumed in October when the Great North announced its abandonment of the direct Denburn Valley route for the cross-Aberdeen link and selected a line around the west side of Aberdeen with a reversed junction, which attracted the title of the 'Circumbendibus' and aroused vigorous opposition.¹⁹⁰ An offer by the Scottish North-Eastern of £30,000 to re-instate a direct line was rejected by the Great North, but a parliamentary application by the Scottish North-Eastern to release powers to construct the Scottish Northern Junction route was refused.¹⁹¹ The *Railway Times* despaired:

North's bill was passed, rejected or withdrawn. If the bill was passed before 1 September 1863, then the powers conferred by the Scottish Northern Junction Act were to be withdrawn.

¹⁸⁷ Report to the Ordinary General Meeting of the Scottish North-Eastern Railway, 12 September 1862, NAS/BR/SNE/1/1, p.738.

¹⁸⁸ Minutes of the Scottish North-Eastern Railway, 15 August, 2 September and 12 September, 1862, NAS/BR/SNE/1/1, pages 726, 727 and 733.

¹⁸⁹ Minutes of the Scottish North-Eastern Railway, 13 September 1861 and 7 October 1862, NAS/BR/SNE/1/1, p.760 and p.766.

¹⁹⁰ Minutes of the Scottish North-Eastern Railway, 23 October 1862, NAS/BR/SNE/1/1, p.769, recording a letter from the Great North of Scotland Railway dated 21 October 1862 and expressing the board's regret at the Great North decision 'to abandon the Denburn Line and to make a circuitous junction via Albyn Place ...'; J Leckie, 'The Circumbendibus', *Great North Review*, 4, No.14 (August 1967), 45-49; HA Vallance, *The Great North of Scotland Railway*, p.70; *Herapath's Railway Journal*, 14 March 1863, p.277, noting the printed report of directors circulated for the Ordinary General Meeting of the Scottish North-Eastern Railway held on 17 March 1863, when shareholders were informed that the 'scheme of the Great North is to carry the junction line around the City, thereby increasing the distance nearly a mile and a half and preventing the formation of a direct through station ...'.

¹⁹¹ Minutes of the Scottish North-Eastern Railway, 5 November 1862, NAS/BR/SNE/1/1, p.772, recording the 'disadvantages' of the Great North proposals and resolving to write to the Great North 'with the view of inducing them to adopt the route by the Valley of the Denburn', offering £30,000 towards the scheme; Report to the Ordinary General Meeting of the Scottish North-Eastern Railway, 17 March 1863, NAS/BR/SNE/1/2, p.8.

... the directors of the two boards can neither arrange an amalgamation of their companies, nor can they live at peace ... The two lines are connected merely by a tramway along the quay.¹⁹²

Faced by further delay and with strong local resistance to the Great North's 'circumbendibus' route, Parliament emasculated the Great North's bill submitted in 1863 for the western suburban route by inserting clauses that granted powers to the Scottish North-Eastern not only to select the route but to construct the line.¹⁹³ As a result, the legislature postponed the Great North bill for a further year to allow time for the Scottish North-Eastern to bring in its own bill for a direct connection via the Denburn Valley, which, if submitted, was to bind the Great North to subscribe £125,000.¹⁹⁴ Thus, nearly two decades of recalcitrance in Aberdeen resulted in a rare example of state direction of regional railway policy.

The Scottish North-Eastern bill for the Denburn Valley line was submitted to meet the state's timetable,¹⁹⁵ and the subsequent act transferred the powers granted to the Scottish North-Eastern to invest in the abortive Scottish Northern Junction to the Denburn Valley scheme.¹⁹⁶ To avoid future conflict, the Scottish North-Eastern

¹⁹² *Railway Times*, 8 November 1862, p.1590 and p.1594, noting 'the war into which these two companies are evidently drifting'.

¹⁹³ 26&27 Vic. cap.164, 1863, The Great North of Scotland (Aberdeen Junction) Railway Act; Minutes of the Scottish North-Eastern Railway, 20 May 1863, NAS/BR/SNE/1/2, p.38.

¹⁹⁴ Report to the Ordinary General Meeting of the Scottish North-Eastern Railway, 17 September 1863, NAS/BR/SNE/1/2, p.88; Sir M Barclay-Harvey, *A History of the Great North of Scotland Railway*, p.81. states that the chairman of the House of Commons Committee brokered an agreement between the Great North and the Scottish North-Eastern Railways because of the strong local opposition to the Great North's 'Circumbendibus' scheme and the logic of constructing the direct continuous route via the Denburn Valley. The Great North's subscription of £125,000 matched the sum it was proposing to spend on its 'Circumbendibus' scheme around the city, but was specified as a subscription under 27&28 Vic. cap.111, 1864, The Denburn Valley Railway Act.

¹⁹⁵ Report to the Ordinary General Meeting of the Scottish North-Eastern Railway, 17 March 1864, NAS/BR/SNE/1/2, p.219.

¹⁹⁶ 27&28 Vic. cap.111, 1864, The Denburn Valley Railway Act, in which section 26 authorised the use of the £90,000 capital powers granted to the Scottish North-Eastern Railway under 25&26 Vic. cap.79, 1862, The Scottish Northern Junction Railway Act for the Denburn Valley Railway.

offered to reduce the Great North's subscription of £125,000 by £17,000 provided that they 'agree to leave the whole execution of the Works of the Line and Station to the Scottish North-Eastern Company without any interference therewith on their part',¹⁹⁷ to which the Great North consented.¹⁹⁸

A further attempt was made in 1864 to secure an amalgamation of the Scottish North-Eastern and Great North companies.¹⁹⁹ Initially, the Scottish North-Eastern expressed interest in a union excluding Great North branch lines, which were nominally independent of the parent company, but requested the accounts of the branch companies after it was suggested that the Great North 'should take upon themselves the liabilities attached to the Branches ...'.²⁰⁰ The financial condition of the branches must have discouraged immediate progress because the Scottish North-Eastern did not seek to resume negotiations until March 1865, when it also petitioned unsuccessfully against the proposed amalgamation of the Caledonian Railway with the Scottish Central Railway.²⁰¹ By November, however, the Scottish North-Eastern had concluded its own agreement with the Caledonian for amalgamation from August 1866.²⁰² The Great North therefore remained isolated

¹⁹⁷ Minutes of the Scottish North-Eastern Railway, 22 September 1864, NAS/BR/SNE/1/2, p.383.

¹⁹⁸ Minutes of the Great North of Scotland Railway, 23 September 1864, NAS/BR/GNS/1/5, p.214, recording the offer from the Scottish North-Eastern Railway dated 22 September 1864 to which the board agreed.

¹⁹⁹ Minutes of the Scottish North-Eastern Railway, 22 September 1864, NAS/BR/SNE/1/2, p.379; Minutes of the Great North of Scotland Railway, 23 September 1864, NAS/BR/GNS/1/5, p.215; *Herapath's Railway Journal*, 8 October 1864, p.1177.

²⁰⁰ Minutes of the Great North of Scotland Railway, 14 November 1864, NAS/BR/GNS/1/5, p.253; Minutes of the Scottish North-Eastern Railway, 24 November 1864, NAS/BR/SNE/1/2, p.417: TE Harrison (engineer to the North-Eastern Railway in England) was the appointed arbiter in settling terms for a union and had suggested the inclusion of Great North branches in the scheme.

²⁰¹ Minutes of the Scottish North-Eastern Railway, 16 March 1865, NAS/BR/SNE/1/2, p.475, reporting a board agreement to 'resume negotiations for an amalgamation with the Great North of Scotland Railway Company on the basis of including therein the Great North branches as recommended by Mr Harrison'; Report to the 42nd Ordinary General Meeting of the Caledonian Railway, 12 September 1865, NAS/BR/CAL/1/2; 28&29 Vic. cap.287, 1865, The Caledonian and Scottish Central Railways Amalgamation Act: the Scottish Central Railway was amalgamated with the Caledonian Railway from 1 August 1865.

²⁰² 29&30 Vic. cap.350, 1866, The Caledonian and Scottish North-Eastern Railways Amalgamation Act; Minutes of the Scottish North-Eastern Railway, 10 November 1865,

and disconnected from the southern network until the Denburn Valley link finally opened in November 1867, by when the market advantage of a northern trunk route via Aberdeen had already been lost.²⁰³ The *Railway Times* observed that 'the capital expended on it will, we fear, be unremunerative for many years to come'.²⁰⁴ The Great North, however, was already experiencing severe financial difficulties as the result of its branch line investment and the destructive effect on its traffic unleashed by the Inverness-Perth direct line.

Defence and collapse of the Aberdeen monopoly

When, in 1859, the Great North opposed the proposals of the Inverness and Aberdeen Junction to raise new preference share capital, which culminated in the sale of its shares in the company, it was already planning its western expansion to Elgin. An approach to retain Great North support was made by Thomas Bruce, deputy chairman of the Inverness and Aberdeen Junction, who suggested the possibility of a £20,000 subscription from Inverness towards the cost of a Great North line across Aberdeen to link to the Scottish North-Eastern, as chapter 6 has identified.²⁰⁵ Bruce, however, made a further suggestion: he would recommend to the Earl of Seafield, for whom he was commissioner, support for a Great North line from Dufftown to Grantown in the Spey Valley where Seafield held extensive timber reserves.

Such a promotion appears contrary to the Inverness interests that Bruce represented and in which Seafield had already made a significant investment, but Bruce was also

NAS/BR/SNE/1/3, p.118, recording the agreement with the Caledonian Railway; Report to the Ordinary General Meeting of the Scottish North-Eastern Railway, 27 October 1866, NAS/BR/SCM/1/4, recording that the amalgamation bill with the Caledonian Railway had gained Royal Assent on 10 August 1866 and that the Caledonian had been in possession of the line since 1 August 1866; Caledonian Railway; Report to the 43rd Ordinary General Meeting of the Caledonian Railway, 14 September 1866, NAS/BR/CAL/1/2.

²⁰³ HA Vallance, *The Great North of Scotland Railway*, p.71.

²⁰⁴ *Railway Times*, 7 April 1866, p.420.

²⁰⁵ Minutes of the Great North of Scotland Railway, 23 December 1859, NAS/BR/GNS/1/3, pp.418-19.

chairman of the Banff, Portsoy and Strathisla Railway, which had opened with Seafield support from Grange on the Great North main line to Banff in 1859.²⁰⁶ A Grantown line would therefore give a rail outlet for timber previously floated down the Spey to Garmouth for shipment.²⁰⁷ This episode illustrates the complex interweaving of highland business interests and, in particular, some apparent conflict of interest held by railway directors. Moreover, it confirms that a Great North advance south-westwards into the Spey valley was under consideration in 1859 as part of its expansionist designs westwards from Keith.

- **south-western defence: the Strathspey Railway**

Plans for an extension from the Keith and Dufftown line into the Spey Valley emerged in July 1860 at the same time as the Inverness proposals for the direct line to Perth.²⁰⁸ Great North shareholders were advised that it 'will suit our purpose as well as any branch we could recommend to you to make',²⁰⁹ a view not shared by the *Railway Times* which professed that 'We cannot, notwithstanding the reputable parentage of the Strathspey, bring our minds to believe in its reality'.²¹⁰ Inverness viewed the Strathspey as an attempt 'to strangle, if possible, and to damage the through line'.²¹¹

²⁰⁶ 20&21 Vic. cap.53, 1857, The Banff, Portsoy and Strathisla Railway Act; Minutes of the Banff, Portsoy and Strathisla Railway, 31 December 1857 and 23 February 1858, NAS/BR/BAN/1/1, p.18 and p.31.

²⁰⁷ JAR Smith, 'From Isolation to Integration: the development of roads in the northern highlands of Scotland, 1800-1850' (unpublished PhD thesis, Aberdeen University, 2001), p.357; J Mitchell, *Reminiscences of My Life in the Highlands, vol.II*, p.51.

²⁰⁸ Minutes of the Great North of Scotland Railway, 13 July 1860, NAS/BR/GNS/1/3, p.500 and p.501.

²⁰⁹ Report to the 16th Ordinary General Meeting of the Great North of Scotland Railway, 1 October 1860, NAS/BR/GNS/1/3, p.548.

²¹⁰ *Railway Times*, 1 December 1860, p.1363.

²¹¹ *Railway Times*, 1 December 1860, pp.1367-68, quoting a report from the *Inverness Advertiser* of a promotional meeting for the Inverness and Perth Junction Railway held at Grantown, which also asserted that the Strathspey was 'just another exhibition of the antagonism of certain parties in Aberdeen to north country interests'.

The proposed Great North branch to Grantown was extended to Nethy Bridge to try to capture the whole of the valley traffic, arousing opposition from Inverness because of its proximity to the proposed Perth line.²¹² Following an agreement between the Great North, Morayshire and Inverness companies not to oppose each other's parliamentary bills in March 1861,²¹³ Bruce assured Perth Junction shareholders that 'we shall have so very much the best line, that any line running into it could do it no harm ...'.²¹⁴

The Strathspey displayed all the characteristics of Aytoun's *Glenmutchkin*. It ran through a sparsely populated area, it had no terminus of significance and quickly encountered financial difficulties. The Strathspey was authorised in 1861 with almost two-fifths of the capital to be subscribed by the Great North.²¹⁵ Of the ten Strathspey directors appointed in 1861, five were also directors of the Great North and they formed the Finance and General Purposes Committee to run the affairs of the company.²¹⁶ The Great North provided its subscription in the form of a cash account on which the company could draw.²¹⁷

Only ten percent of share capital had been raised by August 1862, exclusive of the Great North subscription.²¹⁸ Borrowing powers were released in November and, although published accounts show that £89,999 of the £90,000 authorised loans had been raised by August 1863, company minutes reveal that by September 1863 the

²¹² Minutes of the Great North of Scotland Railway, 20 December 1860, NAS/BR/GNS/1/4, p.29 and p.31. The Craigellachie-Nethy Bridge line was 28½ miles in length, 4½ miles further than the original Grantown proposal; Scroll minutes of the Inverness and Perth Junction Railway, 6 October and 7 December 1860, NAS/BR/IPJ/1/2.

²¹³ Minutes of the Great North of Scotland Railway, 22 March 1861, NAS/BR/GNS/1/4, p.75.

²¹⁴ *Herapath's Railway Journal*, 5 October 1861, p.1020, reporting the Ordinary General Meeting of the Inverness and Perth Junction Railway held on 19 September 1861.

²¹⁵ 24&25 Vic. cap.16, 1861, The Strathspey Railway Act, with authorised share capital of £270,000 and £90,000 in borrowing powers: the Great North was authorised to subscribe £100,000 and the Keith and Dufftown to subscribe £25,000.

²¹⁶ Minutes of the Strathspey Railway, 16 August 1861, NAS/BR/STY/1/1, p.6.

²¹⁷ Minutes of the Strathspey Railway, 22 and 26 November 1861, NAS/BR/STY/1/1, p.8 and p.9; Appendix, table 22(a), note (2).

²¹⁸ Appendix, table 22(a); £27,205 of share capital had been raised by August 1862.

authorised limit had been breached and £143,941 of debenture stock had been issued;²¹⁹ of this total, £50,000 was issued as a guarantee for bank loans in January 1863.²²⁰ The debentures attracted lenders because the Great North guaranteed the 4 percent interest on them.²²¹

Shortage of capital resulted in a mounting deficit on the capital account, although capital expenditure was kept close to estimate and land costs comprised only 2.2 percent of expenditure by 1864.²²² By July 1864, the Great North had made temporary advances totalling £43,576 to the Strathspey, which received retrospective parliamentary sanction.²²³ The extent of the dependence of the Strathspey on the Great North was illustrated in 1866, just prior to amalgamation, when Great North directors reported their company's investment in Strathspey shares amounted to £192,700, whereas only £12,360 had been raised from other sources which included £11,000 from the Keith and Dufftown Railway.²²⁴ Local

²¹⁹ Minutes of the Strathspey Railway, 16 December 1862 – 4 September 1863, NAS/STY/1/1, pp.83-128, recording approval of debenture loans totalling £143,941 on 29 specific dates during this period and issued in 111 bonds that included £50,000 issued on 27 January 1863 (bonds 19-27) to the North of Scotland and National Banks for loans. However, even deducting these £50,000 debentures held in security, the total of debentures issued (£93,941) slightly exceeds the authorised loan limit of the company, but all published accounts show debentures to be just below the authorised limit of £90,000; Appendix, table 22(a).

²²⁰ Minutes of the Strathspey Railway, 27 January 1863, NAS/STY/1/1, p.86, recording acceptance of £50,000 in loans from the North of Scotland and National Banks.

²²¹ Minutes of a Special General Meeting of the Great North of Scotland Railway, 31 March 1862, NAS/BR/GNS/1/4, p.291.

²²² Appendix, table 22(a): by 1864, capital expenditure was 7.4% above estimates.

²²³ Accounts to 31 July 1863, reported to the 24th Ordinary General Meeting of the Great North of Scotland Railway, 28 September 1864, NAS/BR/GNS/1/5, pp.222-23; 27&28 Vic. cap.26, 1864, The Great North of Scotland Railway Act, authorising additional subscriptions of £50,000 to the Strathspey Railway (new total £150,000), £10,000 to the Keith and Dufftown Railway (new total £36,000), and £15,000 to the Morayshire Railway (new total £35,000).

²²⁴ Report of the Extra-ordinary General Meeting of the Great North of Scotland Railway, 23 June 1866, NAS/BR/GNS/1/6, pp.39-40, page 2 of inserted printed report: the Great North's subscription of £192,700 to the Strathspey comprised 94.0% of the £205,060 share capital specified as raised in the act of amalgamation (29&30 Vic. cap.288, 1866). Furthermore, this sum of £192,700 represented 53.1% of the total of £363,231 subscribed by the Great North to five branches that had agreed amalgamation terms by June 1866 (the Alford Valley, Aberdeen and Turriff, Banff, Macduff and Turriff, Keith and Dufftown and Strathspey Railways).

support for the Strathspey therefore amounted to £1,360, just half of one percent of its authorised share capital.²²⁵

The Strathspey Railway paid no dividend and returned a consistent deficit on its revenue account.²²⁶ As the proportion of capital raised from shares was low, the company exhibits a high ratio of debenture loans to capital raised and, in 1864, the interest due on authorised and temporary loans alone exceeded gross revenue.²²⁷ With significant temporary debt and a static trend of revenue, its debt gearing was the weakest of the Great North branches and the company remained insolvent throughout its nominal independence (table 65).

Table 65: Revenue and financial indicators for the Strathspey Railway, 1863-66

	31 August	1863	1864	1865	1866
Gross annual revenue (£)	Open 2 months		5930	5839	4607
Ratio of debentures to capital raised		39.1%	39.1%	39.1%	30.1%
Ratio of gross revenue to total debt		-	0.038	0.034	0.045
Source: Appendix, tables 22(b) and 22(c).					
(1): Comparative gearing ratios for the Caledonian Railway in 1849-50 were 24.5% for debentures/capital and 0.162 for gross revenue/debt.					

Although planned as part of the Great North's expansion and defence, the Strathspey represented another branch line with severe financial weaknesses. A justification of the Strathspey and Elgin lines was given to Great North shareholders in 1863:

... for self-defence, the project was all but necessary. When our friends north of the Spey promoted their though highland line, they were already within our district at Keith, and would have been in a condition almost to have dictated

²²⁵ Appendix 22 (a), note (6): the authorised share capital of the Strathspey Railway was £270,000.

²²⁶ Appendix, table 22(b).

²²⁷ Appendix, table 22(b): gross revenue in 1864 was £5,930, but interest due totalled £7,449 and the Great North's working charges amounted to £1,890.

terms to us, had we not been in a position to have dealt with the traffic westwards and southwards.²²⁸

The dire state of Strathspey finances caused friction within the Great North as the effects of the Inverness direct line and the full impact of branch line development became apparent. Deputy chairman John Stewart and fellow director, Joseph Rowell, who between them held one-fifth of Great North share capital, dissented to a board decision to seek retrospective legalisation of advances to branch companies and, in particular, disagreed with the significant Great North investment in the Strathspey, arguing that taking Strathspey stock in return for advances was of no value to Great North shareholders.²²⁹ In response, chairman Elphinstone placed the blame on his deputy chairman for the difficulties that the Great North was experiencing:

... it was owing to Mr Stewart's influence that in 1860 and 1861 we did not come to an Agreement with the Scottish North-Eastern and Inverness and Aberdeen Junction Boards ... and the large amount of money which has been expended in various ways in shielding our Company from the threatened inroad from Limpet Mill to Kintore would have been saved and it is the opinion of many, and opinion I myself have consistently maintained and expressed, that had it not been for the circumstance to which I refer we would not now have had to compete with the Highland Line.²³⁰

²²⁸ *Herapath's Railway Journal*, 25 April 1863, p.440, reporting John Stewart's address to the Ordinary General Meeting of the Great North of Scotland Railway on 27 March 1863; Report to the 21st Ordinary General Meeting of the Great North of Scotland Railway, 27 March 1863, NAS/BR/GNS/1/4, p.492 and page 3 of inserted printed report.

²²⁹ Minutes of the Great North of Scotland Railway, 30 December 1863, NAS/BR/GNS/1/5, pp.69-70, both John Stewart and Joseph Rowell had written formally to Great North secretary Milne, dissenting to the board's approval of the proposed 'Money Bill'. Stewart noted 'we two representing nearly £250,000 of stock' and both Stewart and Rowell compared this sum to the £1,830 held by the five directors approving 'the Board's illegal advances to the Strathspey Railway': Appendix, table 10(c), showing Great North ordinary and preference share capital at 31 July 1863 to be £1,200,214 and so Stewart and Rowell's holding of £250,000 represented approximately 21% of total share capital; 27&28 Vic. cap.26, 1864, The Great North of Scotland Railway Act, which authorised additional subscriptions to the Keith and Dufftown (£10,000), Strathspey (£50,000) and Morayshire (£15,000).

²³⁰ Letter of Sir James Elphinstone, chairman to the Great North board, dated 21 December 1863, in minutes of the Great North of Scotland Railway, 30 December 1863, NAS/BR/GNS/1/5, pp.71-73.

Elphinstone was Member of Parliament for Portsmouth; Great North and branch company records show that his attendance at meetings was spasmodic, with the result that Stewart had taken a lead within the company.²³¹ Elphinstone's acknowledgement of the deteriorating state of the Great North, however, contrasts with his optimistic statement given to Strathspey shareholders the previous month when that company had returned capital and revenue deficits:

This line appears to me to turn out pretty well ... The amount of traffic passing over the line is remarkable.²³²

Stewart's formal motion to the Great North board that no funds should be paid to any branch lines without shareholder approval or without satisfactory security was lost.²³³ John Duncan, chairman of the Deeside, who had been appointed to the Great North board in March 1864, replaced Stewart as deputy chairman in September 1864 after Stewart had refused to sign fifty-five sets of company minutes dating back to November 1863 because he 'disapproved of several'.²³⁴

The Strathspey, therefore, had opened serious divisions within the Great North. The report to shareholders in October 1864 showed scale of the capital cost that had been incurred to secure the Great North routes to Elgin and into the Spey valley in competition with the Inverness companies; the new authorised subscription limits of £150,000 to the Strathspey, £36,000 to the Keith and Dufftown, and £35,000 to the

²³¹ Burke's *Peerage, Baronetage and Knightage*, 104th edition (London, 1967), p.679: entry for Sir James Dalrymple-Horn-Elphinstone, 2nd baronet of Logie.

²³² Report of the 3rd Ordinary General Meeting of the Strathspey Railway, 13 November 1863, NAS/BR/STY/1/1, p.127.

²³³ Minutes of the Great North of Scotland Railway, 30 December 1863, NAS/BR/GNS/1/5, p.74.

²³⁴ Minutes of the Great North of Scotland Railway, 30 March 1864, NAS/BR/GNS/1/5, p.133, reporting John Duncan's election as a director, and 28 September 1864, NAS/BR/GNS/1/5, p.226 recording his appointment as deputy chairman; Minutes of the Great North of Scotland Railway, 23 September 1864, NAS/BR/GNS/1/5, p.211.

Morayshire, to which Stewart and Rowell had objected, sanctioned the temporary advances already made to these companies.²³⁵ The Inverness lines, however, were able to produce a rising stream of revenue in contrast to the negative revenue balances returned almost universally from the Great North's subsidiaries.²³⁶ By January 1865, the Strathspey owed £64,159 to the Great North, its revenue was insufficient to meet expenditure, and its survival depended on amalgamation with the Great North.²³⁷ The Great North contended:

We have £170,000 in it, so that there is scarcely any other Proprietor than the Great North. That line, then, having been constructed as it has been with the money of the Great North, it should be made an integral part of its system.²³⁸

A short southerly extension was authorised in 1865 to link into Highland main line,²³⁹ but the Strathspey was never likely to carry substantial flows of through northern traffic, despite the confident report given to its shareholders that it 'would become part of the trunk line which they wished to see established, carrying goods coming by

²³⁵ Accounts to 31 July 1864, presented to the Ordinary General Meeting of the Great North of Scotland Railway, 28 September 1864, NAS/BR/GNS/1/5, pp.222-23, recording temporary advances made totalling £43,576 to the Strathspey, £30,988 to the Keith and Dufftown, and £12,620 to the Morayshire; 27&28 Vic. cap.28, 1864, The Great North of Scotland Railway Act, which increased authorised subscriptions by £50,000 to £150,000 for the Strathspey Railway, £10,000 to £36,000 for the Keith and Dufftown Railway, and £15,000 to £35,000 for the Morayshire Railway.

²³⁶ Appendix, tables 12(b), 13(b) and 14(b), showing revenue trends for Inverness companies; Appendix, tables 3(b), 4(b), 5(b), 9(b), 16(b) and 22(b), showing revenue trends for Great North subsidiaries: only the Formartine and Buchan Railway, table 9(b), shows evidence of a rise in revenue. Negative revenue balances were returned from the other five subsidiaries. No detailed accounts survive for the seventh subsidiary, the Inverury and Old Meldrum Junction Railway.

²³⁷ Minutes of the Strathspey Railway, 31 March 1865, NAS/BR/STY/1/1, p.148, recording the balance due to the Great North on 31 January 1865 that 5,000 Strathspey shares were offered as a part payment of the debt; Appendix, table 22(b).

²³⁸ *Herapath's Railway Journal*, 7 October 1865, p.1091, reporting the Ordinary General Meeting of the Great North of Scotland Railway held on 29 September 1865.

²³⁹ 28&29 Vic. cap.345, 1865, the Strathspey Railway Extension Act, with share capital of £25,000 and loans of £8,000 for a 4¾ mile extension of the Strathspey to join the Highland line at Boat of Garten; Report to the 5th Ordinary General Meeting of the Strathspey Railway, 29 November 1865, NAS/BR/STY/1/1, pp.153-56, records that the cost had been reduced to £15,000 as a result of an amended junction agreed with the Highland Railway.

the Highland line over to the great part of the Great North System'.²⁴⁰ Amalgamation of loss-making branches simply relocated their financial instability into the parent company. Nevertheless, the Great North, already weakened by its branch line policy and the results of competition, saw latent possibilities for a westward incursion into Inverness web territory by a coastal route using another branch company, the Banff, Portsoy and Strathisla Railway.

- a northern coastal route: the Banffshire Railway

The Great North had intended to serve the Moray Firth ports of Banff and Portsoy under its 1846 authorisation. In 1856, as part of its branch line strategy, the Great North offered to subscribe £2,000 to a new company to build the line and work it at cost.²⁴¹ The Banff, Portsoy and Strathisla Railway was incorporated in 1857.²⁴² Its board included Bruce and Tayler, commissioners to the Earls of Seafield and Fife respectively, both of whom were directors of the Inverness and Aberdeen Junction Railway.²⁴³ Bruce was appointed chairman of the Strathisla; Tayler was chairman of the Turriff Extension Railway, also running to Banff but controlled by the Great North.²⁴⁴ The Strathisla Act authorised a working agreement with the Great North and Tayler was charged to arrange one,²⁴⁵ but terms must have been unsatisfactory

²⁴⁰ Report of the 5th ordinary General Meeting of the Strathspey Railway by the Great North's deputy chairman John Duncan, 29 November 1865, NAS/BR/STY/1/1, contained in an unattributed newspaper cutting inserted at p.151 of the minute book.

²⁴¹ Minutes of the Great North of Scotland Railway, NAS/BR/GNS/1/2, 24 October 1856, p.476, and 12 December 1856, NAS/BR/GNS/1/2. p.508.

²⁴² 20&21 Vic. cap.53, 1857, The Banff, Portsoy and Strathisla Railway Act, with authorised share capital of £90,000 and borrowing powers of £30,000: the company was authorised to negotiate a working agreement with the Great North of Scotland Railway. This 18 ¾ mile railway line ran for 12 ¾ miles from Grange on the Great North main line to Portsoy with a branch of 6 miles from Tillynaught to Banff.

²⁴³ Minutes of the 1st Ordinary General Meeting of the Inverness and Aberdeen Junction Railway, 8 August 1856, p.164.

²⁴⁴ Minutes of the first Ordinary General Meeting of the Banff, Portsoy and Strathisla Railway, NAS/BR/BAN/1/1, 24 September 1857, p.1; Minutes of the Banff, Macduff and Turriff Extension Railway, 24 September 1857, NAS/BR/BMEX/1/1. p.2.

²⁴⁵ Minutes of the Banff, Portsoy and Strathisla Railway, 24 September 1857, NAS/BR/BAN/1/1, p.4.

because the company purchased its own rolling stock in 1859.²⁴⁶ The company therefore remained independent, but subject to the influence of Inverness and Aberdeen through its directors.²⁴⁷

The company encountered the same difficulties in raising capital that other branches further east were experiencing. The line opened in 1859 by when only half the authorised share capital had been raised.²⁴⁸ A capital cost of £5,465 per mile had been incurred by February 1861, but expenditure was 13.9 percent above estimate, principally due the purchase of rolling stock rather than operating under a working agreement as originally planned.²⁴⁹ Land costs accounted for just 7.5% of expenditure as a result of the acceptance of feu duties.²⁵⁰ Once borrowing powers were released, 95 percent of authorised debentures were issued as guarantees against two bank loans totalling £28,400.²⁵¹

The capital account remained in deficit throughout 1859-67; gross revenue rose slowly, but was insufficient to meet working expenses and interest between 1861

²⁴⁶ Minutes of the Banff, Portsoy and Strathisla Railway, 12 January 1859, NAS/BR/BAN/1/1, p.143; Minutes of the Banff, Portsoy and Strathisla Railway, 4 February 1859, NAS/BR/BAN/1/1, p.149, approving the purchase of two locomotives and four coaches.

²⁴⁷ Minutes of the Banff, Portsoy and Strathisla Railway, 5 August 1859, NAS/BR/BAN/1/1, p.218, recording the derailment of the sole company locomotive on the day the line was due to open, which was resolved by the loan of a locomotive and fireman from the Inverness and Aberdeen Junction Railway.

²⁴⁸ Appendix, table 6(a); accounts of the Banff, Portsoy and Strathisla Railway to 31 August 1859, NAS/BR/BAN/1/1, pp.232-38, showing £46,002 of the authorised £90,000 ordinary share capital raised. The line opened on 30 July 1859.

²⁴⁹ Appendix, table 6(a), note (4) and note (5), and table 26.

²⁵⁰ Appendix, table 6(a); land costs in February 1861 were £7,680 of the £102,470 capital spent; Minutes of the Banff, Portsoy and Strathisla Railway, 23 February 1858, NAS/BR/BAN/1/1, p.31: much of the route crossed land owned by the Earls of Seafield and Fife but, while Seafield and others accepted feu duties, the board agreed that Fife might charge land costs against his offered £4,000 subscription..

²⁵¹ Minutes of the Banff, Portsoy and Strathisla Railway, 21 September 1859, NAS/BR/BAN/1/1, p.224, recording a £15,000 loan from the North of Scotland Bank; Minutes of the Banff, Portsoy and Strathisla Railway, 3 January 1860, NAS/BR/BAN/1/1. p.248, approving a £13,400 loan from the Royal Bank of Scotland on which directors personally guaranteed the interest of 4 ½ %.

and 1867.²⁵² With a further temporary bank loan of £38,000 taken in 1861, the company's debt gearing remained extremely weak (table 66).²⁵³ The company was insolvent with little prospect of debt repayment.

Table 66: Revenue and financial indicators for the Banff, Portsoy and Strathisla Railway, 1860-67

	31 August 31 July	1860	1861	1862	1863	1864	1865	1866	1867
Gross annual revenue (£)		5218	5331	5502	5973	5864	6279	6535	6759
Dividend		2%	-	-	-	-	-	-	-
Great North working charges					65%	65%	60%	55%	55%
Ratio of debentures to capital raised		37.3%	37.0%	36.7%	36.7%	36.7%	36.7%	36.7%	36.7%
Ratio of gross revenue to total debt		0.171	0.128	0.097	0.095	0.097	0.076	0.070	0.090
Source: Appendix, tables 6(b) and 6(c).									
(1): Comparative gearing ratios for the Caledonian Railway in 1849-50 were 24.5% for debentures/capital and 0.162 for gross revenue/debt.									

With the outburst of competition between Aberdeen and Inverness, however, the company attracted attention from both as an expansionist route for the Great North and as a defensive block for Inverness. In April 1862, Bruce recommended to the Inverness and Aberdeen Junction that a working agreement with the Strathisla was advisable,²⁵⁴ but the Great North concluded an agreement with the company to work the line in perpetuity from February 1863 and to promote a westerly extension to Buckie, Portgordon or to 'a point east of the Spey'.²⁵⁵ Under Parliamentary approval

²⁵² Appendix, tables 6(a) and 6(b).

²⁵³ Minutes of the Banff, Portsoy, and Strathisla Railway, 1 March 1861, p.299, recording a £38,000 loan from the North of Scotland Bank.

²⁵⁴ Minutes of the Inverness and Aberdeen Junction Railway, 23 April 1862, NAS/BR/IAJ/1/2, p.322.

²⁵⁵ Minutes of the Banff, Portsoy and Strathisla Railway, 3 July 1862, NAS/BR/BAN/1/1, p.351, recording the minute of agreement with the Great North dated 23 June 1862 and setting 1 February 1863 as the date for the Great North to work the line; Minutes of the Great North of Scotland Railway, 24 June 1862, NAS/BR/GNS/1/4, p.336, recording that the Great North would subscribe £25,000 in shares to the western extension and work the Strathisla initially at 65% of gross receipts, but that the charge could reduce progressively to 50% if revenue grew: the western terminus of the line was to be 'agreeable to the Duke of Richmond'; Minutes of the Banff, Portsoy and Strathisla Railway, 18 November 1862, NAS/BR/BAN/1/2, pp.18-23, setting out the terms of the agreement with the Great North.

granted in 1863, the Strathisla was renamed the Banff-shire Railway and the Great North was authorised to subscribe up to £80,000 and to guarantee Banffshire loans.²⁵⁶ Thus, the branch assumed its delayed place within the Great North's branch line system and the companies were amalgamated in 1867.²⁵⁷

Inverness responded by promoting its only defensive branch, the Fochabers and Garmouth Railway, as a short northerly extension from its main line to the coast to try to block any further Great North advance westwards.²⁵⁸ The Great North was, however, already slipping into financial chaos as a result of competition and branch line commitments and it was unable to progress the westward extension even to Buckie.²⁵⁹ Inverness, too, was coming under severe financial pressure; powers for

²⁵⁶ 26&27 Vic. cap.170, 1863, the Banffshire Railway Act, authorising an additional £100,000 capital (which could be 5% preference stock) and £33,000 in additional borrowing powers. The act identified Portgordon (14 miles) as the western limit of the line, but Buckie (11½ miles) was agreed as the initial objective (minutes of the Banffshire Railway, 2 January 1864, NAS/BR/BAN/1/2, p.64).

²⁵⁷ 30&31 Vic. cap.190, 1867, The Great North of Scotland Railway Act, approving a retrospective amalgamation with the Banffshire Railway from 31 July 1867: the proposed amalgamation in 1866 under 29&30 Vic. cap.288, 1866, The Great North of Scotland Railway (Amalgamation) Act, failed on a technicality because half the capital of the new Banffshire Railway authorised to construct the extension to Buckie and Portgordon had not been paid up at the time.

²⁵⁸ 26&27 Vic. cap.65, 1863, The Fochabers and Garmouth Railway Act, authorising a 5¼ mile branch with £15,000 to be subscribed by the Inverness and Aberdeen Junction Railway and £10,000 by the Inverness and Perth Railway.

²⁵⁹ Minutes of the Great North of Scotland Railway, 16 September 1864, NAS/BR/GNS/1/5, pp.209-10; Minutes of the Banffshire Railway, 22 September 1864, NAS/BR/BAN/1/2, pp.64-65; Report of the Committee of Investigation to the Ordinary General Meeting of the Great North of Scotland Railway, 26 April 1865, NAS/BR/GNS/1/5, pp. 342-46, page 5 of printed report identifying the commitment of the Great North to provide £78,500 for a westward extension of the Banffshire from Portsoy to Buckie and recommending postponement, which was agreed by the board on 18 May 1865, NAS/BR/GNS/1/5, p.391; 29&30 Vic. cap.288, 1866, The Great North of Scotland Railway (Amalgamation) Act, extended the time allowed to construct the Buckie extension.

the Garmouth line were abandoned in 1869.²⁶⁰ The coastal route to Elgin was ultimately constructed by the Great North in the 1880s.²⁶¹

The Banffshire Railway provides a further example of a small branch company that sank into insolvency as a result of difficulties in raising share capital and acquiring large temporary debt as a result. Its strategic value to the Great North rescued it from bankruptcy, although its transferred debts added to the Great North's financial predicaments.

- the signs of financial collapse

A stark sign of the rapid collapse of the Aberdeen monopoly was displayed by Great North dividends. From 7 percent paid on ordinary shares in 1863, dividend fell to 5 percent in 1864 and to zero in 1865.²⁶² Thereafter, no ordinary dividend was paid until 1874, which indicates the scale of the financial crisis into which the Great North descended.

A concern which only three years ago paid 7¼ percent to be now unable to pay a penny; shares which only a few weeks ago were worth £90 now sticking in the market at £40 or £45 – this is a result almost without precedent, – in legitimate commercial transactions.²⁶³

²⁶⁰ Warrant for the abandonment of the Fochabers and Garmouth Railway, 1869, NAS/BR/AP(S)/1/123; Minutes of the Highland Railway, 25 September 1867, NAS/BR/HR/1/1, p.319: minute 6 resolved to apply under the Railway Companies (Scotland) Act 1867 to abandon the Fochabers and Garmouth Railway and reclaim the parliamentary deposit of £2,400.

²⁶¹ Minutes of the Great North of Scotland Railway, 22 August 1872, NAS/BR/GNS/1/9, p.162, recording the resolution to proceed with the extension from Portsoy to Buckie, but a further delay was agreed on 7 November, 1872, NAS/BR/GNS/1/9, p.196; HA Vallance, *The Great North of Scotland Railway*, pp.92-94: the route between Grange and Elgin was opened progressively between 1884 and 1886: *Railway Times*, 11 September 1886, p.326, reporting that "The company's Moray Firth Coast Railway was opened throughout for traffic on the 3rd of May last".

²⁶² Appendix, table 10(d).

²⁶³ *Railway Times*, 8 April 1865, p.444, reproducing a leading article from the *Buchan Observer*.

With a certain inevitability, the 1865 shareholders' meeting appointed a committee of inquiry of six members, including one each from Liverpool and Manchester to represent shareholder interests in those places, indicating that the English influence in the financing of the earlier 1845-46 Scottish lines remained important in Aberdeen, no doubt boosted by the subsequent high dividends paid by the Great North.²⁶⁴ The results of the Great North inquiry are considered in the following chapter, but the confinement and isolation of the former monopoly were aptly described by Duncan:

... we are placed in a corner, on a siding as it were. We are not in possession of a line which is a thoroughfare from one part of the kingdom to another ... we are in a great degree dependent upon the traffic in the locality wherein the line is placed.²⁶⁵

During the five years explored in this chapter, the long-established strategic plans of the two northern railway monopolies to extend their control over traffic from the north of Scotland for the economic benefit of their own regional centre came into open conflict. Previously, the Great North and the Inverness and Aberdeen Junction companies relied upon their joint use of the Aberdeen-Inverness main line, but the success of the Great North in securing access to a westward route to Elgin to

²⁶⁴ Report of the 25th Ordinary General Meeting of the Great North of Scotland Railway, 7 April 1865, NAS/BR/GNS/1/5, p.334-35 and page 5 of inserted printed report, noting 'There is a large interest in the Company held in Liverpool and Manchester'; Report of the Committee of Investigation to the shareholders of the Great North of Scotland Railway, 22 April 1865, presented to the adjourned Ordinary General Meeting of the Great North of Scotland Railway, 26 April 1865, NAS/BR/GNS/1/5, printed report inserted between pp.346-47; Minutes of the Extra-ordinary General Meeting of the Great North of Scotland Railway, 23 June 1866, NAS/BR/GNS/1/6, pp.34-39, held to approve the parliamentary bill for the amalgamation of the Great North with the branch companies: of those present or giving proxies, 120 gave Scottish addresses and 41 gave English addresses (of which 12 were from Liverpool, 6 from Manchester (2), Lancashire (2) and Cheshire (2), and 9 from London). These 161 shareholders represented £830,940 of the £1,408,305 ordinary and preference share capital of the company issued at 31 July 1866 (59.0%).

²⁶⁵ Report to the 34th Ordinary General Meeting of the Great North of Scotland Railway, 7 October 1869, NAS/BR/GNS/1/8. pp.213-14 and page 4 of inserted printed report.

circumvent the territorial border established at Keith prompted the Inverness strategists to bring forward earlier than planned the promotion of a direct line to connect Inverness to Perth and the southern railway network, by which the Aberdonian share of through northern traffic was to be captured.

The state's predilection for free-market capitalism was epitomised by the vigorous competitive response to the Great North's use of monopoly powers; the impact of that competition was demonstrated by the collapse in the Great North's previously high dividend to zero. This outburst of railway promotion, however, added to the financial pressures already building within both companies. Indeed, the state added to the burdens of the Great North by revising its bill for a cross-Aberdeen railway, submitted almost two decades after the original authorisation of the line, and transferring the powers to determine and construct this long-awaited continuous route to the rival Scottish North-Eastern, whilst also specifying the substantial capital sum to be contributed by the Great North.

All the northern lines constructed in this period achieved significantly lower capital costs per mile than the earlier Scottish inter-urban railways and most contained expenditure within their authorised powers for share and loan capital. Although the Inverness and Perth Junction exceeded its estimates by a considerable margin, this main line crossing mountainous terrain represents a signal example of the application of 'cheap railway' principles; its cost per mile was approximately a quarter of the cost of the Edinburgh and Glasgow Railway and three-fifths of the Great North's cost.²⁶⁶ This apparent paradox lends support to Robertson's suspicion that some estimates of costs may have been set deliberately low to try to attract subscribers and to ease the Parliamentary approval of some railway schemes.²⁶⁷

This chapter has shown the continued difficulty of raising share capital for railways in northern Scotland. With the exception of the Great North, English investment within northern railway companies remained insignificant. Local capital, principally from large landowners, remained the prime source of railway investment. The

²⁶⁶ Appendix, table 26.

²⁶⁷ CJA Robertson, *The Origins of the Scottish Railway System 1722-1844*, p.323.

widespread conversion of unissued ordinary shares into guaranteed preference stock and the extensive use of bank advances to raise capital, already illustrated in the previous two chapters, were repeated to raise sufficient funds for these new northern routes. The accounts of the Inverness and Perth Junction Railway in particular provide a further example of the fundamental importance of the banking sector in providing an alternative source of railway finance, both before and after the line opened to traffic. As with earlier Inverness railway companies, however, this main line offered the prospect of a secure and growing revenue stream and its loans were assured by the personal guarantees of directors. Nevertheless, this temporary borrowing was recorded below the line in the accounts and, in common with many other northern railway companies, added significantly to the burden of total debt that had to be serviced from revenue.

From this intense period of competition in 1860-65, Inverness appeared to derive tangible advantages at the expense of Aberdeen, but this chapter has focused specifically upon the implementation of plans by the two regional railway monopolies to strengthen their command of railway traffic in the north. The profound repercussions of the methods adopted by the companies to finance both these and earlier railway developments were not revealed fully until the amalgamations of 1865-66. The next chapter examines these financial consequences, which seriously weakened the new Highland Railway and the re-constituted Great North of Scotland Railway, and appraises the policies adopted to extricate these enterprises from their inherited financial difficulties.

Chapter 8: Northern regional monopolies and their finances, 1865-74

The regional centres of Aberdeen and Inverness had each devised strategic plans in 1845-46 for the control of railway development in the north of Scotland, but the inability of the Great North to realise the scheme that the state authorised it to construct, primarily due to capital constraints, had allowed the rival Inverness railway web progressively to challenge its monopoly. Chapter 5 illustrated how the Great North consolidated its regional dominance by supporting a series of branch lines in north-east Scotland, although it has highlighted the growing financial weaknesses within these nominally independent branch companies that threatened their survival. Chapter 6 explained the contemporary implementation of the Inverness strategy for the local command of northern railways through the promotion of lines to the east and north of the highland capital. The completion of the Inverness-Perth direct line as the final component of that strategy was outlined in chapter 7, which also identified the further financial commitments undertaken by the Great North to promote expansionary and defensive secondary routes.

A recurring theme in this study has been the consistent difficulties experienced by these remote northern railways in raising share capital, which forced most companies to rely upon guaranteed funds and, in particular, on bank and other forms of temporary credit to complete their lines. The promotional competition of 1860-65 had only added to these financial pressures. Historiography documents little beyond a recognition of the existence of financial problems in both centres, but, as the scale and consequences of company debt challenged the independent existence of the two northern regional monopolies during much of the following decade, a closer examination is warranted. Barclay-Harvey concludes that the Great North was 'based on insecure foundations', for which the only remedy was 'strict economy'; Vallance agrees that the company required 'strict economy' because rapid expansion 'had over-strained the company's resources'.¹ Sinclair observes that the Highland Railway's first half-yearly report in 1865 showed the company to be in 'a far

¹ Sir M Barclay-Harvey, *A History of the Great North of Scotland Railway* (London, 1949, reprinted Shepperton, 1998), p. 68 and p.86; HA Vallance, *The Great North of Scotland Railway* (Newton Abbot, 1965), pp.87 and p.88.

less favourable position that its constituents had been',² and Ross refers to large interest payments making 'a heavy drain on revenue'.³ The earlier works of Vallance and Nock on the Highland, however, largely ignore the finances of the company and its constituents.⁴

This chapter assesses the extent of the financial difficulties faced by both regional monopolies and examines how the companies were able to resolve them. First, the chapter summarises the moves towards the amalgamation of railway companies in Scotland in 1865-66, which saw the Inverness companies incorporated as the Highland Railway in 1865 and the Great North re-constituted in 1866 to include most of its satellites. The following section appraises the depth of the financial crisis faced by the Great North following its absorption of these branch companies and the loss of through northern traffic, while the third section presents a similar analysis for the new Highland Railway and identifies the scale of its hidden, or floating, debt held outside the main company accounts. The next section explores the separate and often clandestine negotiations by both companies with the Caledonian to seek a lease to help to resolve their financial difficulties. With the failure to obtain Caledonian assistance, however, the final section investigates how the two companies extricated themselves from their respective financial crises and, as in earlier chapters, the extensive and crucial role of the banking sector is revealed.

The moves to amalgamation

Scotland experienced a widespread amalgamation of railway companies in 1865-66 to strengthen their regional control, but, as Michie has observed, 'Even the five concerns that dominated the Scottish network after 1865 could do no more than

² NT Sinclair, *The Highland Main Line* (Penryn, 1998), p.37.

³ D Ross, *The Highland Railway* (Stroud, 2005), p.56.

⁴ HA Vallance, *The Highland Railway* (4th edition, Newton Abbot, 1985); OS Nock, *The Highland Railway* (London, 1965).

generate sufficient profit to finance maintenance and minor works'.⁵ Coalescence of the Inverness companies had always been a stated objective of the web promoters: chapter 6 considered the Nairn and Ross-shire amalgamations with the Inverness and Aberdeen Junction, while chapter 7 identified the condition for amalgamation set by the Aberdeen Junction when approving a subscription to the Inverness and Perth Junction in 1860.⁶ This latter amalgamation in 1865 created the Highland Railway, and its act of incorporation included clauses for through rates and the interchange of traffic sent via Aberdeen to provide some protection for the Great North.⁷

Chairman Matheson reminded Aberdeen Junction shareholders in 1865 of the original vision of a unified railway system controlled from Inverness⁸ and, at the first shareholders' meeting of the new Highland company, Matheson contended that amalgamation had been essential to avoid any chance of competition between the two companies.⁹ While the commonality of directorships across web companies suggests that such competition in Inverness was unlikely, the Caledonian had expressed interest in 1865 in subscribing £50,000 to the Perth Junction under the powers previously given to the Scottish Central and a further £50,000 to the

⁵ RC Michie, 'Investment in railways in nineteenth century Scotland', *Scottish Industrial History*, 5, No.1 (1982), p.52: the five principal Scottish companies formed in 1865-66 were the Caledonian Railway, the North British Railway, the Glasgow and South-Western Railway, the Great North of Scotland Railway and the Highland Railway.

⁶ Minutes of the Inverness and Aberdeen Junction Railway, 13 December 1860, NAS/BR/IAJ/1/2, pp.199-200.

⁷ 28&29 Vic.cap.168, 1865, The Highland Railway Act: section 82 required the Highland to grant to the Great North 'all needful accommodation, facilities and conveniences ... by Through Booking, Through Rates and, so far as reasonably may be, Through Wagons and Carriages and Through Trains and in all respects conduct forward, carry on, and accommodate all such Traffic on equal Terms with and as well as if it were their own proper Traffic ...'.

⁸ *Herapath's Railway Journal*, 17 June 1865, p.648: Matheson stated that 'The line was projected in 1847 by one Company, and at that time it was impossible to carry through the scheme but all along since then they had never lost sight of it, and felt assured that some day or other it would be carried into effect'.

⁹ *Railway Times*, 4 November 1865, pp.1406-1407: 'Indeed, no two railways existed capable of inflicting greater injury upon each other. The Junction might have sent all the through traffic via Aberdeen, while the Perth, in order to retaliate, might have pushed their line into the north, and so stopped the stream of traffic flowing to and from the south'; *Herapath's Railway Journal*, 4 November 1865, p.1217, further quoted Matheson: 'Misunderstandings between the Companies might arise which would prove disastrous to both'.

proposed west-coast Skye line.¹⁰ There had also been proposals to link the Highland's Aberfeldy branch to the Caledonian's Callander and Oban satellite near Killin.¹¹

By 1865, the Great North had spent approximately £1 million on its main line and £½ million on branches; deputy chairman Duncan acknowledged that many of the branches were 'unproductive',¹² but he estimated that branch traffic accounted for a third of the revenue derived from the Great North's main line.¹³ Had the Great North abandoned the branches to bankruptcy, the company could have expected some loss of traffic, a large capital write-off and the possible severing of its independent route to Elgin. The Great North therefore amalgamated with its allied branches in 1866-67, formalising the control that had been exercised in all but name, although an agreement with the Morayshire was not concluded until 1880.¹⁴ Of shareholders present or giving proxies at the Great North meeting that approved the

¹⁰ Minutes of the Inverness and Aberdeen Junction Railway, 7 July 1865, NAS/BR/IAJ/1/3, p.148: the Scottish Central Railway was amalgamated with the Caledonian Railway from 1 August 1865 under 28&29 Vic. cap.287, The Caledonian and Scottish Central Railways Amalgamation Act.

¹¹ Minutes of the Inverness and Aberdeen Junction Railway, 7 July 1865, NAS/BR/IAJ/1/3, p.150, reporting letters of 27 and 30 June 1865 concerning a line to 'connect with the Oban Line near Killin with Aberfeldy and wishing to know the views of this Company on the matter'.

¹² *Railway Times*, 15 April 1865, pp.450-53; Report to the Ordinary General Meeting of the Great North of Scotland Railway, 7 April 1865, NAS/BR/GNS/1/5, pp.334-35 and page 3 of inserted printed report.

¹³ *Herapath's Railway Journal*, 15 April 1865, p.419, reporting the Ordinary General Meeting of the Great North of Scotland Railway, 7 April 1865, at which Duncan stated that he calculated that traffic on the main line yielded £85,000 per annum of which £29,000 came from the branches (34.1%).

¹⁴ 29&30 Vic. cap.288, 1866, The Great North of Scotland Railway (Amalgamation) Act, which included general powers for lease or amalgamation of the Morayshire Railway; 29&30 Vic. cap.30, 1866, The Morayshire Railway Act, giving powers to amalgamate with the Great North with 'terms to be agreed upon': the Morayshire amalgamated with the Great North in 1880, which was authorised retrospectively under 44&45 Vic. cap.201, 1881, The Great North of Scotland Railway Act; 30&31 Vic. cap.190, 1867, The Great North of Scotland Railway (Further Powers) Act, approving a retrospective amalgamation with the Banffshire Railway from 31 July 1867: the proposed amalgamation in 1866 under 29&30 Vic. cap.288, failed on a technicality because half the capital of the new Banffshire Railway authorised to construct the extension to Buckie and Portgordon had not been paid up at the time.

amalgamation bill, 120 were Scots but 41 gave English addresses, confirming a continued English influence within that company.¹⁵

Elsewhere in Scotland, there was unanimity in agreeing amalgamations:

The purpose of amalgamation has taken a thorough hold of the intentions of shareholders; and the public itself is ripe for the consummation.¹⁶

In a coordinated approach, the North British, Edinburgh and Glasgow, Monklands, Caledonian and Scottish Central Railways agreed that the loss of one amalgamation bill would result in the withdrawal of all other bills.¹⁷ The North British amalgamated with the Edinburgh and Glasgow and Monklands Railways, while the Caledonian absorbed the Scottish Central and Scottish North-Eastern Railways, finally acquiring the trunk route to Aberdeen it had sought in 1845.¹⁸ The Scottish amalgamations produced five comparatively large companies by 1866, controlling 98 percent of the route mileage.¹⁹ From a system of 1043 route miles in Scotland in 1854, the network

¹⁵ Minutes of an Extra-ordinary General Meeting of the Great North of Scotland Railway, 23 June 1866, NAS/BR/GNS/1/6, p.34: of the 41 English shareholders, 12 gave Liverpool addresses, 6 gave Manchester, Lancashire or Cheshire addresses and 9 gave London addresses.

¹⁶ *Railway Times*, 8th April 1865, p.439; *Herapath's Railway Journal*, 8 October 1864, p.1177: 'Amalgamation is the order of the day.'

¹⁷ Minutes of Directors and Shareholders of the Scottish Central Railway Company, 16 May 1865, NAS/BR/SCC/1/10, pp. 178-79, recording the Memorandum of Terms of Arrangement between the Caledonian and Scottish Central Railways, and North British, Edinburgh and Glasgow and Monklands Railways, dated 12 May 1865, which stated '... if any one of them [parliamentary bills] be defeated or do not pass (except by default or consent of the promoters), the rest are to be withdrawn at the instance of the promoters of the Bills so lost'; General minutes of shareholders of the Scottish Central Railway Company, 18 March 1865 and 9 June 1865, NAS/BR/SCC/1/15 (no page numbers in minute book).

¹⁸ 28&29 Vic. cap.287, 1865, The Caledonian and Scottish Central Railways Amalgamation Act; 29&30 Vic. cap.350, 1866, The Caledonian and Scottish North-Eastern Railways Amalgamation Act; Minutes of the Scottish North-Eastern Railway, 10 November 1865, NAS/BR/SNE/1/3, p.118; Report to the 43rd Ordinary General Meeting of the Caledonian Railway, 14 September 1866, NAS/BR/CAL/1/2.

¹⁹ *Railway News*, 16 May 1868, p.531, reporting 2,244 route miles of railway in operation in Scotland at 31 December 1866, of which 2,193 were worked by the Caledonian, North British, Glasgow and South-Western, Great North of Scotland and Highland Railways: SG Checkland and O Checkland, *Industrial Ethos: Scotland 1832-1914* (London, 1984), p.27; RC Michie, *Money, Mania and Markets: Investment, Company Formation and the Stock Exchange in Nineteenth Century Scotland* (Edinburgh, 1981), p.143.

had grown to 2200 miles by 1865;²⁰ 242 miles were worked by the Highland on its formation in 1865 and 276¼ miles by the Great North after its amalgamations of 1866.²¹

Insolvency: the Great North of Scotland Railway

The Great North had attracted consistent compliments from the contemporary railway press,²² but the rapid disappearance of dividends engendered concern:

The opening of the competing Highland line has cut into their vitals, added to which is loss from new extension lines recently opened ... we deeply regret the sudden disappearance of the Great North of Scotland dividend. The effect is to undermine confidence in the security of railway property.²³

The inability of the company to meet all guaranteed dividends in 1865 was attributed to the loss of traffic to Inverness and the 'natural failures' of the branches, which 'although protective batteries against invasion for all time to come, must remain a burden upon revenue for several years ...'.²⁴

The Great North began to lose northern traffic immediately the Inverness-Perth line opened in 1863, but its directors reported that the new route to Elgin had proved to

²⁰ *Railway News*, 31 August 1867, p.218, quoting statistics from the Board of Trade Blue Book.

²¹ HA Vallance, *The Highland Railway*, p.29; HA Vallance, *The Great North of Scotland Railway*, p.66: these data include leased and worked lines. Vallance notes that the Great North's worked mileage rose to 287¼ in October 1866 with the lease of the Deeside Extension Railway.

²² Examples include: *Herapath's Railway Journal*, 12 September 1857, p.959; 24 March 1860, p.315; 15 September 1860, p.945; 21 September 1861, p.983; 5 April 1862, p.736; and *Railway Times*, 7 April 1860, p.389; 22 September 1860, p.1077; 30 March 1861, p.409; 27 September 1862, p.1421.

²³ *Herapath's Railway Journal*, 1 April 1865, pp.378-79.

²⁴ *Railway Times*, 1 April 1865, p.410; Report to the 25th Ordinary General Meeting of the Great North of Scotland Railway, 7 April 1865, NAS/BR/GNS/1/5, p.330, in which directors announced that preference B shares were to receive only ½ % interest instead of 4½ %, although 4½ % preference A and 5% preference shares were paid in full.

be a 'great disappointment'.²⁵ The debt burden of the branches was confined to those companies until amalgamation and so the Great North's capital account remained in overall balance between 1860 and 1864.²⁶ However, the fall in revenue surplus and the collapse in dividends from 1863 indicate the impact of competition (table 67).

Table 67: Revenue account for the Great North of Scotland Railway, 1861-66

	07.1861	07.1862	07.1863	07.1864	07.1865	07.1866
Total annual revenue (£)	89895	100608	109611	113165	93214	103785
Total annual expenditure (£)	37557	41136	37986	59169	52286	71919
Surplus (£)	52338	59472	71625	53996	40928	31866
<i>Change in surplus (%)</i>	-	13.6	20.4	-24.6	-24.2	-22.1
Dividend to 31 January (%)	6 ½	7 ½	7	5	0	0
Dividend to 31 July (%)	7	7	7	5	0	0
Source: Appendix, table 10(d).						
(1): the large increase in total expenditure and the modest rise in total revenue in 1863-64 were caused principally as the result of the Great North beginning to work the through route to Elgin from 1 July 1863. The data of revenue surpluses reflect the impact of competition on the Great North and, in particular, the loss of traffic to the Inverness-Perth line.						

The Great North accounts disclose a rising level of temporary debt. The debt gearing of the company, relatively strong in 1861-64, fell markedly in 1865 to a level below the Caledonian benchmark of 1849 (table 68).

Table 68: Financial indicators for the Great North of Scotland Railway, 1861-66

(Prior to amalgamations of 1866)	31 July	1861	1862	1863	1864	1865	1866
Estimated total debt (£)		438001	423952	390326	504458	615429	733833
Gross annual revenue (£)		89895	100608	109611	113165	93214	103785
Ratio of debentures to capital raised		31.0%	25.0%	22.5%	23.2%	23.2%	22.9%
Ratio of gross revenue to total debt		0.205	0.237	0.281	0.224	0.151	0.141
Source: Appendix, tables 10(d) and 10(e).							
(1): Comparative gearing ratios for the Caledonian Railway in 1849-50 were 24.5% for debentures/capital and 0.162 for gross revenue/debt.							
(2): The accounts to the second half-year ending on 31 July 1866 contain data for the Great North before the amalgamations came into effect on 1 August 1866. Accounts to 31 January 1867 and successive half years show the revenue and capital of the consolidated company.							

²⁵ Report to the 25th Ordinary General Meeting of the Great North of Scotland Railway, 7 April 1865, NAS/BR/GNS/1/5, pp.332-33.

²⁶ Appendix, table 10(c).

From August 1866, Great North accounts consolidate the revenue and capital accounts of amalgamated branches and reveal an increased deficit on the capital account and a significant weakening in debt gearing in first half-year of 1867 to a level significantly below the Caledonian benchmark (table 69).

Table 69: Financial indicators for the Great North of Scotland Railway, 1867-69

Data for half years (Amalgamations from August 1866)	(£)	07.1866 <i>Pre-amalg</i>	01.1867	07.1867	07.1868	07.1869
Capital raised		1826386	3085817	3087451	3061732	3126200
Balance of capital account	(3)	- 137736	- 269905	- 278030	- 182695	+ 41813
Estimated total debt		733833	1101018	1059750	1015408	944228
Gross annual revenue		103785	130785	165578	180770	180909
Ratio of debentures to capital raised		22.9%	24.5%	24.5%	27.2%	27.3%
Ratio of gross revenue to total debt		0.141	0.119	0.156	0.178	0.192
Source: Appendix, tables 10(d) and 10(e).						
(1): Comparative gearing ratios for the Caledonian Railway in 1849-50 were 24.5% for debentures/capital and 0.162 for gross revenue/debt.						
(2): Data is given for half years 1866-67 to illustrate the effects of absorbing the debts of the amalgamated companies. Gross revenue is calculated from cumulative half year revenue data (NAS/BR/RAC(S)/1/14).						
(3): The deficit on the capital account peaked in the half year to 31 January 1868 at £363,741 (NAS/BR/RAC(S)/1/14).						

This financial instability brought the company close to collapse at the end of 1866 and ultimately required a refinancing package from bankers to allow a slow recovery to begin, as this chapter will later show. Nevertheless, the company's gross revenue showed improvement from 1867, which offered some prospect of debt repayment over the longer-term.

The elimination of ordinary dividend and default on some preference dividend resulted in shareholder unrest and, in April 1865, the Great North appointed a committee to report on the company's position and prospects.²⁷ The report identified expenditure of £684,524 by the Great North on branches, of which £94,432 had been spent on shares in the Deeside and Montrose and Bervie Railways without parliamentary sanction during the competition with the Scottish North-Eastern

²⁷ Minutes of the Great North of Scotland Railway and Report to the 25th Ordinary General Meeting, 7 April 1865, NAS/BR/GNS/1/15, p.329, p.330 and page 5 of inserted printed report, showing ½ % dividend was to be paid on 4½ % Preference B stock and 0% on ordinary stock; Report by the Committee of Investigation to the shareholders of the Great North of Scotland Railway, published on 22 April 1865, NAS/BR/GNS/1/32, subsidiary document 5, and presented to the adjourned Ordinary General Meeting of the Great North of Scotland Railway, 26 April 1865, NAS/BR/GNS/1/5, pp.346-47.

Railway; additionally, £19,249 had been spent above authorised limits on the Strathspey, Keith and Dufftown and Morayshire Railways.²⁸

Your Committee are fully satisfied that your Financial difficulties and loss of Dividends are to be entirely attributed to this very large outlay upon Lines, particularly those constructed north of Keith, from which the actual returns are so very unprofitable.²⁹

Although recommending postponement of the £78,500 commitment to extend the Banffshire Railway westwards, the committee supported the investment of £25,000 to link the Strathspey Railway to the Highland main line at Boat of Garten because of 'an expectation of improved traffic'.³⁰ The committee, while holding directors to account for the company's difficulties, also 'throw blame on the shareholders who have sanctioned their policy from time to time'.³¹ The committee, however, could make no recommendations other than to seek a return from the branches and improve relations with other railway companies.³²

²⁸ Report of the Committee of Investigation, dated 22 April 1866, presented to the adjourned Ordinary General Meeting of the Great North of Scotland Railway, 26 April 1865, NAS/BR/GNS/1/32, subsidiary document 5, annex to the inserted printed report (the report is also contained in the minute book, NAS/BR/GNS/1/5, pp.346-47): the Great North had spent £14,159 on the Strathspey, £2,812 on the Keith and Dufftown and £2,278 on the Morayshire above its authorised limits; Page 2 of this report states that £86,982 had been invested in Deeside and Deeside Extension shares, £7,450 had been spent on Montrose and Bervie shares and, in addition, the Great North had spent £9,423 on the parliamentary expenses of the Montrose and Bervie; 23&24 Vic. cap.142, The Montrose and Bervie Railway Act with £70,000 share capital of which the Scottish North-Eastern Railway was authorised to subscribe £15,000, but no provision was made for the £7,450 spent on Bervie company shares by the Great North; Appendix, table 10(c), note 6.

²⁹ Report by the Committee of Investigation to the shareholders of the Great North of Scotland Railway, 22 April 1865, NAS/BR/GNS/1/32, subsidiary document 5, p.5.

³⁰ Report of the Committee of Investigation presented to the adjourned Ordinary General Meeting of the Great North of Scotland Railway, 26 April 1865, NAS/BR/GNS/1/32, p.6.

³¹ Report of the Committee of Investigation presented to the adjourned Ordinary General Meeting of the Great North of Scotland Railway, 26 April 1865, NAS/BR/GNS/1/32, p.5.

³² Recommendations to the adjourned Ordinary General Meeting of the Great North of Scotland Railway, 26 April 1865, NAS/BR/GNS/1/5, p.345: '... to leave the Directors to administer the affairs of the Company, so as may be best calculated to develop and render productive the branch lines as early as possible ... and to promote friendly relations with neighbouring companies'.

The Great North held £230,000 in bank advances by November 1865.³³ In January 1866, the company was refused further credit: the North of Scotland Bank declined a request for £32,000, stating 'The Sum owing to us by the Railway Company is ... already very large and, if the Directors feel that they could increase the sum at all, it could only be upon additional and much more available security', while the National Bank replied that they 'are not disposed to give any further advances'.³⁴ These two banks relented to the extent of £10,000 each and the Great North arranged a further £30,000 loan from a Newcastle financial intermediary; however, this £50,000 of borrowing required £104,350 of preference and debenture stocks as security, which indicates the poor credit status of the company and the low value of its stock.³⁵

By June 1866, the Great North had subscribed for £363,231 of stock in the five branches that had agreed amalgamation terms, compared to only £133,480 held by the public.³⁶ The amalgamation act of 1866 converted branch company stock into new Great North stock; Great North shareholders received some nominal return because £142 of new ordinary stock was allotted for every £100 previously held.³⁷

³³ Minutes of the Finance Committee of the Great North of Scotland Railway, 25 November 1865, NAS/BR/GNS/1/5, pp.482-84, showing cash credits held from the Commercial Bank (£30,000), the National Bank (£100,000), the North of Scotland Bank (£75,000) and the Town and County Bank (£25,000): Appendix, table 10(f) summarising bank loans held by the Great North and published in half-yearly accounts.

³⁴ Minutes of the Great North of Scotland Railway, 2 January 1866, NAS/BR/GNS/1/5, p.503.

³⁵ Minutes of the Finance Committee of the Great North of Scotland Railway, 13 March 1866, NAS/BR/GNS/1/5, pp.538-39, showing a £10,000 loan from the North of Scotland Bank at a minimum of 5% and backed by £20,000 of securities, a loan of £15,000 from the National Bank at a minimum of 5% and backed by £20,250 of securities, and a £50,000 loan from Woods, Fenwick and Bulman of Newcastle at 1% above Bank of England minimum discount rate and backed by £64,100 of securities.

³⁶ Minutes of the Great North of Scotland Railway, 13 February 1866, NAS/BR/GNS/1/5, p.521; Report of the Extra-ordinary General Meeting of the Great North of Scotland Railway, 23 June 1866, pp.39-40, called to approve amalgamation terms with five branches with which agreement had been finalised (the Alford Valley, the Aberdeen and Turriff, the Banff, Macduff and Turriff, the Keith and Dufftown and the Strathspey Railways); Appendix, table 10(c), shows that the Great North had also invested £175,000 in the Formartine and Buchan Railway and £2,000 in the Inverury and Old Meldrum Railway, but agreement with these companies for amalgamation had not been finalised by 23 June 1866.

³⁷ 29&30 Vic. cap.288, 1866, The Great North of Scotland Railway (Amalgamation) Act; Report to the 28th Ordinary General Meeting of the Great North of Scotland Railway, 2 October 1866, NAS/BR/GNS/1/6, pp.85-86 and page 3 of inserted printed report: the additional stock allocated to Great North shareholders was issued to replace the cancelled

Default on preference dividends increased in October 1866 and arrears were paid as deferred warrants, which, like Aberdeen Railway in the 1850s, added to the accumulating debt.³⁸ The board had requested shareholders to elect a new board to represent the all the interests within the new amalgamated company, although deputy chairman Duncan commented that 'I do not mean by any means to say that the gentlemen who are presently on the Board retire from it in disgust, or from dissatisfaction with themselves ...'.³⁹ It was at this point that William Ferguson, secretary of the Deeside, joined his Deeside chairman John Duncan in the Great North as secretary;⁴⁰ Duncan became Great North chairman in February 1867 as a new board began its attempts to extricate the new consolidated Great North from its deep financial crisis.⁴¹

By January 1867, the financial instability of the company was stark: 69.2 percent of raised capital required guaranteed payments as preference stock or debenture loans and the company owed £345,972 to bankers, held outside the main accounts.⁴² An auditor's report was produced in November 1866 to assist the Finance Committee in

shares of these five branch companies previously held by the Great North; *Railway Times*, 30 June 1866, p.783.

³⁸ Report to the 28th Ordinary General Meeting of the Great North of Scotland Railway, 2 October 1866, NAS/BR/GNS/1/6, pp.85-86, recording that £3 13s was to be paid on original 5% preference stock, £3 6s on preference A 4½ % stock and nothing was to be paid on preference B 4½ % stock, with deferred warrants for arrears of dividend on 5% preference stock to be issued in lieu; Report of the 28th Ordinary General Meeting of the Great North of Scotland Railway, 2 October 1866, NAS/BR/GNS/1/6, pp.85-86 and page 3 of inserted printed report: Duncan explained that only holders of the original 5% preference stock were to be paid in full by deferred warrant because the 1866 amalgamation act required the 4½ % preference A and B stock to be paid annually out of revenue and therefore 'in the event of deficiency in revenue in any one year, they have no claim on subsequent years'.

³⁹ Minutes of the Great North of Scotland Railway, 1 October 1866, NAS/BR/GNS/1/6, p.78; Report of the 28th Ordinary General Meeting of the Great North of Scotland Railway, 2 October 1866, NAS/BR/GNS/1/6, pp.87-88 and page 3 of inserted printed report.

⁴⁰ Minutes of the Deeside Arrangement Committee, in minutes of the Great North of Scotland Railway, 26 October 1866, NAS/BR/GNS/1/6, p.110.

⁴¹ Minutes of the Great North of Scotland Railway, 12 February 1867, NAS/BR/GNS/1/6, p.216, reporting the election of John Duncan as chairman with an allowance of £400 per annum.

⁴² Accounts of the Great North of Scotland Railway, 31 January 1867, NAS/BR/RAC(S)/1/14, showing £3,085,817 capital raised, of which £1,381,530 was held in preference stock and £755,042 in debenture loans with £345,972 of temporary loans owed to bankers held below the line in the general balance sheet.

renegotiating bank lending to allow the company time to try to build its recovery and repay debts.⁴³ Accountant Robert Fletcher highlighted bank loans as the most pressing liability, but indicated that, while revenue was sufficient to pay interest on them, the £437,390 of stock held by the banks as security was mainly 'of an unmarketable description'.⁴⁴ The company was advised to seek shareholder approval for a pre-preference stock to rank before all other preferences, using receipts to repay debt, thereby reducing interest liability and consequently enhancing the value of existing stock. With £267,379 of debenture loans due for renewal in 1867, Fletcher issued a sharp warning:

... if the Company's credit is not completely re-established, it will ultimately pay on the whole Debenture debt 1 percent higher than Companies enjoying, as this Company formerly did, first-class credit.⁴⁵

The report concluded that the availability of any 'temporary accommodation' from its bankers would depend upon 'what was done meanwhile in strengthening Direction and in placing the irregular debt on a permanent footing at a moderate rate of interest'.⁴⁶ However, Fletcher pointed out the dilemma faced by the banks:

The Banks have a most material interest in this question; if the depreciated credit of the Company compels it to give high rates for a large amount of Debentures, a very serious inroad will be made in the Balance of the Company's Revenue available for payment of interest on the debt to the Banks.⁴⁷

⁴³ Minutes of the Great North of Scotland Railway, 14 November 1866, NAS/BR/GNS/1/6, pp.121-22.

⁴⁴ Report of Robert Fletcher, accountant of Aberdeen, to the Great North of Scotland Railway, 14 November 1866, NAS/BR/GNS/1/6, p.4 and p.7.

⁴⁵ Report of Robert Fletcher, accountant of Aberdeen, to the Great North of Scotland Railway, 14 November 1866, NAS/BR/GNS/1/6, p.7 and p.10, noting that the excess interest per annum would be in the order of £8,000. The £267,379 of debentures due for renewal represented 38.9% of the £688,225 issued in debentures by 1 August 1866.

⁴⁶ Report of Robert Fletcher, accountant of Aberdeen to the Great North of Scotland Railway, 14 November 1866, NAS/BR/GNS/1/6, p.17.

⁴⁷ Report of Robert Fletcher, accountant of Aberdeen, to the Great North of Scotland Railway, 14 November 1866, NAS/BR/GNS/1/6, p.17.

Nevertheless, the Great North was facing bankruptcy in 1866 if bank advances were recalled. On 16 November 1866, the National Bank demanded £10,670 interest due on its loan.⁴⁸ On 21 November, the Town and County Bank refused further advances, 'temporary or otherwise', and required settlement by 29 November of two accounts totalling £62,605.⁴⁹ On 7 December 1866, the National Bank gave the Great North one week to pay interest due before legal proceedings were instituted; the next day, the Commercial Bank demanded repayment of £4,500.⁵⁰ Further demands for payments were received on 18 December 1866, including a threat of legal action from the Railway Clearing House.⁵¹ With no repayments made, the banks began to sell company stock held in security to redeem some of the funds owed.⁵² In January 1867, the Caledonian Railway joined the list of creditors because the Great North owed payments for its share of the cross-Aberdeen railway under construction: 'your Company is already largely indebted, and is being every month more so ...'.⁵³

⁴⁸ Letter from the National Bank of Scotland, 16 November 1866, reported to the board of the Great North of Scotland Railway, 23 November 1866, NAS/BR/GNS/1/6, p.126, stating that £10,670 was due as interest and arrears of interest on a £50,000 loan.

⁴⁹ Minutes of the Great North of Scotland Railway, 23 November 1866, NAS/BR/GNS/1/6, p.128.

⁵⁰ Minutes of the Great North of Scotland Railway, 11 December 1866, NAS/BR/GNS/1/6, p.149.

⁵¹ Minutes of the Great North of Scotland Railway, 18 December 1866, NAS/BR/GNS/1/6, pp.158-59 and p.162, reporting the Town and County Bank required repayment of advances by 20 December, Woods and Co of Newcastle required repayment of a £5,000 and a £10,000 loan, and the Railway Clearing House gave 14 days in which to receive £3,800 due from the Great North.

⁵² Minutes of the Great North of Scotland Railway, 26 December 1866, NAS/BR/GNS/1/6, pp.168-69, reporting the sale by the National Bank of 4,000 Great North shares and 35 Deeside shares and the proposal by the Aberdeen Town and County Bank to 'take steps for realising the securities held by the Bank'; Letter from the National Bank to the Great North dated 26 December 1866, in minutes of the Great North of Scotland Railway, 2 January 1867, NAS/BR/GNS/1/6, p.171, indicating that they were to continue selling Deeside stock 'which is giving on the whole a very fair price ...' in order to reduce the total loan from £100,000 to £80,000: the bank letter points out that 'You are aware that our Directors are desirous of making some noticeable impression upon the amount of debt due to the Bank'.

⁵³ Letter of the Caledonian Railway to the Great North of Scotland Railway, 22 January 1867, NAS/BR/GNS/1/6, pp.202-203.

Thus, at the end of 1866 and only three years after paying 7 percent dividend, the Great North was close to financial collapse as the banking sector demonstrated its loss of confidence by selling shares held as guarantees. The accumulated debts of its branch line system had impacted simultaneously with the loss of through traffic on its main line. The company was committed to investment in the cross-Aberdeen link but had defaulted on some payments, bank interest was overdue and it was unable to pay its full guaranteed stock dividends, which was adding to its accumulating debt. Any additional earnings were increasingly absorbed by interest payments for temporary and authorised loans.⁵⁴ An amalgamation or lease proposed with the Caledonian was rejected⁵⁵ and the only option for the Great North was to seek a refinancing of the company with its bankers and apply severe economies to its operations in order to build revenue and begin repaying its considerable debts.

The legacy of the Inverness web: the Highland Railway

Fusion of the Aberdeen Junction and Perth Junction lines into the Highland Railway was justified to achieve economies in management and working and to assist traffic development.⁵⁶ The *Railway Times* highlighted the apparent prosperity of the Inverness companies:

Heartily supported by the localities through which they sought their way, with scarcely other obstacle than what rugged Nature presented and which skill could surmount, they not merely arrived at completion, without inordinate delay or excessive expenditure, but they as it were found a traffic prepared to their hand.⁵⁷

⁵⁴ Report to the 27th Ordinary General Meeting of the Great North of Scotland Railway, 5 April 1866, NAS/BR/GNS/1/5, p.555 and page 2 of inserted printed report; Report to the 28th Ordinary General Meeting of the Great North of Scotland Railway, 2 October 1866, NAS/BR/GNS/1/6, pp.85-86; Appendix, table 10(e).

⁵⁵ See a later section of this chapter, 'A new 'Caledonian system?'

⁵⁶ *Herapath's Railway Journal*, 17 June 1865, p.648, reporting Matheson's address to the Special General Meeting of the Inverness and Aberdeen Junction Railway held on 16 May 1865: '... the general management and working of the railway could be carried on more cheaply, it would confer great advantages on the Company in the development of the traffic and in perfecting the lines themselves'.

⁵⁷ *Railway Times*, 1 April 1865, p.410.

Both companies, however, were accumulating temporary debt. With amalgamation imminent, Perth Junction shareholders were warned that '... although the Land claims along the Line have been ascertained, a considerable sum under that head is still unpaid, and therefore some additions to the Capital Account may yet be looked for'.⁵⁸ The Aberdeen Junction acknowledged 'the enormous increase in the capital account and the large Expenditure on Works', and attempted to cap expenditure:

... no new works of any kind shall be commenced without being previously submitted, with a careful estimate of the expense, and ... approved by the Board on the report of the Committee.⁵⁹

Gross revenue was rising on both lines, but chairman Matheson told Aberdeen Junction shareholders that, in working the Perth Junction line, 'we made the agreement rather too hastily, and at too low a rate of remuneration so that we have lost by that'.⁶⁰

In 1862, Matheson had advocated that '... once they got in connection with the southern lines at Perth and had reached Bonar-bridge in the north, they ought to pause'.⁶¹ Matheson confirmed that objective in 1863:

... we are quite determined to enter no working agreement or proposal of amalgamation that would compromise our independence in the north. I consider that before we enter on new undertakings, we should consolidate what we have on hand, and see that it gives us a fair return on our capital.⁶²

⁵⁸ Report to the Ordinary General Meeting of the Inverness and Perth Junction Railway, 28 March 1865, NAS/BR/IPJ/1/1, p.260.

⁵⁹ Minutes of the Inverness and Aberdeen Junction Railway, 1 March 1865, NAS/BR/IAJ/1/3, p.90; Appendix, table 12(a): the capital deficit in July 1864 was £190,585 and £105,588 in January 1865.

⁶⁰ *Railway Times*, 20 May 1865, p.641, reporting Matheson's statement to the Special General Meeting of the Inverness and Aberdeen Junction Railway held on 16 May 1865.

⁶¹ *Herapath's Railway Journal*, 22 November 1862, p.1208.

⁶² *Railway Times*, 7 November 1863, p.1434, reporting Matheson's statement to the Ordinary General Meeting of the Inverness and Aberdeen Junction Railway held on 27 October 1863;

Requests to support new lines had been received, but the combined capital deficit of both Inverness companies in 1864 was £334,607, which suggested the wisdom of consolidation.⁶³ In September 1864, Matheson declared that the anticipated amalgamation would complete the highland system; '... it is not the intention of your Directors to recommend to you any further extension of our railway system for the present'.⁶⁴ Nevertheless, at the same meeting, Matheson announced two new independent lines, one from Dingwall westwards to Kyleakin on the west coast and one extending the system northwards to Golspie, although 'For this latter line the public will be indebted to the enterprise and patriotism of his Grace the Duke of Sutherland'.⁶⁵ These proposed extensions were designed to open up large highland estates and Matheson indicated Inverness policy towards them:

As both are likely to throw a considerable amount of traffic on our line, we shall deem it a duty to take a limited interest in each, and to arrange for working the new lines on fair terms.⁶⁶

Sutherland and Matheson, both directors of the Aberdeen Junction and the Highland, were principal landowners in the districts to be served by the proposed independent extensions, but 'a limited interest' implied further commitments for an enterprise already experiencing financial constraints and some shareholder concern was expressed. Matheson assured Aberdeen Junction shareholders that:

Herapath's Railway Journal, 7 November 1863, p.1181, quoting Matheson statement that 'We shall remain as we are, with our head quarters at Inverness'.

⁶³ Appendix, tables 12(a) and 14(a), showing the capital deficit on the Inverness and Aberdeen Junction Railway in 1864 to be £190,585, and on the Inverness and Perth Junction Railway to be £144,022, giving a total capital deficit for the projected combined company at that date of £334,607.

⁶⁴ *Herapath's Railway Journal*, 8 October 1864, p.1166, reporting Matheson's statement to the Ordinary General Meeting of the Inverness and Aberdeen Junction Railway held on 28 September 1864.

⁶⁵ *Herapath's Railway Journal*, 8 October 1864, p.1166.

⁶⁶ *Herapath's Railway Journal*, 8 October 1864, p.1166.

... these branch lines would not form part of the Junction Company's system. They would be independent lines altogether, but a proposal had been made that they should work them at the cost price – that was to say, that the trunk line could not possibly lose by such an arrangement.⁶⁷

These developments, which completed the framework of the northern railway system, are explored in the following chapter, but the statement of intent to work the lines at cost price provided another indication that the promotion and working of highland lines was not always undertaken to secure maximum profit for the operator.

The first accounts of the Highland Railway in August 1865 showed a capital deficit of £201,460 and the directors reported that 'the excess of expenditure was divided about equally between the two constituent companies'.⁶⁸ Temporary debt, however, was not detailed in the main accounts until 1866, but the floating debt of the new Highland company in 1865 was reported to be £850,000.⁶⁹ Matheson's statement to the first shareholder's meeting in October 1865 disclosed that, despite an initial dividend of 2 percent, the Highland had inherited capital costs of £300,000 for additional works and land and that £550,000 was held as temporary loans from banks, of which the directors had taken personal liability for £280,000.⁷⁰

⁶⁷ *Railway Times*, 8 October 1864, p.1323, reporting the Ordinary General Meeting of the Inverness and Aberdeen Junction Railway held on 28 September 1864.

⁶⁸ Appendix, table 11 (a); Accounts of the Highland Railway to 31 August 1865 in the report to the 1st Ordinary General Meeting of the Highland Railway, 27 October 1865, NAS/BR/HR/1/1, pp.42-43; *Herapath's Railway Journal*, 4 November 1865, p.1217.

⁶⁹ *Railway Times*, 5 May 1866, p.514; Report to the Ordinary General Meeting of the Inverness and Perth Junction Railway, 28 March 1865, NAS/BR/IPJ/1/1, p.259, indicating the need for additional capital of £200,000 'to discharge the debts of the Company': if the inherited deficit was therefore equally divided between the two constituent companies, this figure given for the Perth Junction suggests debts of circa £400,000 passing to the Highland, although Matheson reported inherited capital costs to be £300,000.

⁷⁰ *Railway Times*, 4 November 1865, p.1407, reporting Matheson's address as chairman to the 1st Ordinary General Meeting of the Highland Railway held on 27 October 1865; Report to the 1st Ordinary General Meeting of the Highland Railway, 27 October 1865, NAS/BR/HR/1/1, pp.42-43 and page 2 of inserted printed report in which the directors reported that 'The work needed to complete and work efficiently the two systems ... has very considerably exceeded the cost originally anticipated'.

The scale of these loans and guarantees is highly significant; on a 2007 price base, temporary banks loans were equivalent to £27.5 million while the personal guarantees of directors correspond to £14 million.⁷¹ The Highland was directed by wealthy and influential landowners, however, who held one-fifth of its ordinary stock in addition to their guarantees.⁷² In April 1866, Matheson was able to illustrate the efficacy of the directors to secure lower interest rates for longer periods:

... we have a large amount of floating debt for which we have hitherto been paying the current rates, and these have averaged 7 percent for the six months ... we shall be independent of the bank rates in future, as the directors, by interposing their personal security, have been able to make arrangements, whereby the money has been obtained for a period of three years at 5 percent.⁷³

These loans at 5 percent had been negotiated at a time when bank discount rates had risen from 7 percent in October 1865 to 10 percent in May 1866.⁷⁴ Nevertheless, the capital structure of the new company on formation in 1865 showed that £750,687 of the £1,837,651 issued share capital required guaranteed payments (40.9 percent); furthermore, preference stock and fixed-interest debenture loans formed 54.8 percent of the total capital raised (table 70).⁷⁵ In addition to this guaranteed capital, the temporary loans from banks also required interest payments,

⁷¹ See Glossary entry on 'price base'.

⁷² *Herapath's Railway Journal*, 4 November 1865, p.1217-19, reporting the 1st Ordinary General Meeting of the Highland Railway held on 27 October 1865, at which George Loch (director) stated that £210,590 of ordinary stock (Highland and ex-Ross-shire) was held by Highland directors (p.1219): Accounts of the Highland Railway to 31 August 1865, reported on 27 October 1865, NAS/BR/HR/1/1, pp.42-43, showing £1,086,963 of ordinary stock had been issued (£729,374 of Highland stock, £209,856 of Ross-shire stock and £147,733 of Ross-shire Extension stock). Directors' ordinary stock of £210,590 therefore comprised 19.4% of the total ordinary stock issued.

⁷³ *Railway Times*, 5 May 1866, pp.514-15, reporting Matheson's address to the 2nd Ordinary General Meeting of the Highland Railway held on 27 April 1866; Report of the Ordinary General Meeting of the Highland Railway, 27 April 1866, NAS/BR/HR/1/1, pp.148-49.

⁷⁴ *Bradshaw's Railway Almanack*, 1875 edition, appendix 12, p.83.

⁷⁵ Accounts of the Highland Railway to 31 August 1865, reported on 27 October 1865, NAS/BR/HR/1/1, pp.42-43, summarised in table 70: preference stock (£750,687) and debenture loans (£565,241) total £1,315,928, 54.76% of the £2,402,892 capital raised.

and so the Highland began its existence with £1.115 million of authorised and temporary loans and £1.866 million of funds requiring guaranteed payments.

Table 70: Capital structure of the Highland Railway, August 1865

Shares and Stock	Authorised and created 31 August 1865 (£)	Raised (£) 31 August 1865	
Dunkeld 6% Preference	76000	76000	
Nairn 5% Preference	45000	44960	
Nairn 6% Preference	59080	59080	
Class A 4½% Preference	513650	460245	
Class B 5 % Preference	400000	110402	
<i>Stock carrying preferential dividend</i>			750687
Ross-shire ordinary shares	215000	209856	
Ross-shire Extension ordinary shares	160000	147733	
Ordinary shares	740350	729374	
Total shares and stock created	2209080	1837651	
Total of debenture loans	700880	565241	
Total share and loan capital	2909960	2402892	
Temporary bank loans		550000	(3)
<i>Total of debentures and temporary loans</i>			1115241
<i>Total of funds requiring guaranteed payments</i>			1865928
Sources: Accounts of the Highland Railway to 31 August 1865 reported to the 1 st Ordinary General Meeting of the Highland Railway, 27 October 1865, NAS/BR/HR/1/1, pp.42-43; <i>Railway Times</i> , 4 November 1865, pp.1406-1407.			
(1): Shillings and pence have been rounded down; as a result some totals may not match precisely the sum of component items.			
(2): Some of the stock shown as raised was held by banks as security for loans, but not identified in the accounts until 1866: in February 1866. £465,000 of stock was shown as held in security (NAS/BR/HR/1/1, pp.148-49)			
(3): The figure of temporary bank loans was reported by the chairman to the first Ordinary General Meeting of the Highland Railway held on 27 October 1865 (<i>Railway Times</i> , 4 November 1865, pp.1406-1407).			

Revenue rose slowly and reflected the marked seasonal nature of traffic already experienced by constituent companies; the week ending 6 August 1865 yielded £6,647 which fell to £2,431 during the week ending 4 February 1866 (table 71).⁷⁶ The burden of fixed-interest debt was considerable and approximately half of gross revenue was absorbed by guaranteed payments reported in the revenue account.⁷⁷

⁷⁶ Minutes of the Highland Railway, 21 August 1865 and 22 February 1866, NAS/BR/HR/1/1, p.19 and p.115.

⁷⁷ Appendix, table 11(b): interest and preference dividend represented 44.5% of gross revenue in February 1866, rising to 49.9% in February 1867.

Table 71: Revenue account of the Highland Railway, 1865-1867

Data for half years	(£)	08.1865	02.1866	08.1866	02.1867	08.1867
Total Revenue		100733	82668	99744	96362	103766
Total Expenditure: <i>including</i>		76285	61302	74709	44569	45271
Interest		26090	19280	29148		
Net revenue (£)		24448	21366	25034	51792	58494
Interest					27128	28142
Dunkeld 6% stock dividend		2660	2280	2280	2280	2280
Nairn 5% stock dividend		1311	1124	1124	1124	1124
Nairn 6% dividend		2067	1772	1772	1772	1772
Class A 4½% dividend		9468	8218	8218	8558	8893
Class B 5% dividend		166	4153	6980	7202	7267
Ordinary dividend		8516	3649	3649	3649	7299
Expenditure on dividends		24191	21197	24025	24586	28636
Total on loans & dividends					51715	56778
Balance		256	168	1009	77	1715
Ordinary dividend		2%	1%	1%	1%	2%
<i>Interest as % of gross revenue</i>		<i>25.9%</i>	<i>23.3%</i>	<i>29.2%</i>	<i>28.2%</i>	<i>27.1%</i>
<i>Interest and preference dividend as % of gross revenue</i>		<i>41.5%</i>	<i>44.5%</i>	<i>49.7%</i>	<i>49.9%</i>	<i>47.7%</i>
Source: Minutes and accounts of the Highland Railway, 1865-70, NAS/BR/HR/1/1.						
(1): Shillings and pence have been rounded down; as a result some totals may not match precisely the sum of component items.						
(2): The presentation of accounts changed in 1867; interest was previously shown as an item of expenditure but from 1867 it was presented alongside preference dividends.						

However, deputy chairman Bruce stated that one-third of interest due was paid from capital: £12,000 interest had been charged to capital in the half-year to August 1865 and a further £10,000 in the half year to February 1866, but it was 'expected to halve this in the next half year and then meet most thereafter from revenue'.⁷⁸ In these two half-years, the ordinary dividend and the balance carried forward would have been insufficient to meet the interest charged to capital and, had the full interest burden fallen fully on the revenue account, the Highland, like the Great North, would have had to default on some guaranteed payments.⁷⁹

⁷⁸ *Railway Times*, 5 May 1866, p.515; Report of the Ordinary General Meeting of the Highland Railway, 30 October 1866, NAS/BR/HR/1/1, pp.218-19 and page 2 of printed report, recording that the whole of interest due had been charged to revenue for the half year to 31 August 1866: Report to the Ordinary General Meeting of the Highland Railway, 27 October 1865, NAS/BR/HR/1/1, pp.42-43 and page 2 of printed report, which states the intention of the new Highland board to charge the cost of temporary loan capital to the capital account rather than to revenue to 'represent in the fairest manner the real position of the company'.

⁷⁹ Table 71 shows that, in August 1865, the revenue balance (£256) and ordinary share dividend (£8,516) totalled £8,772, which was insufficient to pay the £12,000 interest reported to be charged to capital. In February 1866, the revenue balance (£168) and ordinary share dividend (£3649) totalled £3817, which was insufficient to pay the £10,000 interest reported to be charged to capital.

Data for the Aberdeen Junction and Perth Junction Railways produce debt gearing ratios for 1864 of 0.159 and 0.185 respectively, similar to the 0.162 ratio of the fragile Caledonian in 1849.⁸⁰ A combination of data for the final half year of these two companies and the first seven months of the Highland Railway suggest a debt gearing ratio for the new company of 0.184,⁸¹ but the impact of the inherited capital deficits and commitments of its constituent companies and the high level of bank borrowing required by the Highland depressed its debt gearing to a level almost identical to the Caledonian benchmark from 1866 until 1871 (table 72).⁸²

Table 72: Financial indicators for the Highland Railway, 1865-67

Data for half years	(£)	08.1865	02.1866	08.1866	02.1867	08.1867
Capital raised		2402892	2671637	2722249	2779300	2813473
Debenture loans		565241	669128	693172	694122	697872
Temporary loans		550000	465000	485000	505000	535000
Total fixed interest debt		1115241	1134128	1178172	1199122	1232872
Gross half year revenue		100733	82668	99744	96362	103766
Gross annual revenue		-	183401	182412	196106	200128
Ratio of debentures to capital raised		23.5%	25.0%	25.5%	25.0%	24.8%
Ratio of gross revenue to total debt		0.184	0.162	0.155	0.164	0.162

Source: Appendix, tables 11(b) and 11(c).

(1): Table 81 in this chapter shows that the Highland's debt gearing ratio remained between 0.158 and 0.165 in 1868-70, followed by a steady improvement in 1871-74.

Like the Caledonian, however, the Highland envisaged increased revenue as its main line became established and, unlike the ailing Great North, it could rely on substantial financial backing from its directors. Moreover, Matheson disclosed that the Inverness promoters had not expected instant returns:

It is only right to state that, after the Directors fairly embarked in the system of railway communication in the Highlands, the different extensions were to a certain extent promoted more as strategic lines than lines which would bring

⁸⁰ Appendix, tables 12(c) and 14(c); the Caledonian debt gearing to 31 December 1849 was 0.162 (Table 18, chapter 3).

⁸¹ Appendix, table 11(d), deriving a debt gearing for the Highland Railway to 31 August 1865.

⁸² Appendix, table 11(c): see also Table 81 in this chapter giving Highland Railway data for the period 1867-74; the benchmark debt gearing ratio of the Caledonian for December 1849 was 0.162 (chapter 3, table 18).

an immediate and large traffic, although the latter was certain to follow in time ... The result is that we have now a line perfectly secure from attack.⁸³

Nevertheless, the Highland began its operations exhibiting many of the financial weaknesses of other northern lines, although Matheson identified the cost of the lines as the cause, 'for it must be observed that in no case has the traffic failed'.⁸⁴ The additional costs of the Inverness web, some of which were due to capital works not included in original plans, were reported to shareholders (table 73):

Table 73: Estimated and actual costs of Inverness web railway companies, October 1865

Company	Route	Estimate (£)	Cost (£)	Excess (£)	Excess (%)
Inverness and Nairn	Inverness and Nairn	80000	118000	38000	47.5%
Inverness and Aberdeen Junction	Nairn to Keith	325000	578000	253000	77.8%
Inverness and Ross-shire	Inverness to Invergordon	215000	285000	70000	32.6%
Ross-shire extension	Invergordon to Bonar Bridge	160000	160000	0	0.0%
Inverness and Perth Junction	Inverness to Perth	654000	1056000	402000	61.5%
	Total	1434000	2197000	763000	53.2%

Source: *Railway Times*, 4 November 1865, p.1407.

The Inverness web of lines had cost 153 percent of their parliamentary estimates. Despite the financial support of a relatively small number of large landowners and many small local shareholders, share capital had proved difficult to raise outside the region and the companies had been forced increasingly to finance their rising capital costs from guaranteed dividend stock and temporary loans. Matheson summarised the Highland's predicament:

... we had not only the excess of cost to contend with, but we were placed in a still greater difficulty from the original capital not having been taken up by the public. We were compelled to raise a large amount in preference stock,

⁸³ *Herapath's Railway Journal*, 4 November 1865, p.1217-18, reporting Matheson's address to the 1st Ordinary General Meeting of the Highland Railway held on 27 October 1865.

⁸⁴ *Railway Times*, 4 November 1865, p.1407.

and, in addition, to borrow considerable sums from banks, on our personal guarantee, and at the prevailing high rates of interest.⁸⁵

In the immediate aftermath of the opening of the direct Inverness-Perth line, a superficial assessment might conclude that Inverness, now secure, able to pay a small dividend, and experiencing a growth in traffic, had relegated the Great North to the status of a rural railway, the very existence of which was threatened by overwhelming debts. While the Great North was undoubtedly close to financial collapse, the Highland also faced severe financial vulnerability from its floating debt. The *Railway News* concentrated on the positive economic results of the Inverness railways:

... it will not be surprising to hear that Highland property is increasing in value. The shootings have greatly advanced in rental, and the sheep farms are on the rise ... it is to be hoped that we have seen the end of that periodical distress which had become chronic, and could never have been relieved by the old system of the cottages and the croft.⁸⁶

The *Railway Times* concluded that the Highland system 'is now impregnable'.⁸⁷ The Inverness strategy to secure the control of railways serving the northern counties of Scotland had been accomplished, but the Highland, like its rival the Great North, had to resolve the financial instability resulting from competition and expansion. Financial indicators for the two companies show similar degrees of weakness as a result of accumulated debt, despite the small dividend paid on the Highland maintained by paying some interest from capital (table 74).

⁸⁵ *Railway Times*, 4 November 1865, p.1407.

⁸⁶ *Railway News*, 17 September 1864, p.299: the journal also noted that 'The Highlands and Islands of Scotland are now within 24 hours distance of London'.

⁸⁷ *Railway Times*, 4 November 1865, p.1417.

Table 74: Comparative indicators for the Great North and Highland Railways, 1865-67

Great North of Scotland Railway	07.1865	01.1866	07.1866	01.1867	07.1867
Ratio of debentures to capital raised	23.2%	22.5%	22.9%	24.5%	24.5%
Ratio of gross revenue to total debt	0.151	0.151	0.141	0.119	0.156
Ordinary dividend	0%	0%	0%	0%	0%
Highland Railway	08.1865	02.1866	08.1866	02.1867	08.1867
Ratio of debentures to capital raised	23.5%	25.0%	25.0%	25.0%	24.8%
Ratio of gross revenue to total debt	0.184	0.162	0.155	0.164	0.162
Ordinary dividend	2%	1%	1%	1%	2%
Source: Appendix, 10(e) and 11(c) and table 25.					
(1): Comparative gearing ratios for the Caledonian Railway in 1849-50 were 24.5% for debentures/capital and 0.162 for gross revenue/debt.					

The financial difficulties faced by both companies reached their zenith as a major national crisis erupted following the failure of the London finance house of Overend Gurney in 1866, caused by its over-extended dealings in railway securities, with the result that the northern companies had little prospect of raising new share capital.⁸⁸ National shortages of capital for railways had increased the practice of paying contractors by company bills and stock, for which financial intermediaries had established a market to convert such securities into cash.⁸⁹ The *Railway Times* reported:

The failure of Overend, Gurney, and Company to meet its engagements – its inability to repay money it had borrowed on immediate call, in consequence of having lent it at enormous interest to parties who were at all times on the verge of bankruptcy – is represented as a calamity of unparalleled description ... The disastrous effects of this inveterately encouraged panic are making themselves felt on every description of security.⁹⁰

With no immediate solutions to their own financial crises, the Highland and Great North each turned to the possibility of amalgamation with the Caledonian during 1866-67.

⁸⁸ TL Alborn, *Conceiving Companies: joint stock politics in Victorian England* (London, 1998), p.201; TR Gourvish, 'Railways 1830-70: the formative years', in MJ Freeman and DH Aldcroft (eds.), *Transport in Victorian Britain* (Manchester, 1988), p.65.

⁸⁹ PL Cottrell, 'Railway Finances and the Crisis of 1866: contractors' bills of exchange and finance companies' *Journal of Transport History*, new series, III, No.1 (February 1975), pp.24-26.

⁹⁰ *Railway Times*, 12 May 1866, pp.563-64.

A new 'Caledonian system'?

The Caledonian's previous attempt to take control of the northern route to Aberdeen was overtaken by its financial failure in 1849, as chapter 3 has shown, but, by amalgamation with the Scottish Central and the Scottish North-Eastern in 1865-66, the Caledonian achieved that objective.⁹¹ The price was considerable; Scottish Central shareholders received a guaranteed 7 percent,⁹² while Aberdeen shareholders were ultimately to receive 4 percent with former Scottish Midland shareholders retaining their proportional premium over Aberdeen stock.⁹³ The Caledonian inherited the Scottish Central commitment made in 1864 to subscribe £200,000 to the proposed Callander and Oban Railway, promoted to connect the west highland coast with the main railway network, and to work the line at 50 percent of gross receipts.⁹⁴ The Scottish Central also held an unexercised power to subscribe an amount not exceeding £120,000 to the Inverness and Perth Junction

⁹¹ Minutes of the 42nd and 43rd Ordinary General Meeting of the Caledonian Railway, 12 September 1865 and 14 September 1866, NAS/BR/CAL/1/2; Caledonian directors reported in 1866 'Amalgamation with the Scottish North-Eastern Railway Company has been authorised and the Caledonian System now extends as far north as Aberdeen'; 28&29 Vic. cap.287, 1865, The Caledonian and Scottish Central Railways Amalgamation Act; 29&30 Vic. cap.350, 1866, the Caledonian and Scottish North-Eastern Railways Amalgamation Act.

⁹² Report to the Ordinary General Meeting of the Caledonian Railway, 12 September 1865, NAS/BR/RAC(S)/1/3; General minutes of shareholders of the Scottish Central Railway, 9 June 1865, NAS/SCC/1/15.

⁹³ Minutes of the Scottish North-Eastern Railway, 10 November 1865, NAS/BR/SNE/1/2, p.118; Report to the Ordinary General Meeting of the Caledonian Railway, 31 March 1866, NAS/BR/RAC(S)/1/3; Report to the Ordinary General Meeting of the Caledonian Railway, 27 March 1867, NAS/BR/RAC(S)/1/3, shows that the Caledonian paid 6½ % on its own shares, and guaranteed dividends of 7% on Scottish Central shares, 3% on Aberdeen shares (which was to rise by ¼ % per half year until it reached 4% by January 1869) and 6% on Scottish Midland Junction shares; see also chapter 4, table 34, which shows the pattern of Aberdeen and Scottish Midland Junction dividends in 1861-66.

⁹⁴ 28&29 Vic. cap.266, 1865, The Callander and Oban Railway Act, authorising share capital of £600,000 and borrowing powers of £200,000: the Scottish Central Railway was authorised to subscribe £200,000 and work the line; Agreement between the promoters of the Callander and Oban Railway and the Scottish Central Railway, 17, 19 and 22 December 1864, NAS/BR/AP(S)/146; Agreement between the Caledonian and Callander and Oban railway companies, 19, 22, and 23 July and 3 and 10 August 1869 contained within a further agreement between the companies dated 16 September 1869, NAS/BR/AP(S)/146; Prospectus of the Callander and Oban Railway, 1864, NAS/BR/PROS(S)/1/3.

Railway.⁹⁵ Both lines offered scope to the Caledonian to extend considerably its influence in the north and west of Scotland.

Shortage of capital for the Inverness-Perth direct line prompted Inverness to approach the Caledonian. Andrew Dougall, general manager and secretary to the Inverness companies, reported in July 1865 that the Caledonian had offered to subscribe £50,000 to the Perth Junction and £50,000 to the proposed Dingwall and Skye Railway and intended to justify the investment to their shareholders as gaining 'an interest in the Line from their terminal station in Perth on to Skye'.⁹⁶ Parliamentary authorisation of the independent Dingwall and Skye, however, gave powers to the Caledonian to subscribe £100,000, just over one-fifth of authorised share capital, which implies a predatory intent.⁹⁷ The Caledonian also offered Dougall a management post at £2,000 per annum,⁹⁸ twice the minimum salary he agreed to accept to remain in Inverness.⁹⁹

⁹⁵ 24&25 Vic. cap.186, 1861, The Inverness and Perth Junction Railway Act.

⁹⁶ Minutes of the Inverness and Aberdeen Junction Railway, 7 July 1865, NAS/BR/IAJ/1/3, p.148; Minute 589 of the Caledonian Railway, 25 July 1865, NAS/BR/CAL/1/15, which indicated that the proposition for investment came from Inverness via Andrew Dougall, secretary to the Inverness and Aberdeen Junction Railway. Dougall became the Highland's general manager and secretary on amalgamation in June 1865.

⁹⁷ 28&29 Vic. cap.223, 1865, The Dingwall and Skye Railway Act, with authorised capital of £450,000 and borrowing powers of £150,000: the Caledonian Railway was authorised to subscribe £100,000, the Inverness and Aberdeen Junction £25,000 and the Inverness and Perth Junction £25,000.

⁹⁸ Minutes of the Highland Railway, 11 September 1865, NAS/BR/HR/1/1. pp.64-65.

⁹⁹ Minutes of the Highland Railway, 29 November 1865, NAS/BR/HR/1/1, p.70, recording a new agreement with Dougall as general manager and secretary at a minimum salary of £1,000 for seven years from 1 December 1865 'during which period he had signified his willingness to remain in the Company's employment': the Board also recorded their appreciation 'of the pecuniary sacrifice made by him in not accepting the offer made to him by the Caledonian Railway'; *Railway Times*, 7 December 1895, p.726; D Ross, 'The enigmatic Mr Dougall', *Highland Railway Journal*, 5, No.75 (Autumn 2005), p.13; D Ross, *The Highland Railway*, pp.96-102: Dougall resigned as general manager and secretary of the Highland Railway in December 1895 following allegations of irregular share dealing, but he left the company in February 1896 with a year's pay and his gold pass for travel. Dougall had joined the Inverness and Nairn Railway in 1855 and had therefore given over 40 years service to the Inverness web companies.

Highland minutes are silent about negotiations with the Caledonian, although in 1866 officers asked the board to protect their interests in the event of amalgamation with 'any of the great Companies in the South'.¹⁰⁰ Nevertheless, a response from the Caledonian was sent to Dougall in August 1865 '... in reply to the overtures made by the Highland Railway Company for a more intimate alliance with the Caledonian'.¹⁰¹ Some consideration of lease or amalgamation was therefore in progress at the time the Highland was incorporated and its directors would be aware of the scale of the company's debt. The Caledonian received a shareholder's proposition in November 1865 for the 'acquisition' of the Highland,¹⁰² but the *Railway Times* expected a lease:

... the [Highland] dividend is apparently to remain at one percent, until several capital liabilities are cleared off, and the line thereby made acceptable to the Caledonian on a lease of four percent.¹⁰³

The Caledonian withdrew its investment offer in August 1866 because '... in the present position of their finances, they were unable to take £50,000 of the Highland Company's Ordinary Stock as suggested by them last year',¹⁰⁴ but some negotiations continued. Caledonian records, although cursory, indicate that the draft of an agreement between the Caledonian and Highland was submitted in June 1867,¹⁰⁵ and, in July, Caledonian director Buchanan and Bruce, deputy chairman and managing director of the Highland, urged the Caledonian for a 'final adjustment'

¹⁰⁰ Minutes of the Highland Railway, 20 March 1866, NAS/BR/HR/1/1, item 9, p.132; Order of Business Book, Inverness and Aberdeen Junction Railway, 20 March 1866, NAS/IAJ/1/6, item 10, recording, in a response to a memorial from heads of department, 'Say that no arrangement of the kind alluded to is in contemplation, and also in the event of amalgamation this Board will do their best to protect the interests of the Memorialists'.

¹⁰¹ Minute 729 of the Caledonian Railway Board, 22 August 1865, NAS/BR/CAL/1/15.

¹⁰² Minute 1151 of the Caledonian Railway Board, 7 November 1865, NAS/BR/CAL/1/15.

¹⁰³ *Railway Times*, 27 April 1867, p.429, reviewing the Highland directors' report prior to the Ordinary General Meeting of the Highland Railway held on 29 April 1867.

¹⁰⁴ Minutes of the Highland Railway, 10 August 1866, NAS/BR/HR/1/1, p.193, recording a letter from the Caledonian Railway dated 8 August 1866.

¹⁰⁵ Minute 1608 of the Caledonian Railway, 11 June 1867, NAS/BR/CAL/1/15: Highland Railway minutes are silent on any negotiations with the Caledonian Railway.

of the agreement.¹⁰⁶ Temporary bank loans on the Highland at this point exceeded £½ million.¹⁰⁷ In August, the Caledonian recorded that an agreement had been finalised, presumably with Bruce's approval, but, in September, Dougall raised objections to proposed Caledonian charges, with which the Caledonian disagreed: 'Mr Dougall's alterations appear to be inconsistent with the spirit and intention of the Agreement ...'.¹⁰⁸ These clandestine negotiations, by which the Highland appears to have sought a solution to its financial difficulties, suggest that some disagreement may have arisen between Bruce and Dougall over the terms of the agreement or the authority of each in the negotiations because, just days after the Caledonian had questioned secretary Dougall's amendments to the apparently finalised document, the Highland directors took the unusual step of recording a minute expressing their 'entire confidence' in Bruce.¹⁰⁹ In February 1868, Bruce accepted a seat on the board of the London and North Western Railway, which strengthened the alliance of the Highland with the west-coast companies.¹¹⁰

A revised agreement was prepared in October 1867,¹¹¹ but, by then, the Caledonian was under investigation by its own shareholders due to 'distrust in the affairs of the

¹⁰⁶ Minute 1795 of the Caledonian Railway Board, 5 July 1867, NAS/BR/CAL/1/15: the Caledonian Board received letters from Buchanan and Bruce and the matter was remitted to the committee that met in London 'to settle the Agreement as soon as possible'.

¹⁰⁷ Appendix, table 11(e): temporary bank loans amounted to £535,000 in August 1867.

¹⁰⁸ Minute 1855 of the Caledonian Railway Board, 20 August 1867, NAS/BR/CAL/1/15, recording acceptance of an agreement 'as in draft revised in blue ink'; Minute 1908 of the Caledonian Railway Board, 16 September 1867, NAS/BR/CAL/1/15, reporting that Dougall had raised objections to the charges proposed by the Caledonian and resolving that the 'Gentlemen who met in London', who included Bruce, were to resolve the matter.

¹⁰⁹ Minutes of the Highland Railway, 25 September 1867, NAS/BR/HR/1/1, p.319: 'The Board take this opportunity of expressing their satisfaction with the manner in which he has managed his duties and to record their entire confidence in him'.

¹¹⁰ Minutes of the Highland Railway, 4 February 1868, NAS/BR/HR/1/1, p.363; Bradshaw's *Railway Almanack*, 1869, p.193; MC Reed, *The London and North Western Railway: a history*, p.37, identifies a long-standing Inverness link with the London and North Western Railway that had been established since the North Western's incorporation in 1847 through the statutory power of the Duke of Sutherland to nominate one director (initially George Loch) by virtue of his investment in that company.

¹¹¹ Minute 170 of the Caledonian Railway Board, 29 October 1867, NAS/BR/CAL/1/16, recording that a further draft of an agreement had been amended by the committee at a meeting in Perth on 12 October 1867, which was returned by the Highland board and recorded in minute 288 of the Caledonian Board on 19 November 1867, NAS/BR/CAL/1/16;

Company', and no further progress with the Highland was recorded.¹¹² The *Railway Times* reported:

The [Highland] directors announce ... that it is not their intention to promote any bill in the ensuing session. We take for granted, therefore, the lease by the Caledonian at 4 percent is adjourned *sine die*.¹¹³

The failure of the Highland to secure a lease with the Caledonian left its directors with growing bank debt, which reached £535,000 in February 1868 and £625,000 in 1869.¹¹⁴ The Great North was also indebted to banks; £274,527 was owed in July 1866 at the time of its branch amalgamations and its bank loans peaked at £350,348 in January 1868.¹¹⁵ This maximum was equivalent to 11 percent of the authorised capital raised by the Great North, but the Highland's bank borrowing, still rising in 1868, corresponded to 19 percent of its raised authorised capital.¹¹⁶ The

Minute 402 of the Caledonian Railway Board, 18 December 1867, NAS/BR/CAL/1/16, reporting that the agreement had been signed by the Highland and the board resolved to 'Execute Agreement', but no further reference was made thereafter in the minutes.

¹¹² Report of the Committee of Inquiry to the Shareholders of the Caledonian Railway Company, 3 January 1868, NAS/BR/RAC(S)/1/3 and NAS/BR/CAL/1/99: the shareholder inquiry into the running of the Caledonian Railway was established by a board minute of 22 October 1867; also NAS/BR/RAC(S)/1/3, paragraphs 45 and 46, pp.14-15, recommending the abandonment of all unnecessary works, which ended any prospect of further Caledonian progress towards a lease of the Highland; Minute 595 of the Caledonian Railway Board, 22 January 1868, NAS/BR/CAL/1/16, recording the offer of resignation from Lt Col Salkeld, chairman of the Caledonian, following the results of the inquiry.

¹¹³ *Railway Times*, 26 October 1867, p.1093; also *Railway Times*, 31 October 1868, p.115, recalling the Caledonian's 'offer to lock the Highland in its embrace at 4 percent ...'.

¹¹⁴ Appendix, table 11(e): Highland bank loans peaked at £625,000 during three half-years, ending February 1869, August 1869 and February 1870, falling to £605,000 in August 1870 and £520,000 in February 1871.

¹¹⁵ Appendix, table 10(f).

¹¹⁶ Accounts of the Great North of Scotland Railway, half year report to 31 January 1868, NAS/BR/RAC(S)/1/14, showing total capital raised from shares and debentures to be £3,171,552 and bank loans to be £350,348 (11.0%); Accounts of the Highland Railway, half year report to 29 February 1868, NAS/BR/HR/1/1, pp.380-81, showing total capital raised from shares and debentures to be £2,818,848 and bank loans to be £535,000 (19.0%); the Highland's ratio of bank debt to capital raised peaked at 22.2% by 28 February 1869 when bank debt reached £625,000 and total capital raised was £2,813,059; Appendix, tables 10(c); 10(f); 11(a) and 11(e): data of capital raised contained in Great North and Highland accounts

dependence on bank loans was therefore proportionally greater on the Highland, but the scale of its financial difficulties attracted less attention than the Great North because of the security provided by its directors.

The *Railway Times* reported a rumour in August 1866 of an amalgamation between the Great North and the Caledonian,¹¹⁷ later described as a possible working agreement.¹¹⁸ In November 1866, the Great North proposed that the Caledonian should work its lines at 38 percent of gross revenue.¹¹⁹ The Caledonian requested the Great North's accounts, which showed working expenses to be 44 percent, but the Great North responded that their expenses could be reduced to 40½ percent with lower train mileage and 'the saving in the cost of fuel by land as compared with sea carriage in the event of your working the line ...',¹²⁰ which illustrates the continued use of sea transport by the Great North south of Aberdeen. The Great North asked the Caledonian at what figure below 40¾ percent they would work the line 'with your numerous advantages and experience', asserting that 'we have gone to the very lowest point at once'.¹²¹ In January 1867, noting that the Great North owed £25,918 plus interest for work on the cross-Aberdeen railway via the Denburn Valley, the Caledonian declined to work the Great North, but agreed to explore a traffic agreement.¹²² Whilst in conference with the Caledonian, the Great North had

include the nominal receipts from shares issued as security for loans, which explain some of the fluctuations between half-years in the reported figures of total capital raised.

¹¹⁷ *Railway Times*. 25 August 1866, p.1014, reproducing a report from the *Dundee Advertiser*.

¹¹⁸ *Railway Times*, 15 December 1866, p.1437.

¹¹⁹ Minutes of the Finance Committee of the Great North of Scotland Railway, 23 November 1866, NAS/BR/GNS/1/6, p.126; Minute 711 of the Caledonian Railway Board, 4 December 1866, NAS/BR/CAL/1/15.

¹²⁰ Minutes of the Great North of Scotland Railway, 1 December 1866, NAS/BR/GNS/1/6, p.136.

¹²¹ Minutes of the Great North of Scotland Railway, 1 December 1866, NAS/BR/GNS/1/6, p.136 and p.139.

¹²² Minutes of the Great North of Scotland Railway, 29 January 1867, NAS/BR/GNS/1/6, pp.202-203, recording a reply from the Caledonian Railway dated 22 January 1867; Minute 995 of the Caledonian Railway Board, 22 January 1867, NAS/BR/CAL/1/15: the Caledonian had assumed responsibility for the Denburn Valley line across Aberdeen from the Scottish North-Eastern on amalgamation in August 1866.

postponed decisions on bank demands for repayment,¹²³ but Duncan told shareholders 'I regret to say that our negotiations have terminated'.¹²⁴ Caledonian records show repeated attempts to extricate payment from the Great North for Denburn work, which culminated in the Great North obtaining powers in 1867 to raise £41,600 in loans.¹²⁵ The bargaining position of the Great North was weak:

... the hopes of the proprietary of the Great North are rested upon a prospective amalgamation with the Caledonian, but until the company's affairs are established on a better basis, it would be in vain to expect good terms in such a transaction.¹²⁶

The Caledonian faced no competitive pressure to obtain control of the insolvent Great North; the scale of its debts and the nature of its isolated rural system precluded consideration of amalgamation whilst the rival east-coast alliance still relied on two major estuary crossings for a northern route. Indeed, if Great North creditors had forced the company into liquidation, its assets and routes would have been available for sale at a much reduced price and, given the concurrent negotiations with the Highland Railway, an agreement for traffic from the Inverness-Perth direct line offered greater prospective returns to the Caledonian than via Aberdeen.

¹²³ Minutes of the Great North of Scotland Railway, 3 December 1866, NAS/BR/GNS/1/6, p.141.

¹²⁴ Report to the adjourned Ordinary General Meeting of the Great North of Scotland Railway, 5 February 1867, NAS/BR/GNS/1/6, pp.211-12 and page 1 of inserted printed report.

¹²⁵ Examples of Caledonian demands for payment include 9 April 1861 (minute 1431) and 1 May 1867 (minute 1473), in minutes of directors and committees of the Caledonian Railway, NAS/BR/CAL/1/15, and 21 November 1867 (minute 298), NAS/BR/CAL/1/16; 30&31 Vic. cap.190, 1867, The Great North of Scotland Railway Act: the Great North was authorised to raise £41,600 in loans for the Denburn Valley Railway even though half of its £125,000 share capital authorised under 27&28 Vic. cap.111, 1864, The Denburn Valley Railway Act, had not been paid up.

¹²⁶ *Railway News*, 16 March 1867, p.271.

However, Caledonian plans were brought to an abrupt halt as the result of its own shareholder inquiry, which reported in January 1868. The 1849 inquiry had criticised the unjustified lease costs of the Scottish Central and the consequences of the Caledonian's rapid expansion, as chapter 3 has identified.¹²⁷ The 1867-68 inquiry recognised the 'securing, though at much too great a cost, a united line from Carlisle to Aberdeen',¹²⁸ but surmised:

... we are unable to place before you the results of the Scottish Central and Scottish North-Eastern Railways, but we very much doubt if either can have been beneficial to the Caledonian Proper. The Scottish North-Eastern has, we have no doubt, entailed a heavy loss, and is another fruit of reckless competition.¹²⁹

The inquiry reported a liability of £149,816 for the Callander and Oban line and concluded that 'this expenditure is not at all likely to be productive, and we have urged its abandonment', a proposal that had significance for the Dingwall and Skye Railway that is examined in the following chapter.¹³⁰ The inquiry judged that the high dividends paid by the Caledonian had been artificially inflated as the result of charging revenue items to capital and condemned 'the disastrous effects of competition and rivalry', recommending 'the abandonment of every work which can be stopped without evident injury to your undertaking'.¹³¹

¹²⁷ Report of the Committee of Investigation to the Shareholders of the Caledonian Railway Company, 1849, NAS/BR/CAL/1/98, p.7: the Committee concluded that 'the conduct of the Directors ... indicates a want of judgement and discretion' and that 'their over-zeal induced them to embark on schemes and speculation in an extent seriously compromising the safety of the Company'.

¹²⁸ Report of the Committee of Inquiry to the Shareholders of the Caledonian Railway Company, 3 January 1868, NAS/BR/RAC(S)/1/3, paragraph 45, page 14; *Railway Times*, 11 January 1868, p.22.

¹²⁹ Report of the Committee of Inquiry to the Shareholders of the Caledonian Railway Company, 3 January 1868, NAS/BR/RAC(S)/1/3, paragraph 26, page 10.

¹³⁰ Report of the Committee of Inquiry to the Shareholders of the Caledonian Railway Company, 3 January 1868, NAS/BR/RAC(S)/1/3, paragraph 28, page 10.

¹³¹ Report of the Committee of Inquiry to the Shareholders of the Caledonian Railway Company, 3 January 1868, NAS/BR/RAC(S)/1/3, paragraphs 45 and 46, pp.14-15: dividends paid of £7.7s.6d to 31 July 1866 and £5.17s.6d to 31 July 1867 should, in the view of the committee, have been £5.2s.0d and £2.18s 2d respectively, although the auditors considered even lower dividends of £4.10s.1d and £2.2s.4d respectively were warranted.

For a brief period, therefore, there had been a prospect of the Caledonian obtaining control of the entire existing northern railway system, although the state's rejection of the 'end-on' amalgamation of the Glasgow and South-Western and Midland Railways in 1867 suggests that a similar Caledonian, Highland and Great North arrangement might have fared no better.¹³² The Caledonian's own financial affairs, however, precluded any possible monopoly of the northern network and the Great North and the Highland were left independently to tackle a rising burden of debt, which threatened their financial viability.

The path to recovery

Both the Highland and the Great North faced mounting bank debt at the time of the collapse of Overend Gurney on 11 May 1866, which *Railway Times* estimated wiped over £10 million from the value of railway stock.¹³³ The resultant financial crisis was described contemporarily as 'the most important and serious stoppage ever announced in the City of London';¹³⁴ interest rates rose to 10 percent on 12 May.¹³⁵

¹³² J Simmons, *The Railway in England and Wales, 1830-1914*, vol.1 (Leicester, 1978), p.69, noting that the state rejected an amalgamation between the Glasgow and South-Western and the Midland Railways in 1867, 1872 and 1873; *Railway Times*, 10 August 1872, pp.811-12, commenting on the report of the joint committee of both Houses of Parliament on amalgamations, published on 1 August 1872: '... the conclusion of the inquiry is alike evasive and unsatisfactory. Much was expected – nothing is accomplished'; H Parris, *Government and the Railways in Nineteenth-Century Britain* (London, 1965), p.221, notes the withdrawal of large-scale English amalgamation schemes following the report of the parliamentary joint committee on railway amalgamations, 1872.

¹³³ *Railway Times*, 12 May 1866, pp.563-64, and 26 May 1866, p.613, reporting a meeting of Overend-Gurney shareholders held to consider re-establishing the company, at which the liabilities of Overend-Gurney were estimated at £20 million of which £12 million was on call and £8 million in securities: £2.8m. of this sum was reported as secured in various forms and ultimately realisable; *Railway News*, 15 December 1866, p.614, reported that liabilities had been reduced from £19 million to about £5 million following the realisation of assets; MC Reed, entry on 'Speculation', in J Simmons and G Biddle (eds.), *The Oxford Companion to British Railway History* (Oxford, 1997, re-issued 1999) p.464, gives the gross liabilities of Overend, Gurney and Company as 'over £18 million'.

¹³⁴ *Railway News*, 12 May 1866, p.510.

¹³⁵ Bradshaw's *Railway Almanack*, 1875 edition, appendix 12, p.83.

Many railway stocks had recovered by June (table 75)¹³⁶, but Cottrell notes that the 1866 crisis bankrupted the smaller finance houses and only five important companies survived.¹³⁷ Highland stock was not quoted on the London exchange until 1871, but £100 of Great North ordinary stock stood at just £15-16 in December 1867.¹³⁸

Table 75: Examples of railway share prices, May-June 1866

Closing prices	4 May 1866	11 May 1866	Reduction	18 May 1866	16 June 1866
Scottish companies (£)					
Caledonian	126 ½ - 127 ½	124 - 126	2 ½ - 1 ½	126 - 129	126 - 127
Glasgow and South-Western	112 - 114	111 - 113	1 - 1	112 - 114	112 - 114
North British	55 - 57	52 - 54	3 - 3	54 - 56	55 - 57
English companies (£)					
London and North Western	119 ½ - 120	115 ½ - 116 ½	4 - 3 ½	119 ½ - 120	117 - 117 ½
Midland	122 ¼ - 122 ½	118 ½ - 119 ½	3 ¾ - 3	122 ¼ - 123 ¼	123 ¼ - 124 ¼
North-Eastern (Berwick stock)	108 ½ - 109 ½	106 - 108	2 ½ - 1 ½	108 - 110	108 ½ - 109 ½

Source: *Railway Times*, 12 May 1866, p.564, 19 May 1866, p.592, and 16 June 1866, p.726.

Whenever economic events pushed interest rates upwards, railway companies seeking renewal of debenture loans could become locked into increased costs of servicing their debt and many explored converting debenture loans into debenture stock, offered with a fixed rate of interest to forestall future interest rate variations. However, such conversions required careful timing to coincide with periods of low interest rates. Furthermore, the more capital that was raised from guaranteed stock, the greater the proportion of revenue required to meet contracted payments, which left less revenue to provide a dividend to ordinary shareholders. The *Railway Times*

¹³⁶ *Railway Times*, 19 May 1866, p.592, commented that 'the idle terror which spread throughout the city in the latter part of last week originated in a desperate effort of a few jobbers to bring down the current value of shares' and concluded that the depreciation it reported on 12 May had taken place 'without one *bona fide* sale having taken place, in the space of eight days ...'.

¹³⁷ PL Cottrell, 'Railway Finances and the Crisis of 1866: contractors' bills of exchange and finance companies', pp.34-35: Cottrell concludes that the Overend Gurney collapse depressed railway securities on the stock exchange until 1870 and, in particular, hindered the conversion of debenture loans, which had previously been regarded as 'riskless', into debenture stock.

¹³⁸ Minutes of the Highland Railway, 5 December 1871, NAS/BR/HR/1/2, p.124, recording that Bruce was charged to arrange for Highland stock to be quoted on the London Exchange Share Lists; *Railway Times*, 7 December 1867, p.1233, quoting Great North shares at £15-16 on £100 par value.

described debentures as '... dangerous, they are erratic, they are uncontrollable', and argued that the original intention had been that such loans were to be paid off and not converted into long-term debt.¹³⁹ When the South-Eastern Railway in England issued a debenture stock at 5 percent, the *Railway News* was critical:

The preference shareholders are provided for, the debenture holders have power to protect themselves, but the holders of ordinary stock are entirely at the mercy of the directors ...¹⁴⁰

This *Railway News* article was circulated by Great North secretary Ferguson to his board and the North of Scotland Bank when a similar debenture conversion was under consideration in Aberdeen.¹⁴¹

Both the Highland and Great North were heavily reliant on preference stock and debenture loans; the Highland held 55.6 percent of capital raised in the form of preferences and debentures in August 1867, while the Great North held 69.3 percent in July 1867.¹⁴² However, the 24.8 percent of capital raised by debentures on the Highland and the 24.5 percent on the Great North are close to the British average of 26-27 percent derived by Irving and therefore the significant proportions of capital raised by preference stock, 30.8 percent on the Highland and 44.8 percent on the Great North, support Irving's argument that the contribution made by preference and

¹³⁹ *Railway Times*, 28 July 1866, p.886; H Pollins, 'Aspects of Railway Accounting before 1868', in MC Reed (ed.), *Railways in the Victorian Economy* (Newton Abbot, 1969), p.141.

¹⁴⁰ *Railway News*, 30 May 1868, p.568.

¹⁴¹ Minutes of the Great North of Scotland Railway, 4 June 1868, NAS/BR/GNS/1/7, p.290.

¹⁴² Accounts of the Highland Railway to 31 August 1867, in minutes of the Highland Railway, 30 October 1867, NAS/BR/HR/1/1, pp.332-33: the Highland had raised capital of £2,813,473 of which preference stock accounted for £866,235 (30.79%) and debentures for £697,872 (24.80%); Accounts of the Great North of Scotland Railway to 31 July 1867, NAS/BR/RAC(S)/1/14: the Great North had raised capital of £3,087,451 of which £1,381,530 (44.75%) was in preference stock and £756,579 (24.50%) in debentures: TR Gourvish, *Railways and the British Economy 1830-1914* (London, 1980), p.18, identifies that, by 1870, 48% of United Kingdom capital excluding loans required fixed interest payments.

guaranteed stock to railway capital has been understated.¹⁴³ It was against this unpromising background that the two companies began their financial recovery.

- **refinancing the Great North of Scotland Railway**

In October 1866, deputy chairman Duncan had suggested the reconstruction of the Great North board¹⁴⁴ and, when shareholders reconvened in December, North of Scotland Bank manager Robert Lumsden commented to applause that 'the Board, as presently constituted, does not appear to enjoy in a high degree the confidence of the shareholders ...'.¹⁴⁵ A delay in reconstituting the board was agreed because the company was not only negotiating with the Caledonian Railway but also with its bankers, who began to take a more strategic role in the Great North. Accountant Fletcher's report had recommended that the company should obtain powers to issue a pre-preference stock to rank before any other preferences, but that proposal aroused concern from the Aberdeen Town and County Bank about the value of stock held in security, which secretary Ferguson had to diffuse by confirming that 'there was no intention to force the new Bill on lenders without their consent'.¹⁴⁶ Lumsden's North of Scotland Bank offered a temporary advance, but other banks continued to demand debt repayment.¹⁴⁷ The critical role of the banks was highlighted when Duncan consulted Lumsden on the constitution of a new board; Lumsden then

¹⁴³ RJ Irving, 'The capitalisation of Britain's Railways 1830-1914', *Journal of Transport History*, 3rd series, 5, No.1 (March 1984), pp.3-4 and appendix 3, pp.21-22, suggests that the proportion of funds obtained through loans and debentures remained steady at 26-27% between 1830 and 1890; Appendix, tables 10(c) and 11(a): the Great North and Highland companies began to replace debenture loans with debenture stock from 1869, but only nominal amounts were converted before their debts were cleared in 1872.

¹⁴⁴ Report to the 28th Ordinary General Meeting of the Great North of Scotland Railway, 2 October 1866, NAS/BR/GNS/1/6, pp.87-88 and page 3 of inserted printed report.

¹⁴⁵ Minutes of a reconvened Ordinary General Meeting of the Great North of Scotland Railway, 4 December 1866, NAS/BR/GNS/1/6, p.143.

¹⁴⁶ Minutes of the Great North of Scotland Railway, 12 December 1866, NAS/BR/GNS/1/6, pp.151-52.

¹⁴⁷ Minutes of the Great North of Scotland Railway, 18 December 1866, NAS/BR/GNS/1/6, p.157: the North of Scotland Bank provided a temporary advance of £14,000.

submitted a list of directors that would command support from the bank.¹⁴⁸ At the reconvened shareholders' meeting in February 1867, it was Lumsden who proposed acceptance of the resignations of five directors, including chairman Elphinstone, the reappointment of six existing directors, the nomination of Duncan as the new chairman, and the appointment of six new directors.¹⁴⁹ The North of Scotland Bank as a principal creditor therefore took a central role in determining the revised direction of the Great North of Scotland Railway. Moreover, to achieve savings, Lumsden explored with Bruce of the Highland a possible closure of the Morayshire's Rothes-Elgin line, used by the Great North, and the establishment of a joint-purse arrangement between the Highland and the Great North, which provides further evidence of the involvement of bankers in the strategic planning of a northern railway company.¹⁵⁰

Dividend on the proposed pre-preference stock was to be paid after debentures and before existing preference stock, but Duncan warned of difficulty in Parliament,¹⁵¹ where Lord Redesdale, chairman of the House of Lords' Private Bills Committee, was resistant to the creation of such stocks.¹⁵² Some shareholders took legal advice to protect their position¹⁵³ and the North of Scotland, Aberdeen Town and County and National Banks and the Scottish Provident Assurance Company petitioned against the Great North's proposal.¹⁵⁴ Duncan warned his new board that 'that they

¹⁴⁸ Minutes of the Great North of Scotland Railway, 8 January 1867, NAS/BR/GNS/1/6, p.179 and 4 February 1867, NAS/BR/GNS/1/6, p.205.

¹⁴⁹ Minutes of an adjourned Ordinary General Meeting of the Great North of Scotland Railway, 5 February, 1867, NAS/BR/GNS/1/6, p.212; Duncan was confirmed as chairman at the board meeting of 12 February, NAS/BR/GNS/1/6, p.212.

¹⁵⁰ Letter from Bruce of the Highland Railway, dated 28 December 1868, replying to Lumsden of the North of Scotland Bank, in minutes of the Finance, Works and Traffic Committee of the Great North of Scotland Railway, 7 January 1869, NAS/BR/GNS/1/7, p.545.

¹⁵¹ Report of the Ordinary General Meeting of the Great North of Scotland Railway, 5 February 1867, NAS/BR/GNS/1/6, pp.211-12 and page 1 of inserted report.

¹⁵² *Railway Times*, 13 July 1867, p.697.

¹⁵³ Minutes of the Finance and Works Committee of the Great North of Scotland Railway. 14 February 1867, NAS/BR/GNS/1/6, p.220.

¹⁵⁴ Minutes of the Great North of Scotland Railway, 28 February 1867, NAS/BR/GNS/1/6, p.240.

will not find it idle play ... it requires all the skill of tried financial and business men to conduct the affairs of a company such as this'.¹⁵⁵

Shareholder meetings in Aberdeen, Glasgow, Liverpool and London approved the Great North's bill that sought powers for £330,000 of 4½ percent pre-preference stock 'to provide for the liquidation of the Floating Debt'.¹⁵⁶ In March 1867, faced with the alternative option of forcing the Great North into liquidation with a consequential loss of bank capital, the North of Scotland, Aberdeen Town and County and National Banks agreed a refinancing arrangement with the Great North.¹⁵⁷ The agreement, however, was dependent upon parliamentary authorisation of pre-preference capital and its acceptance by shareholders because the Great North was required to use pre-preference receipts to redeem outstanding loans. The banks agreed to hold the rate of interest on debts to 4 percent for three years and allow repayment over five years, thus giving the Great North a period of some stability within which to restore its financial affairs.

The Great North reported to the banks that opposition to the pre-preference proposals had been withdrawn,¹⁵⁸ but, at the ensuing shareholders' meeting in April, the directors urged shareholders to return their papers giving assent to the pre-preference issue and reinforced their appeal with a circular to 'non-assenters'.¹⁵⁹ By May, shareholders representing £156,230 of stock had still to consent and the Great

¹⁵⁵ Report of the Ordinary General Meeting of the Great North of Scotland Railway, 5 February 1867, NAS/BR/GNS/1/6, pp.211-12 and page 3 of inserted report.

¹⁵⁶ Report to the Special General Meetings of the Great North of Scotland Railway, 12, 13 and 14 March 1867, NAS/BR/GNS/1/6, pages 249, 250 and 251 and pages 1 and 3 of inserted printed report: the bill had proposed powers for £378,000 of pre-preference stock, but the Board recommended a sum of £330,000; Circular to shareholders to state that opposition to the pre-preference stock had been withdrawn at meetings in Glasgow, Liverpool, and London, 25 March 1867, in accounts of the Great North of Scotland Railway, NAS/BR/RAC(S)/1/14.

¹⁵⁷ Minutes of the Great North of Scotland Railway, 28 March 1867, NAS/BR/GNS/1/6, pp.257-60.

¹⁵⁸ Minutes of the Great North of Scotland Railway, 28 March 1867, NAS/BR/GNS/1/6, p.261.

¹⁵⁹ Report to the 29th Ordinary General Meeting of the Great North of Scotland Railway, 17 April 1867, NAS/BR/GNS/1/6, pp.299-300 and page 2 of inserted printed report and 25 April 1867, NAS/BR/GNS/1/6, p.309.

North's parliamentary agents reported 'the obstinacy of Lord Redesdale upon the Preference Question'.¹⁶⁰ Parliament struck out the pre-preference capital from the Great North bill, but authorised the amalgamation of the Great North and Banffshire Railways and loan capital for the cross-Aberdeen rail link.¹⁶¹ The agreement with the banks therefore terminated because of the rejection of the pre-preference clauses.

The Great North held £367,940 of floating debt at this juncture,¹⁶² already reduced by selling Deeside Railway shares held without sanction.¹⁶³ The Great North re-opened negotiations with banks, seeking to use preference stock authorised for the Formartine and Buchan Railway to raise capital.¹⁶⁴ The banks still faced the dilemma that their funds were at risk if the Great North was precipitated into bankruptcy. The Aberdeen Town and County Bank continued to press for payment¹⁶⁵ and declined to accept a draft agreement with the Great North submitted in November 1867,¹⁶⁶ although, in December, the North of Scotland and National

¹⁶⁰ Minutes of the Great North of Scotland Railway, 2 May 1867, NAS/BR/GNS/1/6, p.320.

¹⁶¹ 30&31 Vic. cap.190, 1867, The Great North of Scotland Railway Act; Minutes of the Great North of Scotland Railway, 15 August 1867, NAS/BR/GNS/1/6, p.443; Report to the 30th Ordinary General Meeting of the Great North of Scotland Railway, 3 October 1867, NAS/BR/GNS/1/6, pp.519-20 and page 2 of inserted printed report.

¹⁶² Report to the 30th Ordinary General Meeting of the Great North of Scotland Railway, 3 October 1867, NAS/BR/GNS/1/6, pp.519-20 and page 2 of inserted printed report setting out that £303,171 was owed to bankers, £31,013 was owed for work on the Denburn Valley scheme and £33,756 was owed on bills; page 3 also records that £30,000 of Deeside stock had been sold to reduce debts.

¹⁶³ Report to the 30th Ordinary General Meeting of the Great North of Scotland Railway, 3 October 1867, NAS/BR/GNS/1/6, pp.519-20 and page 3 of inserted printed report, recording that £30,000 of Deeside stock had been sold to reduce debts; Report of the Committee of Investigation dated 22 April 1865, in minutes of the Great North of Scotland Railway, 26 April 1865, NAS/BR/GNS/1/5, pp.346-47 and page 2 of inserted printed report, which identified that £86,982 had been invested by the Great North in Deeside shares without sanction.

¹⁶⁴ Minutes of the Finance and Works Committee of the Great North of Scotland Railway, 24 October 1867, NAS/BR/GNS/1/6, p.545.

¹⁶⁵ Minutes of the Finance and Works Committee of the Great North of Scotland Railway, 29 August 1867, NAS/BR/GNS/1/6, p.459: the Aberdeen Town and County Bank claimed £7,498 was due as accumulated interest.

¹⁶⁶ Minutes of the Finance and Works Committee of the Great North of Scotland Railway, 21 November 1867, NAS/BR/GNS/1/7, p.14, recording that a draft agreement had been sent to the banks for comment; Minutes of the Finance and Works Committee of the Great North of Scotland Railway, 5 December 1867, NAS/BR/GNS/1/7, p.40, recording that the Aberdeen Town and County Bank had declined to accept the agreement.

Banks were 'disposed to enter into the Agreement under certain modifications as to the amount of Stock to be taken in absolute discharge of their debts ...'.¹⁶⁷ Meanwhile, the Great North faced legal action from shareholders over the distribution of preferential dividends; in October 1867, original preference and preference A stock was paid just under half the dividend due to each and preference B stock received nothing.¹⁶⁸

Table 76: Share movements in the refinancing of the Great North, 1868

	Purchased at par: Formartine and Buchan Preference stock (£)	Purchased at par: Aberdeen and Turriff Preference stock (£)	Discharged Debt (£)	Shares returned from bank security (£)
National Bank	53950	7700	61650	
North of Scotland Bank	30970	17700	48670	
Loans replaced by share ownership	84920	25400		64370 ('B' shares) 22970 (F&B shares) 10000 (A&T shares) (£97340 in total)
Reduction of Great North of Scotland floating debt			110320	
Source: Draft agreement with the National and North of Scotland Banks, in minutes of the Great North of Scotland Railway, 1 April 1868, NAS/BR/GNS/1/7, p.212.				

A new agreement was finalised between the Great North and the North of Scotland and National Banks in April 1868, which allowed the Great North's recovery to begin in earnest.¹⁶⁹ Both banks agreed to purchase £110,320 of preference shares at par and returned £97,340 of stock held in security (table 76). The Great North was required to use the proceeds to redeem loans and the two banks therefore became full shareholders in the company. The agreement was risky for the banks, but it enabled the Great North to reduce its floating debt significantly and the resulting

¹⁶⁷ Minutes of the Great North of Scotland Railway, 26 December 1867. NAS/BR/GNS/1/7, p.72.

¹⁶⁸ Report to the 30th Ordinary General Meeting of the Great North of Scotland Railway, 3 October 1867, NAS/BR/GNS/1/6, pp.519-20: holders of original 5% preference stock received £2.8s, 4½ % preference A received £2 3s and 4½ % preference B received nothing; Minutes of the Great North of Scotland Railway, 26 December 1867 and 9 January 1868, NAS/BR/GNS/1/7, p.73 and p.85, recording proposed summonses from two lawyers on behalf of shareholders regarding the allocation of dividends between preferential stocks.

¹⁶⁹ Minutes of the Great North of Scotland Railway, 30 March 1868 and 1 April 1868, NAS/BR/GNS/1/7, p.210 and p.212.

lower debt charges released more revenue to begin repaying other debt and preferential dividends. Consequently, bank debt fell sharply from £350,348 in January 1868 to £181,549 in July 1868.¹⁷⁰ The North of Scotland Bank purchased a further £37,500 of Buchan preference stock at par in April 1868 to clear the arrears on the Buchan Railway bank account.¹⁷¹ By October, shareholders were told that £136,010 of preference stock previously held by the banks in security had been returned to the company and cancelled.¹⁷² With additional receipts, bank debt fell further to £94,331 by January 1869.¹⁷³

During these refinancing negotiations, the Great North had sought maximum economy in the operation of its lines to maximise revenue.¹⁷⁴ When asked for £18,200 for replacement rolling stock spread over 6 years, the board agreed to put aside just £1,000 per half-year for renewals.¹⁷⁵ However, secretary Ferguson advised:

It is to a reduction of the rate of interest on the debenture debt and the improvement of the Traffic that we must look for a return of prosperity and to that end all our efforts must be directed. There is nothing to hope for from reduction in working expenses and renewals as our first duty must be to keep up the value of the property judiciously and well.¹⁷⁶

¹⁷⁰ Appendix, table 10(f).

¹⁷¹ Minutes of the Great North of Scotland Railway, 23 April 1868, NAS/BR/GNS/1/7, p.238.

¹⁷² Report to the 32nd Ordinary General Meeting of the Great North of Scotland Railway, 8 October 1868, NAS/BR/GNS/1/7, p.447 and page 4 of inserted printed report: the £136,010 of stock returned and cancelled was 4½ % Great North preference B stock.

¹⁷³ Appendix, table 10(f).

¹⁷⁴ CJA Robertson, entry on 'William Ferguson' in A Slaven and S Checkland (eds.), *Dictionary of Scottish Business Biography 1860-1960*, vol.2 (Aberdeen, 1990), p.279, noting that between 1867 and 1879, Great North revenue rose by 57.6% and expenditure fell by 15.5% as a result of moving some revenue costs to capital, higher fares and goods rates, minimal maintenance, no system extensions and minimal track or rolling stock replacement.

¹⁷⁵ Minutes of the Great North of Scotland Railway, 10 September 1868, NAS/BR/GNS/1/7, p.416.

¹⁷⁶ Minutes of the Finance and Works Committee of the Great North of Scotland Railway, 4 June 1868, NAS/BR/GNS/1/7, p.293.

Ferguson suggested that debenture loans should be replaced by debenture stock to stabilise interest payments, a proposal supported by the North of Scotland Bank, which advocated a 5 percent stock payable by instalments whilst such a rate remained attractive.¹⁷⁷ Discount rates in July 1868 were 2 percent, but the board concluded 'that it is not advisable under existing circumstances of this Company to issue Debenture Stock at such a high rate'¹⁷⁸ and it was not until October that the creation of debenture stock was agreed, provided the offer was available to all shareholders.¹⁷⁹

In April 1869, Duncan was able to report that 'We have nearly got rid of a most overwhelming load of debt ...',¹⁸⁰ although the Great North remained in default in paying preference dividend.¹⁸¹ The capital account returned to balance in 1869,¹⁸² and the revenue surplus earned from the Great North system rose steadily (table 77).

¹⁷⁷ Letter from the North of Scotland Bank dated 3 June 1868 in minutes of the Finance and Works Committee of the Great North of Scotland Railway, 4 June 1868, NAS/BR/GNS/1/7, p.294: 'The weather in money matters is too severe and it will again in the course of a few years get stormy but now is the time to put your finances in a permanently stable position ...'.

¹⁷⁸ Minutes of the Great North of Scotland Railway, 23 July 1868, NAS/BR/GNS/1/7, p.362; Bradshaw's *Railway Almanack*, 1875 edition, appendix 12, p.83.

¹⁷⁹ Minutes of the Finance, Works and Traffic Committee of the Great North of Scotland Railway, 22 October 1868, NAS/BR/GNS/1/7, pp.471-72: conversion of debenture loans to debenture stock up to a limit of £100,000 was agreed in principle by the committee and by the board (22 October 1868, p.474), but the decision was also subject to Lumsden's approval and the views of the National Bank, which considered that 5% was too high a rate for the stock (29 October 1868, p.478); Appendix, table 10(c), showing that only £11,915 of debenture stock was issued in 1869-71; Report of the Special General Meeting of the Great North of Scotland Railway, 10 October 1871, NAS/BR/GNS/1/9, p.72, at which shareholders approved conversion of debenture loans into debenture stock 'provided the rate did not exceed 4½ %'.

¹⁸⁰ Report to the 33rd Ordinary General Meeting of the Great North of Scotland Railway, 8 April 1869, NAS/BR/GNS/1/8, pp.53-56 and page 3 of inserted printed report.

¹⁸¹ Report to the 33rd Ordinary General Meeting of the Great North of Scotland Railway, 8 April 1869, NAS/BR/GNS/1/8, pp.53-56: 5% original preference shares received £1.7s.9d, 4½ % preference A shares received £1 5s and 4½ % preference B shares received nothing.

¹⁸² Appendix, table 10 (c): the capital account to 31 July 1869 shows a surplus of £41,813 compared to a deficit of £182,695 in July 1868.

Table 77: Revenue data for the Great North of Scotland Railway, 1867-74

(£)	31 July	1867	1868	1869	1870	1871	1872	1873	1874
Total annual revenue		165578	180770	180909	184608	196918	209168	219921	240764
Total annual expenditure		100800	115264	96443	94663	98926	99218	111278	119637
Net surplus after debenture interest		39243	29707	43004	48996	58075	71604	71387	83851
Debt owed to banks		345972	181549	91963	32674	10300	0	0	0
Ordinary dividend:									
- to 31 Jan	0	0	0	0	0	0	0	0	½ %
- to 31 July	0	0	0	0	0	0	0	0	1 1/8 %
Sources: Appendix, table 10(d); Accounts of the Great North of Scotland Railway, 1849-75, NAS/BR/RAC(S)/1/14.									
(1): Revenue data is shown from 1867, after one year of operation following the amalgamation of the Great North with its allied branch companies on 31 July 1866.									

The rapid reduction of bank lending resulted in a steady improvement in debt gearing (table 78), which, in 1871, reached the level that the Great North had last experienced in 1862-64.¹⁸³ The refinancing agreement with two banks had, therefore, provided the means for the Great North to recover slowly from its deep financial difficulties. In January 1871, the Great North's share price was quoted as £17-19 per £100, but by November, it had increased to £37-39, although still only two-fifths of its par value.¹⁸⁴

Table 78: Financial indicators for the Great North of Scotland Railway, 1867-74

(£)	07.1866	01.1867	07.1867	07.1868	07.1869
Gross annual revenue	103785	130785	165578	180770	180909
Ratio of debentures to capital raised	22.9%	24.5%	24.5%	27.2%	27.3%
Ratio of gross revenue to total debt	0.141	0.119	0.156	0.178	0.192
(£)	07.1870	07.1871	07.1872	07.1873	07.1874
Gross annual revenue	184608	196918	209168	219921	240764
Ratio of debentures to capital raised	28.0%	28.0%	28.1%	28.0%	27.4%
Ratio of gross revenue to total debt	0.207	0.226	0.242	0.255	0.279
Source: Appendix, table 10(e).					
(1): Comparative gearing ratios for the Caledonian Railway in 1849-50 were 24.5% for debentures/capital and 0.162 for gross revenue/debt.					
(2): July 1866 data relates to the Great North prior to amalgamation with branch companies and is shown for comparison.					

¹⁸³ Appendix, table 10(e); the debt gearing for the Great North in 1862 was 0.237, 0.281 in 1863 and 0.224 in 1864.

¹⁸⁴ *Railway Times*, 7 January 1871, p. 9, and 18 November 1871, p. 1121: the *Railway Times* gave no quotations for Great North stock from 18 November 1859 (when prices were quoted for £10 shares at £10¼ - 10¾) until 21 September 1867 (p. 969) when a price of £16-18 was quoted for £100 of stock; on 18 April, 1874, *Railway Times* quoted a price of £50-52 (p. 408) and, by 26 December 1874, the price had reached £65-67 (p. 1278).

The *Railway News* reported of the Great North that "We can scarcely point in the whole railway system to a line which has made progress more marked ... or more gratifying...,"¹⁸⁵ while the *Railway Times* commended the 'rigorous economy and well-planned finance' of the company.¹⁸⁶ Duncan recalled the Great North in 1866:

The difficulty then was to find who would go on to this sinking ship, and imperil his life and means to keep up a rickety concern that was going as fast as possible to the bottom ...¹⁸⁷

Nevertheless, arrears in preferential dividends continued to rise and, by January 1871, totalled £44,555, although floating debt was eliminated by January 1872.¹⁸⁸ The company's recovery allowed the full payment of preference dividends on 5 percent and 4½ percent A stock in March 1872, but 4½ percent B stock, representing one-fifth of all preference stock issued, still received no dividend.¹⁸⁹ William Leslie, who succeeded John Duncan as chairman in October 1871,¹⁹⁰ indicated the board's intent to capitalise the arrears of preference dividend.¹⁹¹ At the shareholders' meeting in October 1872, the directors formally proposed capitalisation powers since, otherwise, it would take between three and five years to pay arrears

¹⁸⁵ *Railway News*, 30 September 1871, p.458.

¹⁸⁶ *Railway Times*, 8 April 1871, p.341.

¹⁸⁷ Report of the 36th Ordinary General Meeting of the Great North of Scotland Railway, 4 October 1870, NAS/BR/GNS/1/8, p.486.

¹⁸⁸ Report to the 37th Ordinary General Meeting of the Great North of Scotland Railway, 30 March 1871, NAS/BR/GNS/1/9, pp.7-10; Appendix, tables 10(c) and 10(f).

¹⁸⁹ Report to the Ordinary General Meeting of the Great North of Scotland Railway, 28 March 1872, NAS/BR/GNS/1/9, pp.119-22; Appendix, table 10(c), showing in 1872 that £291,090 of 5% preference, £482,050 of 4½ % preference A and £218,030 of 4½ % preference B stock had been issued: B preference shares therefore represented 21.99% of all preference stock.

¹⁹⁰ Minutes of the Great North of Scotland Railway, 19 October 1871, NAS/BR/GNS/1/9, p.73, reporting the election of Lord Provost William Leslie as chairman, although Duncan remained on the board: the death of John Duncan on 12 December 1874 was reported in the minutes of the Great North of Scotland Railway, 24 December 1874, NAS/BR/GNS/1/9, p.455.

¹⁹¹ Report of the 29th Ordinary General Meeting of the Great North of Scotland Railway, 28 March 1872, NAS/BR/GNS/1/9, pp.119-22 and page 1 of inserted printed report.

from revenue and therefore ordinary shareholders would have no prospect of any return.¹⁹² At the same meeting, secretary Ferguson, who had reduced his salary voluntarily in 1866 from £600 to £350 as one of the economy measures, had his salary raised to £500.

The directors made an agreement with the holders of the 4½ percent B preference shares, issued 'when the affairs of the Company were in a very inflated position ...', whereby preference B dividends were to be restricted initially to 3 percent for up to five years to allow scope to offer some ordinary shareholder dividend because 'considerably more than one-half of the ordinary stock' was held in Liverpool.¹⁹³ The company wished to rebuild the status of ordinary shares on the national capital market and powers for such a restriction were therefore included in the 1873 act which capitalised arrears of preference dividend into a 4 percent preference stock.¹⁹⁴ The January 1874 accounts show that 5 percent preference and 4½ percent preference A dividends were paid in full, and preference B holders received 3 percent, which allowed the payment of a one-half percent dividend to ordinary shareholders, the first such ordinary dividend since 1864.¹⁹⁵ The holders of these B preference holders are unknown, but their benevolent action suggests that many must have been closely associated with the Great North board.

Revenue and debt gearing continued to strengthen between 1871 and 1874.¹⁹⁶ The improving finances of the company allowed the board in 1872 to agree to progress

¹⁹² Report to the 40th Ordinary General Meeting of the Great North of Scotland Railway, 4 October 1872, pp.181-86 and page 1 of inserted printed report.

¹⁹³ Report to the Extra-ordinary General Meeting of the Great North of Scotland Railway, 12 February 1873, NAS/BR/GNS/1/9, pp.237-38 and page 1 of inserted printed report.

¹⁹⁴ 36&37 Vic cap.104, 1873, The Great North of Scotland Railway Act, in which arrears of dividend on 5 percent preference stock were consolidated into a redeemable 4 percent preference stock.

¹⁹⁵ Report to the 43rd Ordinary General Meeting of the Great North of Scotland Railway, 27 March 1874, pp.376-78 and page 1 of inserted printed report; Appendix, table 10(d).

¹⁹⁶ Appendix, tables 10(d) and 10(e); debt gearing at 31 July 1871 was 0.226 and at 31 July 1874 was 0.279. Gross annual revenue rose from £196,918 in July 1871 to £240,764 in July 1874.

the extension of the Banffshire Railway from Portsoy to Buckie,¹⁹⁷ which had been postponed in 1865.¹⁹⁸ However, the decade following the Great North's financial crisis of 1866-68 was one of consolidation for the company and the route of this extension was still under negotiation in 1875.¹⁹⁹

- hidden debt: the Highland Railway

This chapter has identified that the Highland held larger temporary debt than the Great North, which continued to grow until 1869.²⁰⁰ Matheson claimed that 'The opening of the Highland has given the northern counties a fresh start',²⁰¹ but the *Railway News* noted the onset of a 'period of trial and financial depression' for the Highland 'after a short period of apparent prosperity'.²⁰² The Highland succeeded in negotiating bank loans in 1866 for three years at 5 percent,²⁰³ but the Great North had to pay 6 percent in 1866-67.²⁰⁴ The greater financial influence of the Highland

¹⁹⁷ Minutes of the Great North of Scotland Railway, 22 August 1872, NAS/BR/GNS/1/9, p.162.

¹⁹⁸ Minutes of the Great North of Scotland Railway, 18 May 1865, NAS/BR/GNS/1/5, p.391; 30&31 Vic. cap.190, 1876, the Great North of Scotland Act, in which the Great North and Banffshire Railways were amalgamated, but also in which the proposed Banffshire extension from Portsoy to Buckie was abandoned.

¹⁹⁹ Minutes of the Great North of Scotland Railway, 5 August 1875, NAS/BR/GNS/1/9, p.530; the Buckie line was authorised under 45&46 Vic. cap.126, 1882, The Great North of Scotland (Buckie Extension) Act; *Railway Times*, 11 September 1886, p.326: the railway did not reach Buckie until May 1886 when the coastal route from Portsoy to Elgin opened.

²⁰⁰ Appendix, table 10(f) and 11(e).

²⁰¹ *Railway Times*, 5 May 1866, pp.514-15.

²⁰² *Railway News*, 12 May 1866, p.505.

²⁰³ *Railway Times*, 5 May 1866, pp.514-15: Matheson reported to the Ordinary General Meeting of the Highland Railway held on 27 April 1866 that, in the previous half-year from 31 August 1865 to 28 February 1866, the Highland had paid 'the current rate' of 7% interest; Report to the Ordinary General Meeting of the Highland Railway, 27 April 1866, NAS/BR/HR/1/1, pp.148-49 and page 2 of inserted printed report: '... the floating debt of the Company has been consolidated and is to bear interest at the rate of 5 percent from Whitsuntide next'. These 5% loans were negotiated in December 1865 and January 1866 (footnotes 216, 217, 218 and 219).

²⁰⁴ *Railway Times*, 8 April 1871, p.334, quoting Duncan's address to the Ordinary General Meeting of the Great North of Scotland Railway held on 30 March 1871; Report of the

was also evident from the stock supplied as security. Its temporary loan debt was closely matched by stock at par value due to the additional security given by the personal guarantees of directors, whereas the Great North had to supply significantly more stock than the value of its loans, reflecting its lower credit status (table 79).

Table 79: Bank debt and stock held in security: the Great North and Highland Railways, 1867-72

Great North of Scotland (£)	01.1867	07.1867	01.1868	07.1868	01.1869	07.1869
Balances due to bankers	345972	303171	350348	181549	94331	91963
Stock held in security	457240	448266	456973	162040	132361	131512
Highland (£)	02.1867	08.1867	02.1868	08.1868	02.1869	08.1869
Balances due to bankers	505000	535000	535000	565000	625000	625000
Stock held in security	505000	535000	535000	565000	524000	524000
Great North of Scotland (£)	01.1870	07.1870	01.1871	07.1871	01.1872	07.1872
Balances due to bankers	39099	32674	32695	10300	0	0
Stock held in security	47061	37636	37538	18400	6000	6000
Highland (£)	02.1870	08.1870	02.1871	08.1871	02.1872	08.1872
Balances due to bankers	625000	605000	520000	450000	0	0
Stock held in security	524000	504000	384000	274000	0	0
Sources: Appendix, tables 10(c) and 11(e); Accounts of the Great North of Scotland Railway, 1849-75, NAS/BR/RAC(S)/1/14.						
(1): The significant fall in the amount of Great North stock held in security between the first and second half years of 1868 reflects the impact of the refinancing package agreed with its bankers on 1 April 1868.						

The new Highland Railway quickly appreciated the impact on its revenue from the tolls agreed by the Inverness and Perth Junction with the Scottish North-Eastern in 1861 for use of the line into Perth, identified in the previous chapter.²⁰⁵ The annual cost was close to £10,000,²⁰⁶ but a request to convert the tolls into a fixed annual payment of £5,000 was refused by the Scottish North-Eastern.²⁰⁷ Despite mounting debt, the Highland proposed construction of its own line into Perth although, as Sinclair suggests, the promotion was doubtless intended as a competitive lever to

Ordinary General Meeting of the Great North of Scotland Railway, 30 March 1871, NAS/BR/GNS/1/9, p.10.

²⁰⁵ Minutes of the Scottish North-Eastern Railway, 7 February 1861, NAS/BR/SNE/1/1, p.397-98.

²⁰⁶ Appendix, table 11(b).

²⁰⁷ Minutes of the Highland Railway, 22 September 1865, NAS/BR/HR/1/1, p.25; Minutes of the Directors of the Scottish North-Eastern Railway, 8 September 1865, NAS/BR/SNE/1/3, p.59.

seek better terms.²⁰⁸ The cost of this new 11 mile line was estimated at £124,000, but, following an arbiter's report, the directors acknowledged the strained finances of the company.²⁰⁹ An agreement for use of the Perth line was finalised in June 1866 at an annual charge of £5,000,²¹⁰ and clauses were included in the Caledonian and Scottish North-Eastern amalgamation act to protect Highland traffic.²¹¹

Highland records reveal a constant struggle to obtain sufficient capital. In September 1865, Charles Waterston, manager of the Caledonian Bank in Inverness, was elected to the board, which recognised the importance of that bank to the Inverness railway web.²¹² However, not all banks were accommodating; the Commercial Bank required additional stock as security in November 1865 'in consequence of the recent fall in the price of the Company's shares ...'.²¹³ When Bruce was unsuccessful in securing a £150,000 loan from the Standard Insurance Company, attention turned to the London capital market because there was 'little prospect of finding such a sum elsewhere in Edinburgh'.²¹⁴ In December 1865, London supplied £140,000 for 3 years, but backed by preference stock and directors'

²⁰⁸ Minutes of the Highland Railway, 22 September 1865, NAS/BR/HR/1/1, p.25; *Railway Times*, 1 April 1865, p.194; *Herapath's Railway Journal*, 1 April 1865, p.364; NT Sinclair, *The Highland Main Line*, p.30.

²⁰⁹ Minutes of the Highland Railway, 13 December 1865 and 8 May 1866, NAS/BR/HR/1/1, p.83 and p.154.

²¹⁰ 29&30 Vic. cap.350, 1866, The Caledonian and Scottish North-Eastern Railways Amalgamation Act: section 59 set the toll for Highland Railway access to Perth at £5,000 per annum; Minutes of the Highland Railway, 7 and 19 June 1866, NAS/BR/HR/1/1, p.167 and p.172; Report to the Ordinary General Meeting of the Highland Railway, 30 October 1866, NAS/BR/HR/1/1, pp.218-19 and page 2 of inserted printed report.

²¹¹ Minutes of the Highland Railway, 8 May 1866, NAS/BR/HR/1/1, p.154; 29&30 Vic. cap.350, 1866, The Caledonian and Scottish North-Eastern Railways Amalgamation Act: clauses 48-59 set out arrangements with the Highland Railway.

²¹² Minutes of the Highland Railway, 22 September 1865, NAS/BR/HR/1/1, p.27: Waterston had been a director of the Inverness and Nairn Railway from 31 May 1858 until its amalgamation with the Inverness and Aberdeen Junction Railway in May 1861, NAS/BR/INR/1/1, p.544.

²¹³ Letter from the Commercial Bank dated 2 and 3 November 1865, in minutes of the Highland Railway, 7 November 1865, NAS/BR/HR/1/1, p.54.

²¹⁴ Minutes of the Highland Railway, 7 November, 1865, 9 November 1865 and 5 December 1865, NAS/BR/HR/1/1, p.54, p.65 and p.79.

personal guarantees.²¹⁵ The 5 percent interest rate obtained may reflect some influence of the directors, given that bank discount rates were 7 percent in December 1865 and did not fall to 5 percent until September 1866.²¹⁶ A £100,000 loan at 5 percent for 3 years was secured via Waterston at the Caledonian Bank in January 1866,²¹⁷ and £110,000 due to the National Bank was extended to December 1868.²¹⁸ Thus, £350,000 was obtained from banks for three years, equivalent to £17½ million on a 2007 price base,²¹⁹ backed by company stock and the personal security of directors.

Despite their individual wealth, the faith of directors making that scale of commitment should not be underestimated. Pressure from the Duke of Sutherland in 1866 for payment of an agreed subscription of £30,000 to the new Sutherland Railway²²⁰ caused the Highland board to respond sharply that, while the Duke had contributed extensively to the companies forming the Highland, he and his commissioner George Loch had declined to give personal guarantees,²²¹ whereas without the guarantees of other directors and 'the large sums held by them in ordinary stock, to larger amounts than His Grace's contributions', there would have been no railway from which the Duke could have sought a northerly extension.²²²

²¹⁵ Minutes of the Highland Railway, 30 December 1865, NAS/BR/HR/1/1, p.89.

²¹⁶ Bradshaw's *Railway Almanack*, 1875 edition, appendix 12, p.83.

²¹⁷ Minutes of the Highland Railway, 2 January 1866, NAS/BR/HR/1/1, p.90.

²¹⁸ Minutes of the Highland Railway, 12 January 1866, NAS/BR/HR/1/1, p.97.

²¹⁹ See Glossary entry on 'price base'.

²²⁰ The Sutherland Railway is considered in chapter 9, 'The Far North lines: ownership and control'; 28&29 Vic. cap.169, 1865, The Sutherland Railway Act, authorising the construction of a railway from Bonar Bridge to Brora with share capital of £180,000 and borrowing powers of £60,000. The Inverness and Aberdeen Junction and Inverness and Perth Junction Railways were each authorised to subscribe £15,000, a commitment inherited by the Highland Railway in 1865.

²²¹ Minutes of the Inverness and Aberdeen Junction Railway, 25 May 1857, NAS/NR/IAJ/1/1, p.282.

²²² Minutes of the Highland Railway, 30 January 1866, NAS/BR/HR/1/1, pp.101-102: the board recorded that 'the other Directors severally contributed largely according to their ability to important schemes which did not reach or pass through their respective estates' and, without their investment and personal guarantees, 'Railway enterprise in this part of the

Further pressure from Loch for the Highland subscription revealed that all unissued stock of the company was held by directors as their security for personal guarantees given for loans and so no capital could be raised for the Sutherland Railway unless shares held by directors were appropriated.²²³ Highland accounts for August 1866 show that only £180,000 of share capital remained unissued, which suggests the limited security available to directors for their guarantees of the £485,000 of bank debt.²²⁴ Unsurprisingly, the directors declined to reduce their security held in shares or to raise the capital limit of the company, which introduced an untypical tension over finance between Highland board members as the next chapter will illustrate.²²⁵

The directors were anxious to demonstrate that the Highland was a sound enterprise and, as identified earlier, interest costs were split between revenue and capital accounts to maintain a dividend.²²⁶ When questioned by shareholders in May 1866, Bruce stated that this had been a common practice since the Inverness lines were formed, but expressed the intent to pay all interest from revenue,²²⁷ which was accomplished in the August accounts.²²⁸ In April 1867, Directors reminded

country would long since have been utterly crushed, and would never have reached the borders of the County of Sutherland'.

²²³ Minutes of the Highland Railway, 19 June 1866, NAS/BR/HR/1/1, pp.168-69, recording that 'The whole of the unissued Capital of the Company is held by the Directors who have subscribed these Bills as a security for the advances guaranteed by their signatures. Under these circumstances no advances could be made by the Highland Company to the Sutherland line except by issuing further capital on the Security of the Directors or by appropriating part of the shares which now form their Security'.

²²⁴ Accounts of the Highland Railway to 31 August 1866, in minutes of the 30 October 1866, NAS/BR/HR/1/1, pp.218-19, showing authorised capital in August 1866 was £2,909,960, comprising £2,209,080 in shares and £700,880 in debentures. £2,722,249 of capital had been raised, £2,029,077 in shares and £693,172 in debenture loans, and therefore £180,003 remained unissued in shares and £7,708 unissued in debentures; Appendix, table 11(a).

²²⁵ Minutes of the Highland Railway, 19 June 1866, NAS/BR/HR/1/1, p.170.

²²⁶ Minutes of the Highland Railway, 20 March 1866, NAS/BR/HR/1/1, p.132.

²²⁷ *Railway Times*, 5 May 1866, p.515.

²²⁸ Appendix, table 11(b), showing half-year interest charged to revenue in February 1866 to be £19,280, but £29,148 for the following half year to August 1866; Report to the Ordinary General meeting of the Highland Railway, 30 October 1866, NAS/BR/HR/1/1, pp.218-219 and page 2 of printed inserted report, stating that interest had been charged in full to revenue.

shareholders that interest continued to be charged to revenue, 'otherwise the dividend would have been nearly 4 percent'.²²⁹

The Highland's performance justified the commitment of its directors. Gross revenue rose consistently, all guaranteed dividends were paid from revenue from August 1866 and ordinary dividend increased steadily (table 80). In addition, economy in operations kept working expenses as a low proportion of receipts.

Table 80: Revenue indicators for the Highland Railway, 1867-74

Half year data (£)	02.1867	08.1867	02.1868	08.1868	02.1869	08.1869	02.1870	08.1870
Gross Revenue	96362	103766	100169	107164	102563	110964	101251	113645
Net revenue	51792	58494	53721	64420	61743	67000	60138	68616
Interest & dividends	51715	56778	53603	62271	61619	65791	60032	65101
Balance	77	1715	118	2148	123	1208	106	3514
Ordinary dividend	1%	2%	1%	3%	2¼ %	3½ %	2%	4%
Working expenses	42%	40%	42.5%	38.5%	37%	34%	37%	33.39%
(£)	02.1871	08.1871	02.1872	08.1872	02.1873	08.1873	02.1874	08.1874
Gross Revenue	107967	118799	123117	131140	124792	133872	134288	146322
Net revenue	65598	70004	73518	77945	66201	73627	65581	75239
Interest & dividends	65480	69140	73078	75459	65917	70593	65466	73208
Balance	117	863	440	2485	284	3033	115	2031
Ordinary dividend	4%	5%	6%	6%	4¼ %	5%	4%	5%
Working expenses	35.76%	34.57%	36.41%	35.53%	43.48%	39.13%	48.59%	42.54%

Source: Appendix, table 11(b).

The Highland was commended for its improvement:

For a line the stock of which is so largely held by the resident gentry – by parties who look not to interest on their outlay so much as to improvement in the value of their estates – to be paying four percent is a result which must be considered throughout the locality as more than successful.²³⁰

²²⁹ Report to the Ordinary General Meeting of the Highland Railway, 29 April 1867, NAS/BR/HR/1/1, pp.286-87 and page 2 of inserted printed report: declared ordinary dividend was 1% for the half-year to February 1867.

²³⁰ *Railway Times*, 22 October 1870, p.1053.

The Highland was able to recycle its temporary debt and obtained £160,000 at 4½ percent in 1867 from the British Linen Bank for one year to repay the £110,000 loan from the National Bank and a personal advance of £50,000 given by director James Merry.²³¹ With £405,000 of temporary loans due for repayment in December 1868, Matheson and Dougall sought renewals at lower interest, because discount rates were currently 2½ percent.²³² The Union Bank offered £60,000 at an initial 4½ percent for three years,²³³ and £375,000 held with the Commercial, British Linen and Caledonian Banks was renegotiated for two years at 4¼ percent.²³⁴ With the Highland's sound revenue account and the personal contacts and guarantees of directors, credit was available and its approval presented little risk to the banks.

Bank lending reached a peak of £625,000 in 1869.²³⁵ The level of temporary debt had accumulated throughout the decade as the result of difficulties in raising share capital for the Inverness railway web, but the consolidated company was trading successfully. The policy of the Highland board, therefore, was to guarantee loan capital whilst building traffic, revenue and dividend, thus making shares more attractive to investors, and then seek to release stock held in security and use the proceeds from sales to redeem the debt. This policy was, however, only sustainable because of the considerable personal financial commitments of the directors.

²³¹ Minutes of the Highland Railway, 3 September 1867, NAS/BR/HR/1/1, p.318: the British Linen Bank loan attracted interest of 4½ %, ½ % cheaper than the loans taken in 1865-66.

²³² Minutes of the Highland Railway, 4 February 1868, NAS/BR/HR/1/1, p.363; Bradshaw's *Railway Almanack*, 1875 edition, appendix 12, p.83, showing discount rates at 2½ % between May 1867 and July 1868 when rates fell to 2%, rising back to 2½ % in November 1868.

²³³ Minutes of the Highland Railway, 17 March 1868, NAS/BR/HR/1/1, p.373: the loan was agreed for two years, with the first year at 4½ % interest and the second year at 2½ points above bank deposit rate.

²³⁴ Minutes of the Highland Railway, 1 and 18 September 1868, NAS/BR/HR/1/1, p.413, p.416, p.423 and p.427: the loans renegotiated were for £160,000 at the British Linen Bank, £95,000 at the Commercial Bank and £120,000 at the Caledonian Bank.

²³⁵ Appendix, table 11(e): £625,000 of bank loans were held for three half-years, to February 1869, to August 1869, and to February 1870, but with only £524,00 of stock in held in security, which suggests that the banks' assessment that the degree of risk of default was not high, given the additional security provided personally by Highland directors.

In 1869, shareholders approved the conversion of debenture loans into debenture stock at 4¼ percent, which yielded a potential saving in interest payments and offered greater stability in managing future debt charges.²³⁶ By August 1870, with dividend reaching 4 percent, market interest in company stock was increasing.²³⁷ In January 1871, the remaining £15,400 of unissued preference B stock was reported as taken.²³⁸ Furthermore, the board was able to repay £45,000 to the Union Bank and £25,000 to the Caledonian Bank in January 1871 to reduce debt.²³⁹

By June 1871, £33,540 of released preference stock had been sold;²⁴⁰ by September, preference share sales had yielded a further £55,505 and Matheson and Dougall were authorised to sell unissued ordinary stock at a premium of £105 'if that price can be got'.²⁴¹ A multiplier effect then acted swiftly to reduce the level of bank

²³⁶ Report of the Special General Meeting of the Highland Railway, 28 April 1869, NAS/BR/HR/1/1, pp.492-96; Minutes of the Highland Railway, 10 April 1866, NAS/BR/HR/1/1, p.140, recording the setting of debenture interest rates at 5% for 3 years, 4¼ % for 5 years and 4½ % for 7 years: there was therefore a potential saving of between ¼% and ¾% by progressively converting debenture loans into debenture stock.

²³⁷ Appendix, table 11(b).

²³⁸ Minutes of the Highland Railway, 3 January 1871, NAS/BR/HR/1/2, p.44, at which Dougall reported that the £15,400 of preference B stock remaining unissued at the last Ordinary General Meeting had now been sold: Matheson and Dougall were authorised to fix the time to sell the remaining £8,350 of preference A stock; Accounts of the Highland Railway to 31 August 1870, published at the Ordinary General Meeting held on 28 October 1870, NAS/BR/HR/1/2, pp.25-26, show that £505,245 of the authorised £513,650 4¼ % preference A stock and £384,362 of the authorised £400,000 5% preference B stock had been issued, leaving therefore just £8,405 of A stock (1.6%) and £15,638 of B stock (3.9%) unissued either to shareholders or as security for loans at 31 August 1870; unissued preference A stock in the accounts differs from sum reported to the board by £55 and preference B stock by £238.

²³⁹ Minutes of the Highland Railway, 3 January 1871, NAS/BR/HR/1/2, p.44.

²⁴⁰ Minutes of the Highland Railway, 6 June 1871, NAS/BR/HR/1/2, p.86.

²⁴¹ Minutes of the Highland Railway, 4 July, 1 August and 5 September 1871, NAS/BR/HR/1/2, pages 92, 97 and 102, recording that £17,750 of preference A shares were sold by 4 July, a further £8,000 by 1 August and £29,755 by 5 September 1871. The amount of available ordinary stock was reported to the board on 5 September 1871 to be £400,000 (p.102). This figure was almost certainly an approximation because the accounts show that £274,000 of ordinary shares had been issued as security for loans and guarantees, which implies that £126,000 of shares remained unissued. However, the accounts of the Highland Railway to 31 August 1871, reported to the Ordinary General Meeting held on 27 October 1871, NAS/BR/HR/1/2, pp.111-16, record that £994,046 of the £1,115,350 authorised ordinary share capital had been issued, leaving £121,304 unissued. There is therefore a difference of £4,696 between the accounts data and the figure of available ordinary stock

debt as the rising market demand for shares was supplied by stock reclaimed from banks as loans were redeemed and by stock previously held by directors as security for their personal guarantees. Interest costs were halved between 1869 and 1872 as capital receipts from the sale of released shares progressively reduced company debt.²⁴² From £625,000 of bank loans in February 1870, the level fell to £520,000 by February 1871 and was eliminated completely by February 1872.²⁴³

The main source of funds to trigger this rapid elimination of temporary debt came from the sale of ordinary shares previously unissued or held in security for loans. These shares, with a par value of £385,390, were offered from 1 December 1871 at par to shareholders and at a small premium on the open market.²⁴⁴ Within a week, Highland shareholders had bought £127,000 of shares, the proceeds of which were used to repay bank loans; the board requested a London share quotation and 'resolved no more to be sold after this week under £105'.²⁴⁵

All available stock was sold by February 1872, with £14,817 received as a premium over par, indicating an average premium of 3.8 percent per share, although at the

given to the board on 5 September 1871, although this represents only 0.4% of authorised share capital.

²⁴² Appendix, table 11(b): in August 1869, interest charged to revenue was £31,594, which fell to £28,862 in August 1870, £26,219 in August 1871 and then to £15,511 in August 1872.

²⁴³ Appendix, table 11(e).

²⁴⁴ Minutes of the Highland Railway; 18 October 1871, NAS/BR/HR/1/2, p.111; Report to the Ordinary General Meeting of the Highland Railway, 27 October 1871, NAS/BR/HR/1/2, p.116 and page 2 of inserted printed report, recording that Highland shareholders were to be offered a rights issue of £20 of new stock for every £100 of stock held provided it was fully paid up on the specified date of issue, 1 December 1871; Appendix, table 11(a): the capital account to 31 August 1871 records £274,000 of ordinary stock was still held in security and £111,000 had been released from security as a result of debt repayment. This total of £385,000 of ordinary stock corresponds with the £385,390 balance of ordinary stock reported to the Ordinary General Meeting on 27 October 1871 (p.116) as available for sale.

²⁴⁵ Minutes of the Highland Railway, 5 December 1871, NAS/BR/HR/1/2, p.124: £80,000 was repaid to the British Linen Bank (£160,000 had been borrowed in September 1868) and £47,500 repaid to the Commercial Bank (£95,000 had been borrowed in September 1868).

peak of sales, some shares sold at £110.²⁴⁶ When *Railway Times* published its first quotation of Highland shares in February 1872, the price was shown as £120-125.²⁴⁷

Aided by rising revenue, the effect of this rapid debt repayment on the Highland's debt gearing was marked. From a level in 1866-70 equivalent to the insolvent Caledonian in 1849, the company strengthened to a position in 1872-74 that rivaled earlier exemplars of sound financial management, the Deeside and the Scottish Midland Junction Railways (table 81).²⁴⁸

Table 81: Financial indicators for the Highland Railway, 1867-74

31 August	1867	1868	1869	1870	1871	1872	1873	1874
Gross half year revenue (£)	103766	107164	110964	113645	118799	131140	133872	146322
Gross annual revenue (£)	200128	207333	213527	214896	226766	254257	258664	280610
Ratio of debentures to capital raised	24.8%	24.6%	24.9%	25.0%	25.5%	23.1%	23.1%	22.9%
Ratio of gross revenue to total debt	0.162	0.164	0.161	0.165	0.197	0.363	0.369	0.400
Source: Appendix, table 11(c).								
(1): Comparative gearing ratios for the Caledonian Railway in 1849-50 were 24.5% for debentures/capital and 0.162 for gross revenue/debt.								

While the depth of the financial crisis for the Highland had, in absolute terms, been larger than that for the Great North, the financial backing of its directors, their ability to secure credit at relatively favourable rates, and the strengthening trading position of the company resulted in a dramatic recovery between 1869 and 1872. The board meeting of 6 February 1872 reviewed the list of major loans taken and repaid.

²⁴⁶ Minutes of the Highland Railway, 2 January and 6 February 1872, NAS/BR/HR/1/2, p.130 and p.139: £385,390 of shares were sold with a premium of £14,817 received. However, £127,000 of these shares were sold to Highland shareholders at par, so therefore the premium was generated by the £258,390 of shares sold on the market, which produces an average premium per share of 5.73%, although the average premium for all available shares was 3.84%. The premium held in the reserve fund was reported to be £14,544 by 25 April 1873 (NAS/BR/HR/1/2, p.266).

²⁴⁷ *Railway Times*, 17 February 1872, p.177, quoting the price of £100 of Highland Railway stock. Great North stock was quoted on this date at £41-43.

²⁴⁸ Appendix, tables 7(c), 11(c) and 20(c).

Table 82: Major temporary loans taken and repaid by the Highland Railway

Loan (£)	Source	Taken out (or renewed)	Repaid	Note
60500	Commercial Bank (for the Inverness and Aberdeen Junction Railway)	06.08.1861	02.12.1862	1
110000	National Bank (originally taken by the Inverness and Aberdeen Junction Railway)	01.01.1866	11.09.1867	2
20000	Royal Bank	13.11.1866	09.11.1870	
50000	Scottish Provident Institution	15.05.1869	13.05.1871	3
50000	Lord R Leveson-Gower	21.12.1866	15.05.1871	4
50000	Lord A Leveson-Gower	21.12.1866	15.05.1871	4
60000	Union Bank	08.09.1868	08.09.1871	
10000	James M Graham	13.11.1866	08.11.1871	
95000	Commercial Bank	21.10.1870	03.02.1872	5
160000	British Linen Bank	31.12.1870	19.01.1872	6
20000	Life Association of Scotland	10.08.1866	03.12.1871	
30000	Standard Life Assurance Company	20.10.1869	26.12.1871	7
20000	Caledonian Bank	03.09.1864	14.09.1867	
100000	Caledonian Bank	31.12.1864	03.02.1872	
(835500)				

Source: Minutes of the Highland Railway, 6 February 1872, NAS/BR/HR/1/2, p.140.

(1): The Commercial Bank loan of £60,500 was taken by the Inverness and Aberdeen Junction Railway and renewed on 23 June 1860 (NAS/BR/IAJ/1/2, p.147); the first installment of repayment (£5,500) was made on 16 October 1861 (NAS/BR/IAJ/1/2, pp.273-74).

(2): The National Bank loan comprised three parts: £25,000 was taken by the Inverness and Aberdeen Junction Railway on 2 January 1864 (NAS/BR/IAJ/1/2, p.521); on 2 June 1864, an additional £15,000 was provided by the National Bank to the Inverness and Aberdeen Junction (with a further £50,000 loan granted in the same negotiations to the Inverness and Perth Junction Railway) (NAS/BR/IAJ/1/3, p.12), and a further £70,000 on 6 December 1864 (NAS/BR/IAJ/1/3, p.69). An additional temporary loan of £20,000 was taken by the Inverness and Aberdeen Junction from the National Bank on 1 March 1865 (NAS/BR/IAJ/1/3, p.91), but this loan does not feature in the data contained in the Highland minutes of 6 February 1872.

(3): The Scottish Provident Institution loan dates from 20 March 1866 (NAS/BR/HR/1/1, p.133).

(4): Lords Albert and Ronald Leveson-Gower were sons of the 3rd Duke of Sutherland (Burke's *Peerage, Baronetage and Knighthood*, 107th edition, vol.III, Delaware USA and Stokesley UK, 2003, p.3821).

(5): The Commercial Bank loan of £95,000 was taken from 21 December 1865 initially for three years and consolidated some earlier loans provided by the bank within in this new total amount (NAS/BR/HR/1/1, p.84).

(6): The British Linen Bank loan dates from 1 October 1867 (NAS/BR/HR/1/1, p.318 and p.327), initially for one year and was used to repay the National Bank loan: it was renewed on 18 September 1868 (NAS/BR/HR/1/1, p.423).

(7): The Standard Life Assurance Company loan was first taken on 6 October 1866 (NAS/BR/HR/1/1, p.210).

(8): The loans detailed in this company minute do not represent all loans taken by the Highland Railway or its constituents. The earlier history of some of these minuted loans is traced in the table notes above.

The Highland directors formally marked the end of their personal financial commitments:

The Secretary stated that the Bonds, Bills and Agreements referred to in the foregoing statement were now on the table, whereupon it was resolved to commit them to the fire, which was accordingly done in the presence of the meeting.²⁴⁹

²⁴⁹ Minutes of the Highland Railway, 6 February 1872, NAS/BR/HR/1/2, p.141.

The directors were able announce the Highland to be 'entirely free of debt'.²⁵⁰ Shareholders recorded their appreciation to the directors 'for having interposed their personal security for the large sums of money required during many years to carry the undertaking through its difficulties ...'.²⁵¹ Moreover, Matheson's successful work in uniting the constituents of the Highland company and protecting its territory was widely acknowledged.²⁵² The astute management of the Highland retained the premiums received from the sale of shares in 1872 in a reserve fund and used £10,596 the following year to cushion the effect of a short-term reduction in revenue as the result of a serious harvest failure in the north, which allowed the maintenance of a 6 percent dividend.²⁵³ Subsequent dividends in 1873-74 ranged from 4 to 5 percent.²⁵⁴ The *Railway News* observed:

²⁵⁰ Report to the Ordinary General Meeting of the Highland Railway, 26 April 1872, NAS/BR/HR/1/2, pp.161-62 and page 2 of inserted printed report: 'Since the last meeting, the balance of ordinary stock amounting to £385,390 had been disposed of, and with the proceeds, the last installment of the Temporary Loans, which then stood at £450,000, has been paid, thus enabling the Directors to make the satisfactory announcement that the undertaking is now entirely free of debt'.

²⁵¹ Report to the Ordinary General Meeting of the Highland Railway, 26 April 1872, NAS/BR/HR/1/2, p.169.

²⁵² *Railway Times*, 8 November 1875, p.1055 and p.1065: 'Mr Matheson has served them [the shareholders] well for many years, and to his intimate knowledge of the district and its capabilities, and to his able and successful exertions in uniting together the several undertakings of which it is composed, and afterwards in protecting it from aggression, they are mainly indebted for the successful position their property now holds'. Further examples recognising Matheson's work include: *Railway Times*, 4 November 1871, p.1067, 20 July 1872, p.727, 3 May 1873, p.468, 8 November 1873, p.1126, and *Railway News*, 30 July 1870, p.110, 20 July 1872, p.72, 1 May 1875, p.595.

²⁵³ Minutes of the Highland Railway, 1 April 1873 NAS/BR/HR/1/2, p.253; Report to the Ordinary General Meeting of the Highland Railway, 25 April 1873, NAS/BR/HR/1/2, pp.261-62, p.266 and page 2 of printed report, noting a half-yearly traffic increase of only £162.18s.11d, which was 'unprecedented' and attributed to failure in the potato and grain crops; *Railway Times*, 3 May 1873, p.468, reporting Matheson's statement of agricultural losses in the seven northern counties as a result of crop failure amounting to £1.162 million; Appendix, table 11(b), showing a fall of 15% in net revenue from £77,945 in August 1872 to £66,201 in February 1873 whereas the equivalent period August 1871 to February 1872 had produced a rise of 5% from £70,004 to £73,518.

²⁵⁴ Appendix, table 11(b).

... the Highland occupies an unusually favourable position, and should, in its limited way, be one of the safest and best investments of its time.²⁵⁵

The Highland exercised its remaining capital powers in 1872 to meet agreed subscriptions of £50,000 to the Sutherland and Caithness Railway and £35,000 to the Dingwall and Skye Railway.²⁵⁶ In 1874, new capital powers were authorised, because the Highland now worked the Sutherland, Duke of Sutherland's, Sutherland and Caithness and Dingwall and Skye Railways and had 'incurred debts and liabilities to an amount exceeding the capital they are authorised to raise ...'.²⁵⁷ The strategy and finance behind these nominally independent companies, which completed the framework of the northern railway network, are examined in the following chapter.

The new Highland and Great North of Scotland Railways inherited considerable capital debt through the amalgamations of 1865-66. The impact of the Highland's direct Inverness-Perth line and the financial weaknesses of its branch companies resulted in the Great North increasing its bank borrowing to try to remain solvent, but it could not meet all of its guaranteed payments until 1874. The Highland began its independent existence with substantial bank loans to cover capital costs incurred by its constituents and the company only avoided defaulting on its guaranteed payments in 1865-66 by charging a proportion of interest to capital. This chapter has identified the scale and significance of the hidden debt accumulated by these two northern companies, factors that have been largely absent from historiography but

²⁵⁵ *Railway News*, 25 October 1873, p.552.

²⁵⁶ Minutes of a Special General Meeting of the Highland Railway, 26 April 1872, NAS/BR/HR/1/2, p.169: £39,920 was raised under the Highland Railway Act 1865, £30,000 under the Sutherland Railway Act 1865, £35,000 under the Dingwall and Skye Railway Act 1865, and £50,000 under the Sutherland and Caithness Railway Act, 1871. This £154,920 capital was offered on a rights issue at £14 of stock for every £100 held, but at a premium price of £15.13s for every £14 allotted (11.8%), which illustrates the enhanced value of Highland Railway stock.

²⁵⁷ 37 Vic. cap.3, 1874, The Highland Railway (Additional Capital) Act, which gave power to raise £500,000 in ordinary or preference share capital with £166,000 in borrowing powers.

which overshadowed future railway development in northern Scotland for almost a decade. In 1870, when 48 percent of United Kingdom railway capital excluding loans required fixed-interest payments,²⁵⁸ both companies remained highly geared and had only just begun to convert debenture loans into fixed-interest stock. Excluding temporary bank loans, guaranteed payments were required for 69 percent of Great North capital and 63 percent of Highland capital.²⁵⁹

Whilst there were similarities in the reasons for the major financial crises faced by the two companies in 1865-66, not least of which had been the persistent difficulty in raising sufficient ordinary share capital, the capacity of each to resolve its problems was very different. The Highland held a good prospect of repaying its considerable debts because it had captured the bulk of the traffic from northern Scotland, it had established a rising trend of revenue, and it was able to obtain bank credit through the contacts and personal guarantees of many of its directors. Using these financial advantages, the Highland directors gained time to strengthen the company's revenue and thereby its dividend, whereupon Highland shares became more attractive to investors and the large amounts of stock held in security for bank loans were progressively released and sold to redeem the debt. Notwithstanding their personal wealth, the almost unique feature of this successful strategy for the Highland's financial recovery was the degree of risk that some of its directors were able and prepared to accept to protect their company and their interests. Moreover, the chapter has identified that Inverness directors proposed in 1864 to work new proposed independent railways in the far north and west at cost, introducing a facet of public service into the future policy of highland railways, which suggests their commitment to providing a railway network in northern Scotland to meet local needs, but from which increased land values and improved economic prospects for the region might indirectly accrue.

The Great North also held a significant burden of debt, albeit proportionately smaller than its Highland rival, but, without the security of northern traffic passing over its

²⁵⁸ TR Gourvish, *Railways and the British Economy, 1830-1914*, p.18; TR Gourvish, 'Railways 1830-1870: the formative years', in MJ Freeman and DH Aldcroft (eds.), *Transport in Victorian Britain*, p.67.

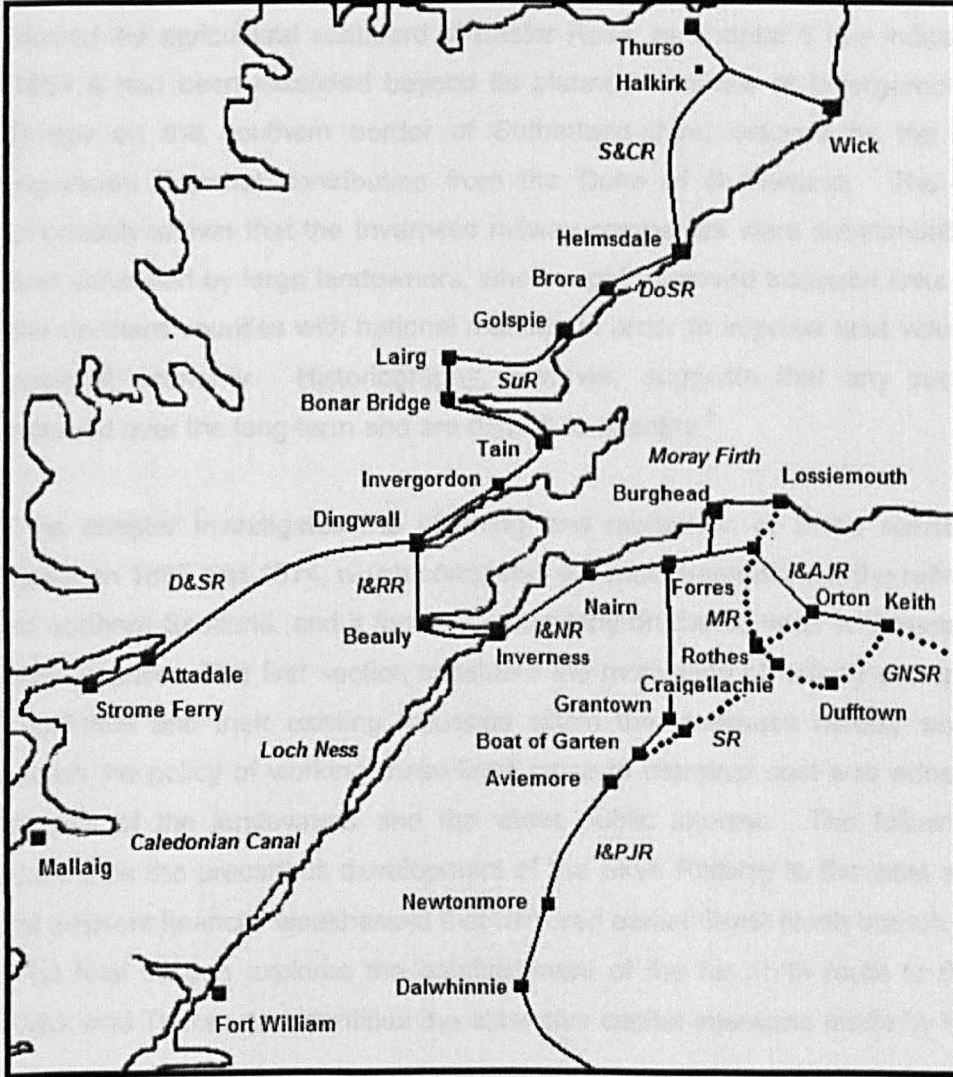
²⁵⁹ Appendix, table 25.

route to Aberdeen, its future revenue stream was uncertain. It was unable to service its debt and faced financial collapse in December 1866 as banks began to sell Great North stock held in security to recover some of their funds. Aberdonian banks and the Great North had been closely associated since the 1840s, as chapter 3 has shown, and the Great North's salvation was to be achieved through a re-financing agreement with its bankers. This chapter has explained the decisive role undertaken by the banking sector to ensure the survival of the Great North, within which their own substantial funds were committed, but it has also indicated a strategic role played by one of these banks in particular in shaping the future direction of the Great North. Furthermore, the chapter has identified that a majority of ordinary share capital of the Great North was held in England, a factor which influenced the decision to capitalise the arrears of preference dividend in order to be able to offer a small ordinary dividend to rebuild confidence in the company on the capital market. This English shareholding may reflect investment interest generated during the period of Great North prosperity, but it may also include some longer-term holdings from 1845-46; unfortunately, no share registers survive to test these possibilities.

The Great North and the Highland both emerged successfully from their own particular financial crises and discharged their bank loans by 1872. They remained as independent enterprises despite their earlier exploration of leasing arrangements with the Caledonian. The new Great North, confined to its north-eastern territory in 1866, faced a continuous task to rebuild its traffic, customer loyalty and revenue throughout the rest of the period covered by this study. The Highland, however, had to respond to new railway promotions in the far north and west of the highlands whilst it was still tackling its burden of debt. These promotions form the subject of the next chapter.

Chapter 9: Highland development, 1865-74

Map 10: Inverness railway companies and the Skye and Far North routes



<p>Independent companies in the highland area</p>	<p>Other companies</p>
<p>D&SR: Dingwall and Skye Railway</p>	<p>GNSR: Great North of Scotland Railway</p>
<p>DoSR: Duke of Sutherland's Railway</p>	<p>MR: Morayshire Railway</p>
<p>S&CR: Sutherland and Caithness Railway</p>	<p>SR: Strathspey Railway</p>
<p>SuR: Sutherland Railway</p>	
<p>Constituents of the Highland Railway</p>	
<p>I&AJR: Inverness and Aberdeen Junction Railway</p>	
<p>I&NR: Inverness and Nairn Railway</p>	
<p>I&PJR: Inverness and Perth Junction Railway</p>	
<p>I&RR: Inverness and Ross-shire Railway</p>	

By the time the Highland Railway was formed in 1865,¹ new independent companies were being promoted to connect the far north and west of the highlands with the northern railway network. The difficulties of raising capital for such remote routes were likely to be severe, given the economic disadvantages of the region and the paucity of population, illustrated in chapter 2. The Inverness railway system already served the agricultural seaboard of Easter Ross, as chapter 6 has indicated, but in 1864 it had been extended beyond its planned terminus at Invergordon to Bonar Bridge on the southern border of Sutherland-shire, induced by the offer of a significant financial contribution from the Duke of Sutherland. The study has previously shown that the Inverness railway companies were substantially financed and controlled by large landowners, who sought improved transport links to connect the northern counties with national markets in order to improve land values and the regional economy. Historiography, however, suggests that any such benefits accrued over the long-term and are difficult to quantify.²

This chapter investigates the planning and realisation of these remote railways between 1865 and 1874, which completed the main framework of the railway system of northern Scotland, and it focuses particularly on the sources and management of their finance. The first section considers the motivation of railway promoters in the highlands and their existing influence within the Inverness railway web, through which the policy of working these lines close to marginal cost was adopted for the benefit of the landowners and the wider public interest. The following section examines the precarious development of the Skye Railway to the west and reveals its inherent financial weaknesses that mirrored earlier Great North branch expansion. The final section explores the establishment of the far north route to the ports of Wick and Thurso and identifies the extensive capital injections made by the Duke of

¹ 28&29 Vic. cap.168, 1865, The Highland Railway Act, which authorised the amalgamation of the Inverness and Aberdeen Junction and Inverness and Perth Junction Railways (see chapter 7); the Inverness and Aberdeen Junction Railway had previously amalgamated with the Inverness and Nairn Railway (1861) and the Inverness and Ross-shire Railway (1862) (see chapter 6).

² W Vamplew, 'Railway Investment in the Scottish Highlands', *Transport History*, 3, No.2 (July 1970), pp.149-52: Vamplew suggests that parishes through which railways passed in Sutherland showed a greater increase in land values than those without, but cautions that 'this took time to become apparent' and there was 'no instantaneous effect'.

Sutherland who prompted, drove and controlled its evolution through three independent linked companies.

Both these northern lines replicated much of the earlier experience of railway development promoted from Inverness. Ownership and control remained unified within them, but the difficulties of raising share capital beyond the contribution of local landowners required the consistent support of the banking sector to provide an alternative source of finance. Railway development in the far north in 1865, however, faced a specific additional constraint because wealthy local landowners were in very short supply.

Highland strategy

When the Highland Railway's Aberfeldy branch opened in July 1865, shareholders were told: 'This completes the Highland Company's system, which extends to 246 miles'.³ Chairman Matheson had repeatedly stated the intention of the Inverness promoters to consolidate the system and not to seek extensions.⁴ The completion of the Inverness-Perth line in 1863 prompted new independent schemes, but Matheson distanced the Inverness web from direct involvement, emulating the intended branch line strategy of the Great North a decade earlier:

The Caithness people are most anxious to have a line to Wick; the people of Fort-William want one to Kingussie; and the people to Skye are urging one from Dingwall to the West coast ... and my answer to them has been, that if they subscribe the capital and make the lines, they will find us anxious to

³ Report to the 1st Ordinary General Meeting of the Highland Railway, 27 October 1865. NAS/BR/HR/1/1, pp.42-43 and page 2 of inserted printed report: the Aberfeldy branch from the main Perth-Inverness line at Ballinluig opened on 3 July 1865 and provided the connection that had been originally authorised in the Strathtay and Breadalbane promotion of 1846 and outlined in chapter 3, table 20(c); *Herapath's Railway Journal*, 15 October 1864, p.1202.

⁴ *Herapath's Railway Journal*, 22 November 1862, p.1206, and 8 October 1864, p.1166; *Railway Times*, 7 November 1863, p.1434.

afford them all reasonable assistance and encouragement in order to complete them, and to work them afterwards when they are completed.⁵

Also like the Great North before, Matheson identified the projected lines as sources of potential traffic to the main trunk route.⁶ Although the *Railway Times* noted 'a handsome return to the landed gentry' that had supported the Inverness companies,⁷ the far north offered even less population from which traffic might be generated (table 83).

Table 83: Population of northern counties, 1861

County	Population	Percentage of Scottish population
Caithness	41111	1.34%
Inverness, including: Inverness town	88888 9518	2.90% 10.71% of the county population
Ross and Cromarty	81406	2.66%
Sutherland	25246	0.82%
Scotland	3062294	
Sources: National census data, in RH Campbell and JBA Dow (eds.), <i>Source Book of Scottish Economic and Social History</i> , p.2 and insert 8; EHL MacAskill, <i>The Highland Transport Revolution: the growth of the Highland railway network 1855-1930</i> , vol.3 (Highland Environmental Link Project, 1988), p.15.		

In 1864, as the Ross-shire extension line was due to open to Bonar Bridge, Matheson informed Aberdeen Junction directors and shareholders of two new lines proposed in these sparsely-populated regions:

⁵ *Herapath's Railway Journal*, 7 November 1863, p.1181, reporting Matheson's statement to the Ordinary General Meeting of the Inverness and Aberdeen Junction Railway held on 27 October 1863: the board meeting held on the same day as the shareholders' meeting, however, had agreed to work the proposed railway from Fort William to Newtonmore on the Perth Junction line, not Kingussie as Matheson stated to shareholders (Minutes of the Inverness and Aberdeen Junction Railway, 27 October 1863, NAS/BR/IAJ/1/2.p.489).

⁶ *Herapath's Railway Journal*, 9 April 1864, p.423, reporting Matheson's statement to the Ordinary General Meeting of the Inverness and Aberdeen Junction Railway held on 30 March 1864: 'Should these lines be carried out, they cannot fail to prove useful feeders to the Junction and Perth lines in common with the southern railways'.

⁷ *Railway Times*, 1 October 1864, p.1306.

... the Duke of Sutherland was desirous of extending Railway Communication northwards from Bonar Bridge, and had offered to subscribe £100,000 provided other parties interested suitably supported the project.⁸

A scheme for constructing a Line from Dingwall to the West Coast has been brought forward under favourable auspices and, as the Line, if made, cannot fail to throw a large traffic on your Line which is presently entirely lost to it, your Directors view the project favourably ...⁹

Two of the principal promoters were large landowners in the districts to be served by these lines and already major investors in Inverness railway companies. The Duke of Sutherland, who owned 1.326 million acres of Sutherland-shire by 1872, sought a railway connection from his vast territories.¹⁰ Sutherland had a gross income in 1865 of £100,853 (over £5 million on a 2007 price base¹¹) from his English and Scottish estates and eventually invested £322,064 in the Highland Railway and lines to the north of Inverness (over £16 million on a 2007 price base).¹² Alexander Matheson, chairman of the Highland Railway, who acquired 220,000 acres in east and west Ross-shire at a cost of £750,000, was particularly drawn to a west-coast line that would connect to his western estates at Attadale and Lochalsh.¹³ There was a

⁸ Minutes of the Inverness and Aberdeen Junction Railway, 23 September 1864, NAS/BR/IAJ/1/3, p.40.

⁹ Report to the Ordinary General Meeting of the Inverness and Aberdeen Junction Railway, 28 September 1864, NAS/BR/IAJ/1/3, p.44 and page 2 of inserted printed report.

¹⁰ J Mitchell, *Reminiscences of My Life in the Highlands*, vol. II (private publication, 2 volumes, London, 1883 and 1884, reprinted Newton Abbot, 1971), p.79 and p.116: the Duke's acreage in Sutherlandshire (1,326,000 acres) comprised approximately three-quarters of the county (1,840,000 acres).

¹¹ See Glossary entry on 'price base'.

¹² E Richards, 'An anatomy of the Sutherland Fortune: Income, Consumption, Investments and Returns, 1780-1880', *Business History*, vol. XXI (1979), p.54; D Stirling, 'Land, Railways and the Dukes of Sutherland', *Highland Railway Journal*, 4, No.56 (early 2001), p.5: these sources quote investment by the Duke of £99,864 in the Highland Railway, £94,200 in the Sutherland Railway, £63,000 in the Duke of Sutherland's Railway, £60,000 in the Sutherland and Caithness Railway and £5,000 in the Dingwall and Skye Railway (£322,064), although the *Railway News*, 1 August 1874, p.138, gives figures of £116,000 invested in the Sutherland Railway and £105,000 in the Highland Railway in addition to £60,000 in the Duke of Sutherland's Railway and £60,000 in the Sutherland and Caithness Railway (£341,000).

¹³ HGC Matthew and B Harrison (eds.), *The Oxford Dictionary of National Biography*, vol.37 (Oxford, 2004), pp.280-81, also noting that the purchase and improvement costs of all Matheson's lands exceeded £1.46 million.

contrast between the sources of these major investments; the wealth of Matheson was acquired through the far-east trading firm of Jardine-Matheson while the Duke of Sutherland inherited the fortune of the Stafford family, but both used their wealth to try to improve their estates and, thereby, the northern economy.¹⁴ Sinclair conjectures that the independence of the early Inverness railway companies was due to 'a fortune made from the Chinese opium trade';¹⁵ indeed, Matheson expressed concern in the 1840s that the opium trade might be legalised and lead to a loss of profit.¹⁶

These two wealthy individuals had a fundamental influence on the strategy of railway development into the far north and west of Scotland. The northerly extension was intended from the outset to reach the north coast at Wick and Thurso. Parliamentary powers were to be sought for the Sutherland Railway to link Bonar Bridge to Golspie, supported by £50,000 from the Duke of Sutherland and £30,000 from the Inverness companies, with an extension from Golspie to Wick and Thurso, assisted by a further £50,000 from Sutherland 'on the condition that the County of Caithness contributes £100,000, the Inverness Companies £50,000, and that the balance of the necessary Capital be satisfactorily raised'.¹⁷

Matheson's personal interest was in the proposed Dingwall and Skye Railway,¹⁸ which was perceived to be an Inverness web scheme,¹⁹ but he declared that both

¹⁴ JAR Smith, 'From Isolation to Integration: the development of roads in the northern Highlands of Scotland, 1800-1850' (unpublished PhD thesis, Aberdeen University, 2001), p.25; TM Devine, *Clanship to Crofters' War: the social transformation of the Scottish Highlands* (Manchester, 1994), p.82. E Richards, 'An anatomy of the Sutherland Fortune: Income, Consumption, Investments and Returns, 1780-1880', p.65 and p.67.

¹⁵ NT Sinclair, *The Highland Main Line* (Penryn, 1998), p.33.

¹⁶ HGC Matthew and B Harrison (eds.), *The Oxford Dictionary of National Biography*, vol.37, pp.280-81.

¹⁷ Minutes of the Inverness and Aberdeen Junction Railway, 23 September 1864, NAS/BR/IAJ/1/3, p.40.

¹⁸ *Railway News*, 30 July 1870, p.110, describing Matheson as the 'chief promoter' of the Dingwall and Skye Railway.

¹⁹ *Railway Times*, 23 July 1864, pp.993-94: a leading article on the proposed Dingwall and Skye Railway noted that '... this scheme may be regarded as following in the course of the

northern lines were promoted 'under the auspices of independent Companies'.²⁰ An Aberdeen Junction shareholder, Mr Grant, expressed concern about the 'many instances of through lines that were highly productive of themselves being almost ruined in consequence of making rash connections with new lines which were not equally remunerative',²¹ no doubt recalling the recent history of the Great North. Grant described the country to be served by the proposed Skye line as 'by no means populous, and ... very remote and unimproved'; moreover the Skye line had 'no concentrated population at the proposed terminus'.²² These characteristics reflected those featured in Aytoun's infamous *Glenmutchkin* lampoon of the 1845 railway mania: co-incidentally, Aytoun was a shareholder in the Aberdeen Junction at this time.²³ A comparison between the Great North and the Highland was later drawn by Matheson, who contrasted the 50 miles of Great North main line and 'nearly 200 miles of branch lines which do not answer, and which the resources of the country are scarcely sufficient to support' with the Highland's 230 miles of trunk route and only 14 miles of branches.²⁴

Matheson assured Inverness shareholders that 'The whole cost of working the proposed lines would have to be met by their own Shareholders, so that the main

whole of the Inverness projects that have been devised and so successfully carried out by Mr Mitchell'.

²⁰ *Herapath's Railway Journal*, 8 October 1864, p.1166, reporting Matheson's statement to the Ordinary General Meeting of the Inverness and Aberdeen Junction Railway held on 28 September 1864.

²¹ *Railway Times*, 8 October 1864, p.1323, reporting Mr Grant of Kincorth's statement to the Ordinary General Meeting of the Inverness and Aberdeen Junction Railway held on 28 September 1864.

²² *Herapath's Railway Journal*, 8 October 1864, p.1166, reporting Mr Grant of Kincorth's statement to the Ordinary General Meeting of the Inverness and Aberdeen Junction Railway held on 28 September 1864.

²³ Register of Dividends, 1864-65, Inverness and Aberdeen Junction Railway, NAS/BR/IAJ/2/1, showing WE Aytoun as holder of £500 of ordinary shares in the Inverness and Aberdeen Junction Railway on 31 July 1864 and 31 January 1865; Aytoun died at Elgin in August 1865 (Dictionary of National Biography, Oxford, 1967-68, pp.774-75); WE Aytoun, 'How we got up the Glenmutchkin Railway and how we got out of it', *Blackwood's Edinburgh Magazine* 58 (November 1845), 453-466.

²⁴ *Railway Times*, 3 November 1866, p.1266, reporting Matheson's statement to the Ordinary General Meeting of the Highland Railway held on 30 October 1866.

line could lose nothing', although he also announced that 'a proposal had been made that they should work them at the cost price'.²⁵ Inverness and Aberdeen Junction directors had resolved to work the far north lines 'at prime cost, but not to exceed 75 per cent of the receipts ...',²⁶ yet Matheson's assertion that 'the trunk line could not possibly lose by such an arrangement'²⁷ also implied that it would gain little either, other than from traffic passing onto its system. Cost price working was a realistic strategy to help these new lines to become economically viable, given the limited traffic that was likely on both extensions, but the statement suggests the intent to operate the far north railways for the wider economic interests of the region rather than solely for shareholder returns. Such a policy was sustainable because the principal railway shareholders were also the large local landowners, whom the *Railway News* acknowledged 'had not anticipated profit but ... collateral advantage, and to be satisfied if the business can only be made to pay its way'.²⁸ The Highland board built its form of marginal cost pricing into the working agreement made with the Skye Railway in 1868²⁹ and extended it to the far north route in 1871-72.³⁰ This policy principle for northern lines correlates with the conclusion drawn by Hawke for

²⁵ *Herapath's Railway Journal*, 8 October 1864, p.1166, reporting Matheson's statement to the Ordinary General Meeting of the Inverness and Aberdeen Junction Railway held on 28 September 1864; *Railway Times*, 8 October 1864, p.1323.

²⁶ Minutes of the Inverness and Aberdeen Junction Railway, 23 September 1864, NAS/BR/IAJ/1/3, p.40.

²⁷ *Railway Times*, 8 October 1864, p.1323.

²⁸ *Railway News*, 30 October 1875, p.584.

²⁹ Report to the Ordinary General Meeting of the Highland Railway, 30 October 1868, NAS/BR/HR/1/1, pp.430-31 and page 2 of inserted printed report, recording that 'the Directors do not believe it is the wish of the Highland shareholders to secure a large profit by working the Skye Line ...' and setting out the agreement to charge for two trains daily each way at 2s per mile with additional trains charged at 1s.10d per mile.

³⁰ Minutes of the Highland Railway, 7 February 1871, NAS/BR/HR/1/2, p.51, Special General Meeting of the Highland Railway, 28 April 1871, NAS/BR/HR/1/2, pp.73-74, page 2 of inserted printed report and pp.78-82, and minutes of the Highland Railway, 5 March 1872, NAS/BR/HR/1/2, p.149, which extended the Sutherland and Duke of Sutherland Railways working agreements to terminate ten years following the opening of the Sutherland and Caithness Railway. The Sutherland and Caithness Railway opened in July 1874.

England and Wales that the pursuit of profit maximisation regionally by railway companies in this period was 'not energetic'.³¹

The Sutherland and the Dingwall and Skye Railways were authorised in 1865 during the same parliamentary session in which the Highland Railway was incorporated.³² Unlike the Great North, which had taken strong overt control of the boards of its branch companies, the Sutherland and Skye boards preserved an outward independence as a result of the strong landowner presence within these companies, but the Highland held a covert control both in direction and operation. On the Sutherland Railway, the Duke of Sutherland was empowered to appoint two of the five directors provided he held at least £30,000 of stock,³³ while the Aberdeen Junction and Perth Junction were authorised to nominate one director each and Matheson and Bruce were appointed.³⁴ The Earl of Caithness, promoting a far north line between Wick and Thurso at the time, was included on the Sutherland board as it was expected that a connection would be made between the two lines in due course.³⁵ As the Duke nominated himself and his commissioner, George Loch, both also Highland directors, the board was, in essence, a Highland committee, although company records show that many board meetings comprised only the Duke and his commissioner, reflecting the Duke's personal financial commitment. The Skye board comprised eight directors, of which two were to be nominated by the Caledonian Railway and one each by the Aberdeen Junction and Perth Junction in return for

³¹ GR Hawke, *Railways and Economic Growth in England and Wales, 1840-1870* (Oxford, 1970), p.333.

³² 28&29 Vic. cap.169, 1865, The Sutherland Railway Act, with authorised share capital of £180,000 and borrowing powers of £60,000; the Act authorised construction from Bonar Bridge to Brora, 6¼ miles further than the original 1864 objective of Golspie (recorded in NAS/BR/IAJ/1/3, p.40); 28&29 Vic. cap.223, 1865, The Dingwall and Skye Railway, with authorised capital of £450,000 and borrowing powers of £150,000.

³³ 28&29 Vic. cap.169, 1865, The Sutherland Railway Act, section 14; Minutes of the Inverness and Aberdeen Junction Railway, 17 March 1865, NAS/BR/IAJ/1/3, p.95.

³⁴ Minutes of the 1st Ordinary General Meeting of the Sutherland Railway, 28 October 1865, NAS/BR/SLD/1/1, p.10.

³⁵ 29&30 Vic. cap.292, 1866, The Caithness Railway Act.

their proposed subscriptions.³⁶ As the previous chapter has indicated, however, the Caledonian did not invest and the first board appointed included five Highland company directors, including Matheson and Bruce.³⁷

Under the Sutherland and Skye incorporations, the Highland inherited powers from its Inverness constituents to subscribe £30,000 to the Sutherland and £50,000 to the Dingwall and Skye, but the Highland's financial difficulties precluded any immediate response.³⁸ Nevertheless, Highland shareholders were informed of the commencement of work on the Sutherland Railway and the authorisation of the independent company to construct the Skye line, and assured that the lines would generate substantial traffic for the Highland.³⁹

Highland company strategy, therefore, was to support the extension of railways northwards and westwards into unpromising economic regions, providing some capital injection, relinquishing profit from working agreements, and relying instead for a return from traffic passing onto the Highland system. Capital for the lines was to be provided substantially by local landowners, not primarily for dividend, but for improved transport links with their large estates and the broader subsidiary objective of encouraging economic development in the districts served. The chapter now turns to examine the development of these two northern railways, first across the north-west highlands to the west coast and Skye, and then through Sutherland and Caithness to the northernmost ports of Wick and Thurso.

³⁶ 28&29 Vic. cap.223, 1865, The Dingwall and Skye Railway Act, with authorised capital of £450,000 and borrowing powers of £150,000: the Caledonian Railway was authorised to subscribe £100,000, and the Inverness and Aberdeen Junction and Inverness and Perth Junction Railways £25,000 each.

³⁷ Minutes of the 1st Ordinary General Meeting of the Dingwall and Skye Railway, 28 October 1865, NAS/BR/DSK/1/1, p.26: the first Skye board comprised eight directors of which five were also Highland Railway directors (Matheson, Bruce, Mackintosh, Lovat and Fraser-Tytler), thus forming a majority.

³⁸ Report to the 1st Ordinary General Meeting of the Highland Railway, 27 October 1865, NAS/BR/HR/1/1, pp.42-43 and page 2 of inserted printed report; *Railway Times*, 4 November 1865, p.1407: Matheson reported that "the excess of capital expenditure over capital received is significant" and that over £½ million of bank debt had been incurred; see also chapter 8, 'Hidden debt: The Highland Railway'.

³⁹ Report to the 1st Ordinary General Meeting of the Highland Railway, 27 October 1865, NAS/BR/HR/1/1, pp.42-43 and page 2 of inserted printed report.

The enigma of the Skye Railway

The routes of the Inverness railway web were constructed following careful advance planning by its promoters, particularly by securing landowner agreements before seeking incorporation to avoid expensive parliamentary contests. The proposed Dingwall and Skye Railway appeared to be no different when, in 1864 and a year before authorisation, the *Railway Times* reported that 'The whole of the landlord gentry is naturally in favour of this scheme; three-fourths of the land are already to be given in exchange for shares ...'.⁴⁰ With sparse population along its route, 'cheap railway' principles were essential. Mitchell estimated the line could be constructed for £5,500 per mile, while Highland secretary Dougall calculated a 4½ percent return, although this was advertised in the prospectus as 'a remunerative return'.⁴¹ Matheson told Aberdeen Junction shareholders he believed that 'the projected line would pay well', but he also stated that additional traffic should be the principal motive to justify support for the Dingwall and Skye and that any dividend 'ought to be a secondary consideration'.⁴² A public meeting in July 1864, timed to coincide with the Inverness Sheep and Wool Market to attract maximum support for the Skye promotion, identified potential traffic from sheep, fish, tourism and the island steamer trade, but also intimated the wider value of the line to the district:

... the proposed railway cannot be made unless all come forward strenuously to aid us ... We do not ask you to give us your money for nothing, although to many in the district, it would be of more importance to have the line than to be without it.⁴³

⁴⁰ *Railway Times*, 23 July 1864, pp.993-94.

⁴¹ Meeting of 'Landowners and others interested in the formation of a Railway from Dingwall to the West Coast', held at Westminster, 26 April 1864, NAS/BR/DSK/1/1, p.1; *Herapath's Railway Journal*, 16 July 1864, p.824; Prospectus of the Dingwall and Skye Railway, in *Railway Times*, 16 July 1864, p.976.

⁴² *Railway Times*, 20 May 1865, p.641.

⁴³ Minutes of the Dingwall and Skye Railway, 15 July 1864, NAS/BR/DSK/1/1, p.5, reporting a public meeting in Inverness; *Herapath's Railway Journal*, 16, 23 and 20 July 1864, pages 832, 856 and 888, publishing the prospectus of the Dingwall and Skye Railway.

Matheson asserted that the Skye line would mean that 'they would hear no more of emigration'.⁴⁴ Subscriptions from promoters announced at the meeting amounted to £40,200, of which £5,000 was offered by the Duke of Sutherland. £12,000 by Alexander Matheson and £3,000 by Sir James Matheson; in addition, Matheson and Sutherland offered to take stock for land, 24 miles in the case of Matheson and 3 miles for Sutherland.⁴⁵ Just under half of the land required was therefore available from two promoters and a further 14 miles, owned by Lord Hill, was anticipated under a similar agreement.⁴⁶ By October 1864, a quarter of the projected share capital had been subscribed.⁴⁷

The positive launch of the Skye scheme mirrored earlier Inverness promotions, but the Dingwall and Skye presents an enigma in comparison to the carefully planned and ordered realisation of the Highland Railway's constituents. Ross notes that 'For businesslike characters like Matheson and Dougall, the confused management of the Dingwall and Skye project seems odd, but Matheson had other concerns ...' and suggests that one cause was the lack of a specific supervisor to oversee the Skye line, unlike the appointments of Bruce on the Perth Junction or Murray on the Sutherland.⁴⁸ The undoubted pre-occupation of Matheson and Dougall was to

⁴⁴ *Herapath's Railway Journal*, 30 July 1864, p.862.

⁴⁵ Minutes of the Dingwall and Skye Railway, 15 July 1864, NAS/BR/DSK/1/1, p.6: Sir James Matheson was the uncle of Alexander Matheson and the head of the Jardine-Matheson trading company; J Mitchell, *Reminiscences of My Life in the Highlands*, vol.1, p.269, notes that Sir James Matheson Bt owned the western island of Lewis and an estate in Sutherland, serving as Member of Parliament for Cromarty in 1847-68. Sir James Matheson died in 1878; Alexander Matheson was created a baronet in 1882, taking the title of Lochalsh.

⁴⁶ Minutes of the Dingwall and Skye Railway, 15 July 1864, NAS/BR/DSK/1/1, p.6 and 30 December 1864, NAS/BR/DSK/1/1, p.12.

⁴⁷ Minutes of the Dingwall and Skye Railway, 6 October 1864, NAS/BR/DSK/1/1, p.8: by 6 October 1864, £101,160 (22.5%) was subscribed of the £450,000 share capital authorised in the 1865 Act, exclusive of shares in return for land, although the Act (28&29 Vic. cap.223, 1865) also identified the expected cost of the line as £400,000, £50,000 less than the authorised capital..

⁴⁸ D Ross, *The Highland Railway* (Stroud, 2005), p.60; Minutes of the Sutherland Railway, 2 July 1866, NAS/BR/SLD/1/1, p.26, recording the appointment of Kenneth Murray of Geanies as superintendent and local agent (Murray was a factor of the Duke of Sutherland); Bruce was appointed managing director of all the Inverness web lines in 1863, recorded in minutes of the Inverness and Aberdeen Junction railway, 27 October 1863, NAS/BR/IAJ/1/2, p.490.

ensure that Highland Railway remained solvent and repaid its considerable debt for, without success, the entire Inverness network would have been threatened.

The Skye enigma arose even before the company was incorporated. Opposition emerged from some landowners, resulting in delays that had not been experienced elsewhere on the Highland system and disagreement amongst the original promoters surfaced, which was also a contrast to the previous harmony in Inverness. Of the ten individuals appointed to act as a sub-committee to manage Skye affairs until parliamentary authority was obtained, Matheson, Bruce, Mackintosh and Fraser of Lovat were already Inverness web directors and banker Waterston was soon to join the Highland board.⁴⁹ Of the remaining five members, all with interests in the district to be served by the line, Davidson of Tulloch near Dingwall, who had offered land for stock in 1864,⁵⁰ opposed part of the route, two other committee members were ultimately threatened with legal action for non-payment of calls, including the chief of Clan Macleod who had chaired the public meeting in Inverness, while a fourth, Sir John Stuart, was later a prime instigator of the 1872 unofficial committee of investigation.⁵¹

By February 1865, Davidson and Lord Hill proposed to petition against the bill and Sir William Mackenzie, who had spoken in favour of the line at the 1864 public meeting and whose name appeared on the prospectus, also announced opposition to the bill 'unless certain proportions as to the course of the Line and the nature of the works are conceded ...'.⁵² Unusually, Inverness promoters faced a costly

⁴⁹ Minutes of the Dingwall and Skye Railway, 6 October 1864, NAS/BR/DSK/1/1, p.9.

⁵⁰ Minutes of the Dingwall and Skye Railway, 6 October 1864, NAS/BR/DSK/1/1, p.9.

⁵¹ Minutes of the Dingwall and Skye Railway, 30 December 1864, NAS/BR/DSK/1/1, p.12, recording Davidson's objection to the route east of the Dingwall Canal, and Baillie of Dochfour's disagreement with being allocated 500 shares; Minutes of the Dingwall and Skye Railway, 19 October 1866, NAS/BR/DSK/1/1, p.39, recording the resignation of Macleod of Macleod as deputy chairman over difficulties in meeting calls on his £7,000 subscription; Minutes of an Extra-ordinary General Meeting of the Dingwall and Skye Railway, 13 July 1872, NAS/BR/DSK/1/1, p.156, recording the report of a 'so-called Committee of Investigation', membership of which included Sir John Stuart and Sir John Fowler (both recently resigned directors of the Skye company), and the resolutions passed at the meeting that refuted the allegations against the board.

⁵² Minutes of the Dingwall and Skye Railway, 6 October 1864, NAS/BR/DSK/1/1, pp.17-18; D McConnell, *Rails to Kyle of Lochalsh* (Headington, Oxford, 1997), p.22; 28&29 Vic. cap.223,

parliamentary contest and, when problems emerged over the route at Lochluichart, the earlier practice of railway promoters to pay compensation above land value that had been largely absent in the north was agreed 'to get rid of this opposition'.⁵³ Lady Ashburton at Lochluichart sought £4,000 for land for which company was prepared to pay up to £2,000, but Davidson and Lord Hill were principally concerned about the route of the railway over their property, issues that on earlier Inverness lines were resolved before draft legislation reached parliamentary scrutiny.⁵⁴

The evidence therefore suggests that the Skye promotion was not subject to the same degree of preparatory negotiation as earlier Inverness web lines to forestall possible landowner claims, and that such work that was undertaken proved less successful. The Dingwall and Skye, however, faced potential competition for west-coast island trade from the Callander and Oban Railway, authorised in 1865 with large financial support from the Scottish Central, a commitment inherited by the Caledonian on amalgamation that year.⁵⁵ As a result, the Skye promoters faced some pressure to achieve a western railhead and establish trading links before any competitors, which may have contributed to some omissions in the usual thoroughness of planning.

Although the Caledonian had expressed an interest in July 1865 in subscribing £50,000 to the Dingwall and Skye, the act of incorporation permitted a Caledonian investment of £100,000 with a further £50,000 to be subscribed from Inverness web

1865, The Dingwall and Skye Railway: section 34 of the act specifically prescribed that the railway should cross four miles of Mackenzie's estate at Coul 'with as little Detriment as possible'.

⁵³ Minutes of the Dingwall and Skye Railway, 6 October 1864, NAS/BR/DSK/1/1, p.19.

⁵⁴ Minutes of the Dingwall and Skye Railway, 24 February 1865, 21 March 1865 and 22 June 1865, NAS/BR/DSK/1/1, p.19, p.20 and p.22.

⁵⁵ Report to the Ordinary General Meeting of the Caledonian Railway, 12 September 1865, NAS/BR/RAC(S)/1/3; General minutes of shareholders of the Scottish Central Railway, 18 March 1865, NAS/BR/SCC/1/15: the Scottish Central Railway was to subscribe £200,000 to the Callander and Oban Railway, representing one third of the estimated cost of the line, and to work the line in perpetuity; 28&29 Vic. cap.266, 1865, The Callander and Oban Railway Act; Prospectus of the Callander and Oban Railway, 1864, NAS/BR/PRO(S)/1/3; Minutes of the Callander and Oban Railway, 26 July 1864, NAS/BR/COB/1/1, pp.5-11, reporting the preliminary meetings between promoters and the Scottish Central to establish the Callander and Oban Railway: *Herapath's Railway Journal*, 6 August 1864, p.909.

companies.⁵⁶ With control of the Callander and Oban and a large interest in the Dingwall and Skye, the Caledonian would have acquired a dominant influence in all west-coast trade. A third of authorised capital for the Dingwall and Skye was therefore expected from other railway companies, but the Caledonian was unable to provide its proposed £50,000 subscription and no Highland investment was forthcoming whilst its capital problems remained.⁵⁷ Thus the Dingwall and Skye began its existence with a major shortfall in capital and, like earlier Inverness railways, it had to rely substantially upon local sources, which proved to be inadequate.

The threat to west-coast trade posed by the Callander and Oban receded once the Caledonian realised the capital costs of driving a route through the West Highlands to Oban,⁵⁸ which had been the core of the abortive Scottish Grand Junction scheme of 1845–46 and the original subject of Aytoun's *Glenmutchkin* lampoon.⁵⁹ The Caledonian's committee of inquiry urged abandonment of the Oban line in 1868.⁶⁰ In

⁵⁶ 28&29 Vic. cap.229, 1865, The Dingwall and Skye Railway Act, authorising subscriptions from the Inverness and Aberdeen Junction Railway (£25,000), the Inverness and Perth Junction Railway (£25,000) and the Caledonian Railway £100,000).

⁵⁷ Minutes of the Inverness and Aberdeen Junction Railway, 7 July 1865, NAS/BR/IAJ/1/3, p.148, recording the offer of the Caledonian Railway to subscribe £50,000 to the Dingwall and Skye Railway; Minutes of the Highland Railway, 10 August 1866, NAS/BR/HR/1/1, p.193.

⁵⁸ List of Subscribers to 'The Callander and Oban Railway', 1865, NAS/BR/COB/2/1: of the 28,337 £10 shares subscribed in 1865, the Caledonian Railway held 20,000, the Earl of Breadalbane 2,000 and the Duke of Argyll 600 (79.8%), with a further 1,500 shares held by four local directors (5.3%). Thirty (13.2%) of the 228 subscribers held one share and 137 (60.1%) held 5 shares or less. 174 subscribers (76.3%) were resident in the western highlands and islands; only 12 subscribers (5.3%) were registered in England. The subscription pattern of the Callander and Oban was therefore similar to those of lines further north, in which the majority of capital, excluding investment by other railway companies, was supplied by a few large landowners and supplemented by many small local subscriptions.

⁵⁹ *Railway News*, 8 September 1866, p.252: '... about 20 miles of the Callander and Oban has been contracted for, so that a beginning may be said to have been made to the West Highland line, satirised by Aytoun twenty years ago as "the Great Glenmutchkin" '; chapter 2, table 19, gives details of the Scottish Grand Junction Railway.

⁶⁰ Report of the Committee of Inquiry to the Shareholders of the Caledonian Railway, 3 January 1868, NAS/BR/RAC(S)/1/3, page 10, paragraph 28; Resolution to the 47th Ordinary General Meeting of the Caledonian Railway, 29 September 1868, NAS/BR/CAL/1/3, proposing no further expenditure on the Callander and Oban 'until the proprietors raised sufficient funds which, with the Caledonian subscriptions approved, is sufficient to reach Oban'.

March 1869, the Caledonian proposed to limit Callander and Oban capital to £243,900 and their share of it to £162,000, and to terminate the line at Tyndrum, over 30 miles from Oban, where drove roads from the west and north-west joined and traffic could be tapped.⁶¹ The state approved abandonment of the Oban section in 1870, but, following new powers in 1874, the railway reached Oban in 1880.⁶² The threat of competition to the Dingwall and Skye was delayed, therefore, but not removed. The Oban route provided one of the stimuli for a later extension of the Skye Railway in 1893 to a west-coast terminus at Kyle of Lochalsh, aided by a £45,000 state grant towards the estimated cost of £270,972, which reversed the long-standing state policy of refusing public investment in British railways.⁶³

Although the Dingwall and Skye was authorised in July 1865, difficulties in resolving landowner disputes resulted in a decision 'that no steps will be taken until these difficulties are removed'.⁶⁴ Matheson, appointed chairman of the Dingwall and Skye in August 1865, reported that Lord Hill had agreed terms, that Davidson 'has been more reasonable', but that Mackenzie 'remains as obstinate as ever'.⁶⁵ Directors

⁶¹ Report to the Ordinary General Meeting of the Caledonian Railway, 30 March 1869, NAS/BR/RAC(S)/1/4: the Caledonian also proposed to work the Callander and Oban at cost price; Report to the Ordinary General Meeting of the Caledonian Railway, 29 September 1868, NAS/BR/CAL/1/3, recommending extension of the Callander and Oban from Glen Ogle to Tyndrum because Glen Ogle was 'a terminus so unfavourably situated ... and nothing but loss could result from its working'.

⁶² Report to the Ordinary General Meeting of the Caledonian Railway, 30 September 1870 and 22 September 1874, NAS/BR/RAC(S)/1/4; 33 Vic. cap.9, 1870, The Callander and Oban Railway (Abandonment) Act, reducing authorised capital to £243,000 with borrowing powers of £81,300; *Railway Times*, 11 October 1873, p.1020, reporting the opening of the line to Tyndrum on 1 August 1873; 37&38 Vic. cap.110, 1874, The Callander and Oban Railway (Tyndrum to Oban) Act.

⁶³ D Ross, *The Highland Railway*, p.93: the extension estimate was £233,873 plus £37,099 for harbour work; D McConnell, *Rails to Kyle of Lochalsh*, pp.128-29 and p.138; 56&57 Vic. cap.91, 1893, the Highland Railway Act, with capital of £200,000 and borrowing powers of £66,000 to extend the line from Strome to Kyle of Lochalsh and construct a pier at Kyle.

⁶⁴ 28&29 Vic. cap.223, 1865, The Dingwall and Skye Railway Act; Report to the 1st Ordinary General Meeting of the Dingwall and Skye Railway, 28 October 1865, NAS/BR/DSK/1/1, p.27.

⁶⁵ *Railway Times*, 4 November 1865, p.1422, reporting Matheson's address to the 1st Ordinary General Meeting of the Dingwall and Skye Railway held on 28 October 1865, in which he stated that 'under the circumstances, we must postpone doing anything at present...'; Minutes of the Dingwall and Skye Railway, 2 August 1865, NAS/BR/DSK/1/1, p.23.

could report no progress a year later because of continuing difficulties with finance and land.⁶⁶

With the impact of the Overend Gurney collapse of 1866 on investors' confidence, a new and remote Scottish line held no appeal on the national capital market. Of the authorised share capital of £450,000, only £91,000 was considered certain by September 1866, but a shareholders' circular indicated that a further £26,160 had been offered.⁶⁷ Maximum funds of £153,160 were identified and the board recommended a revised plan to terminate the line at Attadale on Loch Carron, giving the nearest deep water access to a sea outlet, for which the cost was estimated at £220,000.⁶⁸ By October 1867, the directors reported that a further £40,000 had been raised from additional subscriptions, sufficient to begin construction, and a deviation bill was proposed to obviate the remaining difficulties with landowners.⁶⁹ The resultant legislation in 1868 reduced the capital of the company and re-routed the line, principally avoiding Mackenzie's obstruction at Strathpeffer, but thereby bypassing the one significant settlement on the original route.⁷⁰

⁶⁶ Report to the Ordinary General Meeting of the Dingwall and Skye Railway, 30 October 1866, NAS/BR/DSK/1/1, pp.35-37: 'The Directors have to report that chiefly in consequence of the state of the money market during the last twelve months, the Works have not been commenced, and they regret to say that the difficulties in arranging with certain landowners on the Line alluded to in [the] last Report still exist'.

⁶⁷ Circular to shareholders of the Dingwall and Skye Railway, 5 September 1866, NAS/BR/DSK/1/1, p.37: £91,000 of original subscriptions were regarded as secure, £26,160 had been offered in new subscriptions, £6,000 was estimated to represent funds derived from the value of land offered for the railway in return for shares, and £30,000 was estimated as potential contributions from other railway companies, a total of £153,160.

⁶⁸ Report to the Ordinary General Meeting of the Dingwall and Skye Railway, 30 October 1866, NAS/BR/DSK/1/1, pp.35-37 and circular to shareholders included in minute book, dated 5 September 1866, p.37, giving the estimated cost of the line to Lochcarron as £220,000; *Railway News*, 25 April 1868, p.461, reporting the Special General Meeting of the Dingwall and Skye Railway on 15 April 1868 to approve the parliamentary bill by when the cost was estimated to be £238,500.

⁶⁹ Report to the Ordinary General Meeting of the Dingwall and Skye Railway, 30 October 1867, NAS/BR/DSK/1/1, pp.43-44, recording the extra subscriptions, '... and this, with the sum originally subscribed, will admit of the Line being made from Dingwall to Lochcarron, a distance of 50 miles'.

⁷⁰ 31&32 Vic. cap.19, 1868, The Dingwall and Skye Railway (Deviations) Act, which reduced share capital to £400,000 and borrowing powers to £133,300; Mackenzie owned the Coul estate west of Strathpeffer through which the railway was planned to pass for four miles

Highland shareholders approved a working agreement with the Skye Railway in October 1868, two years before the line opened.⁷¹ Previously, the Highland Board had expressed a preference for an agreement 'with security of due payment of the working expenses' as on the Sutherland, but a majority also favoured a rebate to the Skye 'for all Traffic thrown on the Highland Line' and so clearly were not seeking maximum profit.⁷² Rather than adopt the more usual practice of charging a proportion of receipts, the agreement provided for two trains per day each way at 2 shillings per mile and any additional trains were to cost 1s 10d per mile from which the Highland expected to cover its working expenses, irrespective of gross revenue earned on the Skye line.⁷³ There was some Highland shareholder dissent expressed about the level of charges and even the principle of working the line. In response to concerns that 'One penny on each mile was a very small margin',⁷⁴ the return was 'not worth their trouble' and a possible amalgamation with the Skye Railway, deputy chairman Bruce assured shareholders that 'No word will be spoken about amalgamation until the Highland is paying 5 percent'.⁷⁵

(section 34 of 28&29 Vic. cap.223, 1865, prescribed that the line should cause 'as little Detriment as possible ...' when crossing the Coul estate).

⁷¹ Report to the Ordinary General Meeting of the Highland Railway, 30 October 1868, NAS/BR/HR/1/1, pp.430-31 and page 2 of inserted printed report.

⁷² Minutes of the Highland Railway, 13 May 1868, NAS/BR/HR/1/1, p.398.

⁷³ Report to the Ordinary General Meeting of the Highland Railway, 30 October 1868, NAS/BR/HR/1/1, pp.430-31 and page 2 of inserted printed report.

⁷⁴ The figure of one penny per mile as a return for working the Skye line, quoted by a shareholder (*Railway Times*, 7 November 1868, pp.1126-27), implies that the working agreement assumed a maximum 4% margin charged over operating costs of the daily trains.

⁷⁵ *Railway Times*, 7 November 1868, pp.1126-27, reporting the Ordinary and Special General Meetings of the Highland Railway held on 30 October 1868: one Highland shareholder (AG Dallas of Dochfour House, Inverness, who was also a Skye director) pointed out that the Highland directors held £1 million of shares in the Highland, but only £30,000 in the Dingwall and Skye.

Construction tenders were accepted in August 1868, although the two contractors refused to take the full £2,500 of stock sought from each by the board.⁷⁶ A settlement of £2,000 was made with Davidson for land,⁷⁷ but, ironically, an arbitration award of £283 to Mackenzie, who had been the principal cause of the need to divert the line, came in January 1869 after his death.⁷⁸ Following questions about the wisdom of terminating the line at Attadale, the western terminus was extended by 5 miles alongside Loch Carron to Strome Ferry at an additional estimated cost of £5,232.⁷⁹ The need for economy was emphasised when the engineer advised three months later that the cost would be £2,000 more and was told that 'savings must be effected' and that the cost must not exceed £5,300.⁸⁰

Replicating the experience of other remote northern railways, the Dingwall and Skye was unable to raise sufficient share capital and had to resort to banks as an alternative source of capital to meet construction costs. Shareholders were notified of the dates of calls on shares to try to ensure a flow of funds,⁸¹ but, in August 1869, arrears on shares amounted to £75,857, a third of the par value of stock created.⁸² The company secured a £30,000 loan from the Commercial Bank for three years, but backed by £105,000 of stock and directors' guarantees.⁸³ This loan was increased

⁷⁶ Minutes of the Dingwall and Skye Railway, 8 August 1868 and 18 September 1868, NAS/BR/DSK/1/1, p.54 and 55: contractor Granger took £1,500 of stock and contractor MacDonald £2,000.

⁷⁷ Minutes of the Dingwall and Skye Railway, 20 October 1868, NAS/BR/DSK/1/1, p.59.

⁷⁸ Minutes of the Dingwall and Skye Railway, 4 January 1869, NAS/BR/DSK/1/1, p.68.

⁷⁹ Minutes of the Dingwall and Skye Railway, 23 March 1869, NAS/BR/DSK/1/1, p.72.

⁸⁰ Minutes of the Dingwall and Skye Railway, 4 June 1869, NAS/BR/DSK/1/1, p.75.

⁸¹ Minutes of the Dingwall and Skye Railway, 1 February 1869, NAS/BR/DSK/1/1, p.70: a circular was agreed giving the dates of remaining calls and amounts due on 24 February 1868 (£2), 26 April 1869 (£1.10s), 28 June 1869 (£2) and 15 December 1869 (£1.10s). The deposit and first call totalling £3 had already been made.

⁸² Appendix, table 8(a): £238,500 of shares of the £400,000 authorised were created, although £105,000 of ordinary shares were issued as security for a bank loan in June 1870.

⁸³ Minutes of the Dingwall and Skye Railway, 4 June 1869, NAS/BR/DSK/1/1, p.74: at this date, £6 10s had been called on the £10 shares and therefore the par value of the stock in security represented £68,250, over twice the loan value.

to £50,000 in August 1870.⁸⁴ Borrowing powers were exercised in September 1869, which implies that stock issued as bank security was included in the total claimed as subscribed, a device used earlier by the Inverness web and identified in chapter 6.⁸⁵ By the time the line opened in August 1870, almost three-fifths of the funds raised required fixed interest payments.⁸⁶ Not all details of the capital accounts have survived, but, by 1872, the capital cost per mile was £5,557, almost exactly the Mitchell's estimate, albeit for a shortened line.⁸⁷

Some capital expenditure was unplanned. Under the original plans to build to the west coast, the Dingwall and Skye had intended to connect with the island steamer services operated by David Hutcheson, but the shipping company was unwilling to serve the railway terminus in Loch Carron 'without a serious loss of money and we have therefore resolved not to undertake it'.⁸⁸ The Skye Railway board agreed the purchase of two ships for £6,800 in 1870,⁸⁹ but in the first year of operation, the

⁸⁴ Minutes of the Dingwall and Skye Railway, 2 August 1870, NAS/BR/DSK/1/1, p.108, recording an increase in the loan agreed with the Commercial Bank from £30,000 to £50,000 at 4½ %: the original loan was approved on 4 June 1869 (p.74).

⁸⁵ Minutes of a Special General Meeting of the Dingwall and Skye Railway, 8 September 1869, NAS/BR/DSK/1/1, p.84; Appendix, table 8(a); the authorised share capital revised in 1868 was £400,000, of which £112,995 was reported as received and £75,857 in arrears by 31 August 1869. Thus, half of the authorised capital had not been paid up by this date unless the £105,000 issued in security was also included in the total.

⁸⁶ Appendix, table 8(a): of the £230,580 shown as raised by 31 August 1870, debentures accounted for £79,481 and shares for £151,099 (which includes stock issued in security for bank loans). Thus, authorised debenture loans (£79,481) and temporary loans (£50,000) account for 56.2% of the funds raised by August 1870.

⁸⁷ Appendix, table 8(a), notes (6) and (7); Report of a public meeting at Inverness in support of the Dingwall and Skye Railway, in minutes of the Dingwall and Skye Railway, 15 July 1864, NAS/BR/DSK/1/1, p.6, which announced Mitchell's estimate of £5,500 for the line; Prospectus of the Dingwall and Skye Railway, in *Railway Times*, 16 July 1864, p.976, giving the estimate of £5,500 per mile for the line.

⁸⁸ Letter from Messrs Hutcheson and Co to the Dingwall and Skye Railway dated 21 November 1870, in minutes of the Dingwall and Skye Railway, 25 November 1870, NAS/BR/DSK/1/1, p.118.

⁸⁹ Minutes of the Dingwall and Skye Railway, 12 May 1870, NAS/BR/DSK/1/1, p.102.

company's steamer service lost £2,582 to revenue and losses continued until 1877 when the Highland agreed to take over the steamer operation.⁹⁰

Matheson claimed the Skye line to be 'a main trunk line' and 'no mere branch line running into a Highland district, where there was a sparse population and a limited traffic',⁹¹ but his optimism was not reflected in the revenue account. The Skye line reflected many of the financial characteristics of the earlier Great North branches. Although gross revenue covered operating expenses, interest payments exceeded the revenue balance throughout the independent existence of the company until it amalgamated with the Highland in 1880.⁹² After the first year of operation, for example, an operating surplus of £2,038 was only achieved by charging £2,212 of maintenance costs to capital, but even that adjusted balance was insufficient to meet the £6,862 due for debenture and temporary loan interest.⁹³ During the winter months of 1870-71, the company sought economies by asking the Highland to run only one train each way each day, for which the Highland gave a £416 rebate.⁹⁴ The Skye line also reflected seasonal extremes in gross revenue similar to other Inverness lines; an average of £524 per week was taken in August-September 1872, compared with only £131 per week in February 1873.⁹⁵

⁹⁰ Appendix, table 8(b); Minutes of the Dingwall and Skye Railway, 7 August 1877, NAS/BR/DSK/1/1, p.245, resolving to transfer the two steamers and ferry boats at valuation to the Highland Railway from 1 September 1877; 40 Vic. cap.4, 1877, The Highland Railway (Steam Vessels) Act; D McConnell, *Rails to Kyle of Lochalsh*, p.72.

⁹¹ *Railway News*, 6 November 1869, p.483, reporting Matheson's statement at the Ordinary General Meeting of the Dingwall and Skye Railway held on 29 October 1869.

⁹² Appendix, table 8(c) and accounts of the Dingwall and Skye Railway, 1871-80, NAS/BR/DSK/1/1: interest due on debentures and temporary loans represented approximately half of gross revenue in 1871-77 and two-thirds in 1878-79; 43&44 Vic cap.129, 1880, The Highland and Dingwall and Skye Railway Companies Amalgamation Act.

⁹³ Accounts of the Dingwall and Skye Railway to 31 August 1871, NAS/BR/DSK/1/1 and NAS/BR/RAC(S)/1/68; Appendix, table 8(c).

⁹⁴ Minutes of the Dingwall and Skye Railway, 25 November 1870, NAS/BR/DSK/1/1, p.118; Minutes of the Highland Railway, 27 September 1871, NAS/BR/HR/1/2, p.107, granting a £416 rebate for the four months from 1 December 1870 when only one train was operated each way on the Skye line.

⁹⁵ Data of traffic receipts for 4, 11, 18 and 25 August and 1, 8, 15, 22 and 29 September 1872, in minutes of the Dingwall and Skye Railway, 20 August and 12 October 1872, NAS/BR/DSK/1/1, p.161 and p.163, and for 2, 9, 16 and 23 February 1873, in minutes of the Dingwall and Skye Railway, 25 April 1873, NAS/BR/DSK/1/1, p.177.

Dougall reported a capital deficit of £31,699 in February 1871,⁹⁶ and, by the time of the shareholders' meeting in October 1871, the company owed £50,000 to the Commercial Bank, £10,000 to the Caledonian Bank with a further £20,000 applied for, and £15,173 on overdraft:

... it was impossible to avoid this result, in consequence of the original capital being insufficiently subscribed. The Directors have therefore been under the necessity of borrowing £90,000 to complete the Line ...⁹⁷

The Highland Railway held inherited powers to subscribe £50,000 to the Dingwall and Skye. At the Highland shareholders' meeting in April 1872, the directors proposed to invest £35,000 in the Dingwall and Skye in return for two seats on the Skye board 'in consideration of the traffic already received, which is certain to increase ...', and because 'the full benefit of connecting the Western Highlands with the railway system will not be realised until the line is extended several miles westwards towards the sea'.⁹⁸ In proposing this subscription, the Highland board was replicating the Great North's approach to its branch investment in apparent contradiction of the Inverness web policy espoused by Matheson that the independent companies should 'subscribe the capital and make the lines'.⁹⁹

⁹⁶ Minutes of the Dingwall and Skye Railway, 5 February 1871, NAS/BR/DSK/1/1, p.127; Appendix, table 8(a): the Dingwall and Skye capital account shows a capital deficit of £36,856 at 31 August 1871.

⁹⁷ Report to the Ordinary General Meeting of the Dingwall and Skye Railway, 4 October 1871, NAS/BR/DSK/1/1, pp.139-40 and pages 1 and 4 of inserted printed report; Minutes of the Dingwall and Skye Railway, 6 September 1871, NAS/BR/DSK/1/1, p.155, recording that the board were seeking an additional £20,000 loan from the Caledonian Bank; Appendix, table 8(a): company accounts show £60,000 of temporary loans in August 1871 (£50,000 from the Commercial Bank and £10,000 from the Caledonian Bank) and £76,498 of temporary loans in August 1872.

⁹⁸ *Railway Times*, 27 April, 1872, p.431; Report to the Ordinary General Meeting of the Highland Railway, 26 April 1872, NAS/BR/HR/1/2, pp.161-62 and page 2 of inserted printed report; Minutes of the Dingwall and Skye Railway, 4 June 1872, NAS/BR/DSK/1/1, p.152, recording acceptance of the condition of two Highland Railway board members in return for the £35,000 subscription and the nomination of TC Bruce and Col. H Inglis as directors.

⁹⁹ *Herapath's Railway Journal*, 7 November 1863, p.1181.

However, like the Great North branches, the Dingwall and Skye was insolvent and the Highland, which had cleared its temporary debt by February 1872, had either to give direct support to maintain the traffic flow onto its railway system or allow the company to become bankrupt.

In April 1873, the Commercial Bank agreed to renew its £50,000 loan for two years at 4½ percent and the Caledonian Bank agreed the same terms for their £30,000 loan.¹⁰⁰ With increasing temporary debt and only a slow rise in gross revenue, the debt gearing for the Dingwall and Skye was as weak as most of the earlier Great North branches and significantly weaker than the Caledonian benchmark (table 84). The prospect of repaying debt was remote and debt gearing showed no indication of improvement by 1875.¹⁰¹

Table 84: Financial indicators for the Dingwall and Skye Railway, 1871-75

31 August	1871	1872	1873	1874	1875
Temporary loans (£)	60000	76498	80000	80000	80000
Total debt including debentures (£)	139481	155979	159414	162472	191172
Gross annual revenue (£)	11328	14460	15063	17005	18587
Ratio of debentures to capital raised	34.1%	25.9%	25.8%	26.5%	32.7%
Ratio of gross revenue to total debt	0.081	0.093	0.094	0.105	0.097
Source: Appendix, table 8(d).					
(1): Comparative gearing ratios for the Caledonian Railway in 1849-50 were 24.5% for debentures/capital and 0.162 for gross revenue/debt.					

Capital constraints had forced the Dingwall and Skye to retreat from its planned western coastal terminus, which hindered its prospects of economic success. The *Railway Times* reported discussions in 1870 concerning an extension six miles beyond Strome to the sea coast to improve traffic to the Isles.¹⁰² The Highland's proposed £35,000 investment offered two potential uses to give financial relief to the Dingwall and Skye. While funds were needed to redeem some of the accumulated

¹⁰⁰ Minutes of the Dingwall and Skye Railway, 25 April 1873, NAS/BR/DSK/1/1, p.179.

¹⁰¹ This study covers the period 1844-74, but accounts of the Dingwall and Skye Railway, NAS/BR/DSK/1/1, produce ratios of gross revenue to total debt that continued to be as weak in 1876-80 until amalgamation with the Highland Railway in 1880 (0.101 in 1876, 0.087 in 1877, 0.069 in 1878, 0.067 in 1879, 0.075 in 1880).

¹⁰² *Railway Times*, 5 November 1870, p.1092.

debts of its protégé and thereby reduce the burden of interest payments on the revenue account, capital expenditure on an extension to the west coast offered the prospect of connections with established island shipping services, which would remove the drain on revenue incurred from operating the company's own steamer services.

The financial difficulties of the Dingwall and Skye resulted in a small group of shareholders conducting an unofficial investigation and circulating two reports to shareholders and the local press that alleged financial impropriety.¹⁰³ A shareholders' meeting was called by the board in July 1872 at which Matheson refuted the accusations.¹⁰⁴ Shareholders expressed 'unabated confidence in the Board' and urged the directors 'not to notice any further statements that may be made in a similar manner by the same parties'.¹⁰⁵ Matheson told shareholders that three-quarters of Skye share capital was held by Highland shareholders and he himself held £28,000; furthermore, the directors had borrowed £100,000 on their personal security, although that commitment had been reduced to £65,000 as a result of the Highland subscription.¹⁰⁶ Matheson's statement confirmed that, like the earlier Inverness lines, the bulk of the capital for the Dingwall and Skye had been supplied locally and its paucity had required the acceptance of fixed-interest debt in order to finance the line; his own shareholding represented almost one-fifth of the

¹⁰³ Minutes of the Dingwall and Skye Railway, 24 June 1872, p.154: at a meeting in London, the directors decided to hold a shareholders' meeting in Inverness on 13 July 1872, rather than publish a detailed reply to the allegations.

¹⁰⁴ *Railway Times*, 20 July 1872, pp.727-29; *Railway News*, 20 July 1872, pp.71-72; Report of the Extra-ordinary General meeting of the Dingwall and Skye Railway, 13 July 1872, NAS/BR/DSK/1/1. p.156.

¹⁰⁵ Report of the Extra-ordinary General Meeting of the Dingwall and Skye Railway, 13 July 1872, NAS/BR/DSK/1/1, p.156, recording that 'the self-styled Committee having failed to attend this Meeting in order to substantiate or withdraw their charges and meet the Directors face to face', the shareholders resolved that the charges were 'uncalled for, irregular and wholly unwarranted ...'. The report shows that 87 people attended, representing 108 shareholders including proxies, with 94 voting for the resolutions supporting the board.

¹⁰⁶ *Railway Times*, 20 July 1872, pp.728-29.

subscribed share capital.¹⁰⁷ Both the *Railway Times* and *Railway News* supported Matheson and the Skye company:

The directors are entitled to no little credit for the promptitude with which they took up the matter, gossip and its numerous concomitants in such remote districts being best avoided and crushed out on the instant and on the spot
...¹⁰⁸

If we permitted ourselves to look for a moment at Mr Matheson's defence, we should say that it was complete and unanswerable.¹⁰⁹

In the two decades that Matheson had been associated with northern railway development, the Dingwall and Skye was the first company supported by the Inverness promoters that had encountered an intrinsic shortfall in its revenue and resulted in investigative action by a group of shareholders. Nevertheless, Matheson had achieved railway connections to his Ross-shire estates; the Ardross estates in the east were served by the opening of the Inverness and Ross-shire in 1863, while the Dingwall and Skye gave a connection to the western Attadale and Lochalsh estates in 1870, although the line did not reach Kyle of Lochalsh on the west coast until November 1897, eleven years after his death.¹¹⁰

¹⁰⁷ Accounts of the Dingwall and Skye Railway to 31 August 1872, NAS/BR/RAC(S)/1/68, showing that £227,601 share capital had been issued but, of this, £80,000 was held as security for bank loans of £76,498, leaving £147,601 of share capital subscribed, of which Matheson stated that he owned £28,000 (19.0%). Additionally, the Highland had agreed a subscription of £35,000 to the Dingwall and Skye on 4 June 1872 (NAS/BR/HR/1/2, p.185), which represents a further 23.7% of this subscribed share capital; Appendix, table 8(a).

¹⁰⁸ *Railway Times*, 20 July 1872, p.738, which suggested that at least 14 'agitators' were responsible for the unofficial committee of investigation.

¹⁰⁹ *Railway News*, 20 July 1872, pp.71-72, which reported that 23 'malcontent shareholders' were supporters of the unofficial committee of investigation. Company minutes (NAS/BR/DSK/1/1, p.156) indicate that 94 shareholders with capital of £181,939 voted in favour of the board which is at slight variance with the 92 shareholders and capital of £181,839 as reported by *Railway News* and *Railway Times*.

¹¹⁰ D McConnell, *Rails to Kyle of Lochalsh*, p.175; HGC Matthew and B Harrison (eds.), *The Oxford Dictionary of National Biography*, vol.37, pp.280-81.

Yet far from the 'remunerative return' anticipated in the prospectus,¹¹¹ investors in the Dingwall and Skye never received a dividend. Moreover, the modest level of gross revenue earned was insufficient to give a realistic prospect of repaying its capital debts, accumulated because of the traditional difficulty of raising share capital for northern railways. The precarious development of the Dingwall and Skye, in fact, provides more parallels with earlier Great North branch companies and Aytoun's fictional *Glenmutchkin* scheme than with its related Inverness web partners, and it therefore represents an enigma in the railway system planned and managed from Inverness. In 1873, the *Railway News* concluded:

The expectation of any return, except the indirect return of the opening up and improving the district, must thus be a thing of the far distant future, and hence this company has little or no interest financially beyond the locality for whose use it has been devised.¹¹²

In a circular to shareholders in 1879, secretary Dougall indicated that the company was unlikely overcome its revenue deficit until 1884, but there were financial benefits likely to accrue to both companies if the Skye company was amalgamated with the Highland.¹¹³ The Dingwall and Skye board accepted amalgamation terms in October 1879 under which Dingwall and Skye shares were exchanged at half par value for Highland stock.¹¹⁴ Amalgamation was authorised in August 1880 and the enigma passed into the Highland Railway.¹¹⁵

¹¹¹ *Railway Times*, 16 July 1864, p.976; *Herapath's Railway Journal*, 16 July 1864, p.832.

¹¹² *Railway Times*, 25 October 1873, p.552.

¹¹³ Circular to shareholders of the Dingwall and Skye Railway, 17 September 1879, NAS/BR/DSK/1/1, pp.273-74: the estimate of reversing the revenue deficit by 1884 was based on an annual revenue growth of £600, although the circular noted that the average increase since the opening of the line had been over £600 per annum. The circular also advised that the Highland could replace Dingwall and Skye debentures and temporary loans, then amounting to approximately £200,000 and costing 4½ % or more, with Highland debentures at 4%, saving £1,000 per year overall.

¹¹⁴ Circular to shareholders of the Dingwall and Skye Railway, 9 June 1880, NAS/BR/DSK/1/1, p.285.

¹¹⁵ 43&44 Vic cap.129, 2 August 1880, The Highland and Dingwall and Skye Railway Companies Amalgamation Act, under which shareholders received £50 of Highland Railway ordinary stock for £100 of Dingwall and Skye ordinary stock. The companies were amalgamated from 1 September 1880.

The far north lines: ownership and control

One of the results of the highland clearances in the far north, identified in chapter 2, had been to concentrate much of the remaining population on the eastern seaboard of Sutherland and Caithness. The Dukes of Sutherland owned the majority of Sutherlandshire acreage and invested heavily in projects for economic improvement.¹¹⁶ Richards identifies that, between 1803 and 1815, income from Sutherland's highland estates trebled, but expenditure on them increased nine-fold: 'It was investment designed to increase the value of the estates to yield higher rents at a future time'.¹¹⁷

Under the auspices of the Commission for Highland Roads and Bridges, formed in 1803 in response to national concerns about the highland economy, approximately 450 miles of road were built in Sutherland by 1833,¹¹⁸ although Smith suggests that much of the highland road mileage supported financially by the Commission could have been provided entirely by the local heritor landowners who determined county administrative affairs.¹¹⁹ In 1800 in Sutherland, there were thirteen heritors, but by 1851 there were only five.¹²⁰ Moreover, Smith concludes that state-assisted investment in roads did not resolve the inherent economic problems of the

¹¹⁶ J Mitchell, *Reminiscences of My Life in the Highlands, vol.II*, p.79, notes that Sutherlandshire comprised 1,840,000 acres, of which 32,000 acres were sea lochs: the 1st Duke of Sutherland owned 800,000 acres and Lord Reay 400,000 acres, but Reay's land was purchased by Sutherland in 1838 for £190,000 (p.90) and, by 1872, the 3rd Duke of Sutherland owned 1,326,000 acres (p.116).

¹¹⁷ E Richards, 'An anatomy of the Sutherland Fortune: Income, Consumption, Investments and Returns, 1780-1880', p.49.

¹¹⁸ PT Wheeler, 'The development of shipping services to the east coast of Sutherland', *Journal of Transport History*, VI, No.2 (November 1963), p.110: in addition, 192 bridges were built in Sutherlandshire in 1803-33.

¹¹⁹ JAR Smith, 'From Isolation to Integration: the development of roads in the northern Highlands of Scotland, 1800-1850', p.83, p.203 and glossary, p.(vi); the Commission provided one-half of the road cost and heritors were expected to supply the remainder, which could be raised by local assessment; see Glossary entries on 'heritor' and 'assessment'.

¹²⁰ JAR Smith, 'From Isolation to Integration: the development of roads in the northern Highlands of Scotland, 1800-1850', p.16.

highlands.¹²¹ In 1862, the state gave notice of the abolition of the Commission for Highland Roads and Bridges and its annual £5,000 grant towards road maintenance,¹²² Although the substantial wealth of the third Duke of Sutherland, who succeeded to the title in 1861, could absorb the additional costs that passed from the state to heritor, the change in state policy may have strengthened the Duke's decision to offer funds towards a northerly extension of the Inverness and Ross-shire Railway as a means of securing a more reliable and speedier connection of the vast Sutherland lands with the south than existing road or sea transport could provide.¹²³

The Inverness and Ross-shire Railway opened from Inverness to Dingwall in June 1862, although construction was already in progress to extend the line to Invergordon, as chapter 6 has indicated. Matheson had informed Aberdeen Junction directors three months earlier that an extension beyond Invergordon to Bonar Bridge had been proposed for which the Duke of Sutherland had offered £30,000, although he had also stated that the Inverness directors expected £70,000 to be subscribed locally to demonstrate support for the scheme.¹²⁴ With £50,000 identified in March 1862, including the Duke's contribution, the Ross-shire board recorded that an additional £20,000 was required to obtain support from Inverness,¹²⁵ but the Ross-

¹²¹ JAR Smith, 'From Isolation to Integration: the development of roads in the northern Highlands of Scotland, 1800-1850', p.362; see also chapter 2, 'The north-south divide: the Scottish economy by 1844'.

¹²² J Mitchell, *Reminiscences of My Life in the Highlands, vol. II*, p.204; JAR Smith, 'From Isolation to Integration: the development of roads in the northern Highlands of Scotland, 1800-1850', p.110.

¹²³ Minutes of the Inverness and Aberdeen Junction Railway, 18 March 1862, NAS/BR/IAJ/1/2, p.314, reporting a meeting at Tain on 17 March 1862 'of parties interested in promoting an Extension of the line northwards from Invergordon to Bonar Bridge, a distance of 27 miles ...'; PT Wheeler, 'The development of shipping services to the east coast of Sutherland', p.115.

¹²⁴ Minutes of the Inverness and Aberdeen Junction Railway, 18 March 1862, NAS/BR/IAJ/1/2, p.314.

¹²⁵ Minutes of the Inverness and Ross-shire Railway, 18 March 1862, NAS/BR/IRR/1/2: '... so soon as they have raised an additional £20,000 the Directors at Inverness would be happy to discuss with them measure[s] for making further progress'; Order of Business Book, Inverness and Ross-shire Railway, 18 March 1862, NAS/BR/IRR/1/1: 'Chairman reported that £50,000 had been already got and that the Promoters expect to raise £20,000 more ...'.

shire was already in the throes of amalgamation with the Inverness and Aberdeen Junction Railway¹²⁶ and so the legislation for the Ross-shire extension was obtained and enacted by the Aberdeen Junction without confirmation of the stipulated local subscriptions.¹²⁷

Table 85: Shareholder investment held in Ross-shire extension stock, 1865

Amount invested (£): 31 January 1865	Number of shareholders
£10 shares	
£10	9
£20	21
£30	9
£40	3
£50	11
£51-90	0
£100	24
£101-200	4
£201-300	7
£301-500	0
£501-1000	1
£1001-2000	3
£2001-3000	1
£3001-29999	0
£30000	1
Total	94
Total paid up (31 January 1865): £44,573	
Source: Data compiled for Ross-shire extension stock shareholders at 31 January 1865 from the Register of Dividends, 1864-65. Inverness and Aberdeen Junction Railway, NAS/BR/IAJ/2/1.	

By January 1865, only £44,573 of Ross-shire extension share capital had been paid up, of which the Duke and Matheson provided almost three-quarters;¹²⁸ one-third of

¹²⁶ 25&26 Vic. cap.113, 1862, the Inverness and Aberdeen Junction Railway Act, which authorised the amalgamation of the Inverness and Ross-shire and Inverness and Aberdeen Junction Railways from June 1862.

¹²⁷ 26 Vic. cap.32, 1863, The Inverness and Aberdeen Junction Railway (Bonar Bridge Extension) Act, with authorised share capital of £160,000 and borrowing powers of £53,300 and including clauses to guarantee 3% as share dividend after the first year the line was opened, rising by ½ % until the dividend matched that of the Aberdeen Junction ordinary stock.

¹²⁸ Register of Dividends, 1864-65, Inverness and Aberdeen Junction Railway, NAS/BR/IAJ/2/1, data to 31 January 1865: £445.14s.7d was paid as guaranteed 3% dividend for the first four months since the line opened, which indicates that £44,573 of share capital was paid up, and, of this sum, the Duke of Sutherland had invested £30,000, Alexander Matheson £2,500 and his uncle, Sir James Matheson, £2,000; Appendix, table 15(a), note (5).

shareholders held only one or two shares and just over a half held five shares or less (table 85), mirroring earlier Inverness investment patterns.¹²⁹ However, £144,454 of stock had been issued, which suggests that £99,881 was held as security for loans, three-fifths of the company's authorised share capital.¹³⁰

When the Ross-shire extension opened to Bonar Bridge on the southern border of Sutherlandshire in October 1864, reaching the declared boundary for the Inverness railway system,¹³¹ Matheson announced that the Duke had offered £100,000 to construct a line beyond Bonar Bridge to Golspie, to be incorporated initially as the Sutherland Railway and then extended beyond to Wick and Thurso:

The Whole Line from Bonar Bridge to Golspie, Wick and Thurso to form one distinct Company ... to be called the Sutherland and Caithness Railway.¹³²

Plans for railway development into the far north envisaged two schemes that were to be unified within one company. The southern section was authorised in 1865 as the Sutherland Railway to extend northwards from the Ross-shire terminus at Bonar Bridge to Brora on the Sutherland coast.¹³³ With £50,000 to be provided by the Duke of Sutherland and £30,000 from Inverness, almost one-half of company capital

¹²⁹ Register of Dividends, 1864-65, Inverness and Aberdeen Junction Railway, NAS/BR/IAJ/2/1, data to 31 January 1865, showing that of the 94 Ross-shire extension shareholders, 30 held one or two shares (31.9%) and 53 held 5 shares or less (56.4%).

¹³⁰ Appendix, 15(a); note (5); Accounts of the Inverness and Aberdeen Junction Railway, 31 January 1865, reported to the Ordinary General Meeting, 28 March 1865, NAS/BR/IAJ/1/3, p.100.

¹³¹ *Herapath's Railway Journal*, 22 November 1862, p.1208, and 8 October 1864, p.1166; Miscellaneous memoranda on the history of the Highland Railway, NAS/BR/HR/4/3, document 2.

¹³² Minutes of the Inverness and Aberdeen Junction Railway, 23 September 1864, NAS/BR/IAJ/1/3, p.40: the Duke offered £50,000 towards the Bonar Bridge-Golspie section and £50,000 towards the Golspie-Wick section.

¹³³ 28&29 Vic. cap.169, 1865, The Sutherland Railway Act, with authorised share capital of £180,000 and borrowing powers of £60,000: the Inverness and Aberdeen Junction and Inverness and Perth Junction Railways were authorised to subscribe £15,000 each. The northern terminus was set at Brora, 6¼ miles beyond the original objective of Golspie.

was immediately available from just two suppliers. The few recorded meetings of the promoters of the Sutherland Railway indicate the early fusion of ownership and control because attendance comprised only Matheson and George Loch, who was commissioner to the Duke of Sutherland, supported by Inverness web secretary Dougall.¹³⁴

Railway planning in the far north of Scotland was therefore predicated upon the objective of the Duke of Sutherland to improve his vast lands in Sutherland-shire, and the Duke's substantial financial commitments provide an example of capital supply catalyzing railway development. The far north line, serving a remote and sparsely populated area with little prospect of capital return, was unlikely to attract national investment and, with fewer large landowners in the northern counties than in the areas served by earlier Highland constituent companies to the south, the Duke of Sutherland and the Highland Railway became the monopsonist suppliers of capital for the route.

To achieve the solvency of any railway scheme in such isolated territory, however, the successful use of 'cheap railway' principles was paramount. Geography confined any potential railway route to the coast northwards to Helmsdale on the border of Sutherland and Caithness, where a sweep inland to the north was recommended by engineer Mitchell because of the mountainous nature of the country and coastline.¹³⁵ Along the far north route, the populations of settlements were comparatively small, but the port of Wick was of significant size in comparison to Inverness (table 86).

¹³⁴ Minutes of the Sutherland Railway, 23 September 1864, NAS/BR/SLD/1/1, p.1, 16 December 1864, NAS/BR/SLD/1/1, p.2, and 31 August 1865, NAS/BR/SLD/1/1, p.3.

¹³⁵ J Mitchell, *Reminiscences of My Life in the Highlands*, vol.II, p.214 and p.222; *Herapath's Railway Journal*, 3 September 1864, p.1036, 1 October 1864, p.1153, 5 November 1864, p.1273 and 12 December 1864, p.1299, reporting preliminary surveys by Mitchell and the desire of Caithness promoters to construct a line via the coast from Helmsdale to Wick; *Railway Times*, 13 October 1866, p.1198, noting a report by rival engineers MacLean and Stileman stating that a coast route north of Helmsdale was impractical: Mitchell noted in a letter to the *Inverness Courier* (28 November 1866) that MacLean and Stileman had adopted the inland route he had earlier advocated.

Table 86: Population of northern settlements, 1861

1861	Population
Inverness	16162
Dingwall	2412
Golspie	1615
Helmsdale	2132
Thurso	5561
Wick	12841

Source: J Thomas and D Turncock, *A Regional History of the Railways of Great Britain, vol.15 (The North of Scotland)* (Newton Abbot, 1989), pp.246-47.

Reviving an unsuccessful railway proposal from 1845, the northern section of the Sutherland and Caithness route was planned to connect the ports of Wick and Thurso and extend southwards to meet the Sutherland Railway.¹³⁶ Contractor Thomas Brassey offered to build the lines for £7,000 per mile and take £100,000 of shares, but £50,000 from the Duke of Sutherland was made conditional upon the Highland Railway subscribing £50,000 and Caithness residents raising £100,000.¹³⁷ Initial local subscriptions yielded only £30,000 and, when the Caithness Railway was incorporated in 1866,¹³⁸ capital powers were sought for the Wick-Thurso section only.¹³⁹ Its chairman, the Earl of Caithness, was also a director of the Sutherland Railway, thereby maintaining continuity between the two Sutherland and Caithness promotions. One of the first Caithness directors was Samuel Laing, Member of Parliament for Wick and a former member of the 1845 Railway Board that had recommended the Anglo-Scottish railway route to the north.¹⁴⁰ The Highland

¹³⁶ Bradshaw's *Railway Gazette*, 13 December 1845, p.843, noting proposed railway projects for Scotland that included a line between Wick and Thurso with capital of £120,000 and an Inverness and Ross Railway with capital of £500,000; see also chapter 3, table 20(a).

¹³⁷ *Railway Times*, 14 October 1865, p.1344; D McConnell, *Rails to Wick and Thurso* (Dornoch, 1990), pp.10-11.

¹³⁸ 29&30 Vic. cap.292, 1866, The Caithness Railway Act, with authorised share capital of £130,000 and borrowing powers of £43,000, and granting powers to the Highland Railway to subscribe £10,000.

¹³⁹ *Railway Times*, 23 December 1865, p.1640, reporting the deposit of the Caithness bill in Parliament and that '... only its first section is at present, for obvious reasons, being prosecuted ...'.

¹⁴⁰ See chapter 3, 'The Railway Board and Scottish Railways, 1845'; *Railway News*, 17 March 1874, p.336: Laing was Liberal MP for Wick in 1852-57, 1859-60 and 1865-68, when he was defeated by George Loch, and subsequently became MP for the Orkneys in 1873.

Railway was authorised to subscribe £10,000, which the Highland board approved in principle provided the Caithness formed 'part of the Through Scheme to the South'.¹⁴¹

However, difficulties in raising capital for the Wick-Thurso line were compounded by the estimated cost of £346,169 for a connecting line southwards to the Sutherland Railway.¹⁴² By July 1867, the Caithness directors reported that no progress on works had been possible and urged Caithness residents to 'put their hands in their pockets ...'.¹⁴³ The combined cost of £477,000 for the lines was too great for local sourcing,¹⁴⁴ but the Duke of Sutherland would only agree to the Caithness company constructing the through section of the far north route provided it was not a contractor's line.¹⁴⁵ Moreover, the Highland withheld its subscription while the Caithness remained moribund.¹⁴⁶ The stalemate continued until 1871 when a separate Sutherland and Caithness Railway was authorised to extend northwards to Wick and Thurso in preference to a bill submitted by Caithness Railway.¹⁴⁷

¹⁴¹ Minutes of the Highland Railway, 29 November 1865, NAS/BR/HR/1/1, p.71.

¹⁴² *Railway Times*, 13 October 1866, p.1198, reporting the impracticality of a coastal route north of Helmsdale and the estimated cost of a proposed 58 mile route linking the Wick-Thurso line and the Sutherland Railway at Brora; *Railway News*, 13 October 1866, p.389.

¹⁴³ *Railway Times*, 2 July 1867, p.100, reporting the first meeting of the Caithness Railway at which the Earl of Caithness stated 'The Caithness people must put their hands in their pockets and endeavour to carry out this very important undertaking'.

¹⁴⁴ *Railway Times*, 16 October 1869, p.1009, reporting the opinion of the Caithness directors that their failure to raise the necessary £477,000 capital for the Wick-Thurso line and a connecting line to Helmsdale was due 'in a great measure, to the discouraging traffic upon the Sutherland – which, however, is as yet quite undeveloped ...'.

¹⁴⁵ *Railway Times*, 3 February 1866, p.130, reporting that contractor Thomas Brassey was named as a director of the Caithness Railway in its parliamentary bill; D McConnell, *Rails to Wick and Thurso*, p.26: George Loch, writing as the Duke of Sutherland's Commissioner, claimed that the Caithness Railway had 'no shareholders' and it was a 'sham'.

¹⁴⁶ *Railway Times*, 7 July 1866, p.803, reporting the Highland's subscription 'was only proposed to be given in case the Caithness completed its line at present projected, and set themselves to its extension southward, so as to form a junction with the Highland system. In the meantime, the Highland took no responsibility with regard to the measure ...'.

¹⁴⁷ 34&35 Vic. cap.99, 1871, The Sutherland and Caithness Railway Act, with authorised share capital of £360,000 and borrowing powers of £120,000.

- **the Sutherland and Duke of Sutherland's Railways**

With progress halted in the north due to capital constraints, the Sutherland Railway constructed the first section of far north route beyond the Highland Railway's terminus at Bonar Bridge. The Duke of Sutherland was elected company chairman with Matheson as deputy chairman and the board immediately confirmed the need for strict economy.¹⁴⁸

The Highland Railway inherited the powers of the Aberdeen Junction and Perth Junction Railways to subscribe £15,000 each to the Sutherland company, but the substantial personal financial guarantees made by Highland directors and their natural unwillingness to commit their company and themselves to further financial risk prompted a sharp rebuttal to the Sutherland's request for payment of the subscription, as the previous chapter has shown.¹⁴⁹ The Duke and his commissioner Loch, meeting as the Sutherland board in February 1866, recorded that the refusal of the Highland to provide the authorised subscription denied the Sutherland Railway access to its borrowing powers 'thus causing a deficiency of £90,000 altogether of available capital'.¹⁵⁰ Furthermore, the revised cost of the line was estimated at £212,000, eighteen percent above the authorised capital limit, but only £10,000 had been subscribed by the public and £50,000 by the Duke.¹⁵¹ The Sutherland Railway had encountered the ubiquitous constraint experienced by all Highland lines, namely that the supply of local capital was insufficient and that the remote nature of the lines and their uncertain return deterred extra-district investment. The Inverness web lines had been supported by a cadre of wealthy landowners; in Sutherland, however,

¹⁴⁸ Minutes of the Sutherland Railway, 31 August 1865, NAS/BR/SLD/1/1, p.4: 'The Board recorded their disapproval of all ornamental work ... and they desire that no money [is] to be spent on anything not essential to the stability of the works'.

¹⁴⁹ Minutes of the Highland Railway, 30 January 1866, NAS/BR/HR/1/1, pp.101-103.

¹⁵⁰ Minutes of the Sutherland Railway, 5 February 1866, NAS/BR/SLD/1/1, pp.14-16: the shortfall comprised the Highland's £30,000 subscription and £60,000 borrowing powers.

¹⁵¹ Minutes of the Sutherland Railway, 5 February 1866, NAS/BR/SLD/1/1, pp.14-16: the minutes record that the Duke had offered a further £50,000 to Matheson towards completing the line; Appendix, table 23(a): this additional sum offered by the Duke cannot have been taken at this juncture, because share receipts by August 1869 were £90,644, of which the Duke provided £50,000 and the Highland £30,000, but, by August 1874, the Duke had provided £116,000 for the line (*Railway News*, 1 August 1874, p.138).

there was but one and the Duke minuted that 'he did not feel he would be justified in involving himself in liabilities for the whole cost of the Railway, viz. £212,000'.¹⁵² As a result, construction work was stopped 'only so long as the Highland Company shall be unable to contribute their subscription of £30,000'.¹⁵³ Parliamentary authority was obtained in 1866 to increase the authorised capital of company to cover the revised estimated cost of the line.¹⁵⁴

Four of the five Sutherland directors, Sutherland, Loch, Matheson and Bruce, were also Highland directors, but harmony over the strategy for northern railway development was overshadowed temporarily by discord over its finance.¹⁵⁵ The Highland board expressed regret at suspension of the work, judging that it would be impossible to gain shareholder sanction for a subscription given the financial position of the company.¹⁵⁶ However, Highland directors faced less pressure from the cessation of work on the Sutherland Railway than the Duke, who was seen to be the main beneficiary of the line. The Duke attempted to break the impasse in June 1866 by offering to buy £30,000 of Highland stock provided that the proceeds were used to provide the subscription, but the Highland directors resolved that there was no spare stock for sale because it was held by directors as security towards their considerable personal guarantees of Highland company debt.¹⁵⁷ The Highland finally agreed to sell £30,000 of preference stock at par value to the Duke in October 1866 and gained shareholder approval for the subscription, which was paid in full by

¹⁵² Minutes of the Sutherland Railway, 5 February 1866, NAS/BR/SLD/1/1, pp.14-16.

¹⁵³ Minutes of the Sutherland Railway, 5 February 1866, NAS/BR/SLD/1/1, pp.14-16.

¹⁵⁴ 29&30 Vic. cap.181, 1866, The Sutherland Railway Act, which approved a diversion in route and raised the authorised share capital of the company by £30,000 to £210,000 and borrowing powers by £10,000 to £70,000.

¹⁵⁵ Minutes of the 1st Ordinary General Meeting of the Sutherland Railway, 28 October 1865, NAS/BR/SLD/1/1, p.10, recording the election of Sutherland, Caithness, Loch, Matheson and Bruce as directors.

¹⁵⁶ Minutes of the Highland Railway, 14 February 1866, NAS/BR/HR/1/1, p.113; *Railway Times*, 3 November 1866, p.1266.

¹⁵⁷ Minutes of the Highland Railway, 9 June 1866, NAS/BR/HR/1/1, pp.168-70.

August 1867.¹⁵⁸ Matheson confirmed the pivotal role of the Duke in creating the far north line:

... with the exception of the Highland's subscription, and a small sum subscribed by the tenants and others, the whole expense will fall on the Duke of Sutherland.¹⁵⁹

The *Railway News* reported in 1874 that the Duke had spent £116,000 on the Sutherland Railway, which was more than double his original subscription.¹⁶⁰ Seeking to justify the Highland's £30,000 subscription, Matheson argued that £4,000 of additional traffic was expected from the Sutherland, three times the potential yield from an equivalent bank deposit at 4½ percent, but a shareholder countered that Highland dividend had fallen to one percent.¹⁶¹ Matheson responded that the directors were the largest shareholders and that he held £23,500 of ordinary stock, so that 'decisions affected their pockets the most', which suggests that ownership and control on the Highland remained unified. The compromise solution, whereby the Duke bought Highland stock and the proceeds were returned to the Sutherland as the Highland subscription, allowed work to restart on the Sutherland Railway and borrowing powers to be released,¹⁶² but the incident illustrates that the local sources

¹⁵⁸ Minutes of the Highland Railway, 9 October 1866, NAS/BR/HR/1/1, p.213: the Highland board resolved that its £30,000 subscription was conditional upon the Sutherland Railway completing the line from Golspie 'at once' and to Brora within the time allowed by the act; Minutes of a Special General Meeting of the Highland Railway, 30 October 1866, NAS/BR/HR/1/1, pp.224-27; Accounts of the Highland Railway to 28 February 1867 (showing £13,500 of the subscription had been paid) and 31 August 1867 (showing that the full £30,000 subscription had been paid), NAS/BR/HR/1/1, pp. 286-87 and pp.332-33; Order of Business Book, Inverness and Aberdeen Junction Railway, NAS/BR/IAJ/1/6, item 7: with its own financial difficulties, the Highland refused to guarantee debenture interest for the Sutherland Railway, 5 April 1867.

¹⁵⁹ *Railway Times*, 3 November 1866, p.1266, reporting Matheson's address to the Ordinary General Meeting of the Highland Railway held on 30 October 1866, estimating the cost of the Sutherland Railway at £200,000.

¹⁶⁰ *Railway News*, 1 August 1874, p.138.

¹⁶¹ *Railway Times*, 3 November 1866, p.1266.

¹⁶² Minutes of the Special General Meeting of the Sutherland Railway, 24 April 1867, NAS/BR/SLD/1/1, p.42.

of capital on which northern railway development depended were, by 1866, extremely stretched.

Company records show that board business was largely conducted by the Duke and Loch alone, which reflects the considerable financial commitment of Sutherland in the company. Matheson and Bruce as the Highland representatives did not attend a board meeting between October 1865 and October 1867, although some absence in 1866 was undoubtedly diplomatic while the dispute over the Highland subscription continued.¹⁶³ The Duke appointed one of his factors, Kenneth Murray, as superintendent of the line in July 1866;¹⁶⁴ Murray became a director in place of the Earl of Caithness in 1870, which gave the Duke a majority control within the company.¹⁶⁵

A working agreement with the Highland was concluded in 1867, which allowed charges up to 75 percent of receipts in recognition of the expected limited traffic.¹⁶⁶ In August 1868, the Duke provided a guarantee for a £26,000 bank loan, 'which sum it is understood will complete the undertaking'.¹⁶⁷ The deficit on the capital account increased in August 1869, by when almost ninety percent of the share capital raised

¹⁶³ Minutes of the Sutherland Railway showing board attendance between 31 October 1865 and 30 October 1867, NAS/BR/SLD/1/1, pp.12-62: Matheson, however, chaired the Extraordinary General Meeting on 24 April 1867 at which borrowing powers were released (NAS/BR/SLD/1/1, p.42).

¹⁶⁴ Minutes of the Sutherland Railway, 2 July 1866, NAS/BR/SLD/1/1, p.26.

¹⁶⁵ Minutes of the Ordinary General Meeting of the Sutherland Railway, 28 October 1870, NAS/BR/SLD/1/1, p.94.

¹⁶⁶ Minutes of the Highland Railway, 12 April 1867, NAS/BR/HR/1/1, p.279; Minutes of a Special General Meeting of the Highland Railway, 29 April 1867, NAS/BR/HR/1/1, pp.286-87; Minutes of a Special General Meeting of the Sutherland Railway, 7 June 1867, NAS/BR/SLD/1/1, p.48; Ordinary General Meeting of the Sutherland Railway, 28 October 1871, NAS/BR/SLD/1/1, pp.104-105 and page 1 of inserted printed report: from 19 June 1871, when the Duke of Sutherland's Railway opened in full, the Highland's charges for working the Sutherland Railway were altered to match those previously agreed for the Dingwall and Skye; Report of the Ordinary General Meeting of the Highland Railway, 28 April 1871, NAS/BR/HR/1/2, pp.73-74 and page 2 of inserted printed report, giving details of the new working agreement with the Sutherland and Duke of Sutherland's Railways.

¹⁶⁷ Minutes of the Sutherland Railway, 28 August 1868, NAS/BR/SLD/1/1, p.75.

comprised the initial subscriptions of the Duke and the Highland Railway.¹⁶⁸ The line opened to Golspie in April 1868 and, although no formal decision was recorded by the company, the Sutherland Railway did not complete the remaining 6¼ miles to the authorised terminus at Brora because of its capital difficulties.¹⁶⁹ Shareholders were informed in 1869 that the Duke was constructing the line from Golspie to Helmsdale at his own expense 'and the works have already made great progress'.¹⁷⁰

By mid-1868, therefore, the Sutherland Railway had extended the northern railhead 26½ miles beyond Bonar Bridge, but its projected construction to Brora had faltered and the intended Caithness development was stagnant. The difficulty in raising share capital was the sole cause. Although the capital cost of £6,727 per mile for the Sutherland Railway exceeded the original estimate of £5,496, capital expenditure for the shortened line remained by 1870 within the original authorised limit.¹⁷¹ The company incurred insignificant land costs because the line passed substantially over land belonging to the Duke of Sutherland. The company returned a small revenue balance in 1869-70, although over two-thirds of its gross revenue was absorbed by interest charges.¹⁷² From June 1871, on the opening of the Duke of Sutherland's Railway to Helmsdale, the Highland agreed to replace the maximum working charge of 75 percent of receipts by a fixed charge for each train run, using the scale of charges agreed on the Dingwall and Skye described earlier.¹⁷³ As a result, working

¹⁶⁸ Appendix, table 23(a): at 31 August 1869, the capital account deficit was £23,481. The subscriptions of the Duke (£50,000) and the Highland Railway (£30,000) represented 88.2% of the £90,664 share capital raised by that date.

¹⁶⁹ Minutes of the Ordinary General Meeting of the Sutherland Railway, 30 October 1868, NAS/BR/SLD/1/1, p.77: the directors reported the line had opened to Golspie on 13 April 1868.

¹⁷⁰ Report to the Ordinary General Meeting of the Sutherland Railway, 29 October 1869, NAS/BR/SLD/1/1, pp.86-87 and page 1 of inserted printed report.

¹⁷¹ Appendix, table 23(a); the original authorised share capital for the Sutherland Railway in 1865 was £180,000 with £60,000 of borrowing powers and, by August 1870, £178,259 had been spent; by 1870, land costs were 0.9% of capital expenditure.

¹⁷² Appendix, table 23(b).

¹⁷³ Minutes of the Highland Railway, 7 February 1871, NAS/BR/HR/1/2, p.50; Minutes of the Special General Meeting of the Highland Railway, 28 April 1871, NAS/BR/HR/1/2, pp.73-74, page 2 of inserted printed report and pp.78-82; Minutes of the Sutherland Railway, 5 July 1871, NAS/SLD/1/1, p.101: the new charging system began on 19 June 1871.

charges fell from the maximum 75 percent in 1869-70 to 59.5 percent in 1874.¹⁷⁴ Improving traffic and receipts from additional stock taken by the Duke ultimately allowed the payment of a one percent dividend in 1875.¹⁷⁵

Table 87: Financial indicators for the Sutherland Railway, 1869-75

31 August	1869	1870	1871	1872	1873	1874	1875
Gross annual revenue (£)	5096	5089	5833	7092	7281	8034	9892
Ratio of debentures to capital raised	39.8%	32.1%	32.1%	32.1%	32.1%	32.1%	30.8%
Ratio of gross revenue to total debt	0.068	0.061	0.096	0.114	0.110	0.110	0.162
Source: Appendix, tables 23(b) and 23(c).							
(1): Comparative gearing ratios for the Caledonian Railway in 1849-50 were 24.5% for debentures/capital and 0.162 for gross revenue/debt							

With only 43 percent of its authorised share capital raised by 1869,¹⁷⁶ debenture loans formed a relatively high proportion of capital raised and, as gross revenue was modest, the debt gearing of the company was weak (table 87). Nevertheless, revenue showed growth once the line opened to Helmsdale in 1871 and to Wick and Thurso in 1874, but debt gearing only corresponded to the 1849 Caledonian benchmark even when the full route was operational in 1875, which reflected the limited traffic that the district generated.

Without the initial subscriptions of £50,000 from the Duke of Sutherland and £30,000 from the Highland, the line could not have been constructed, but neither of these two principal shareholders invested expecting revenue to generate a dividend. Indeed, the construction of unremunerative lines to generate external economies and increase land values received national advocacy in *The Economist* in 1866.¹⁷⁷ The

¹⁷⁴ Appendix, table 23(b).

¹⁷⁵ Appendix, tables 23(b) and 23(c): the accounts show that an extra £8,000 of stock was issued in 1874-75; *Railway News*, 30 October 1875, p.594, reporting that 'The Duke of Sutherland took an amount of stock [in the Sutherland Railway] which placed the company straight with its bankers ...'.

¹⁷⁶ Appendix, table 23(a): authorised share capital was revised in 1866 to £210,000, of which £90,664 had been raised by August 1869 (43.2%).

¹⁷⁷ *The Economist*, 19 May 1866, quoted in W Vamplew, 'Railway Investment in the Scottish Highlands', *Transport History*, 3, No.2 (July 1970), p.148.

Highland operated the Sutherland line close to marginal cost to try to capture northern traffic from sea trade. Sea competition remained significant in northern Scotland and Highland board minutes recorded new competitive steamer services in 1873.¹⁷⁸

The Dukes of Sutherland spent over £1 million on highland estate improvements in 1853-82, but Richards describes most of their industrial enterprises as 'financial disasters';¹⁷⁹ for example, £40,000 was spent in the early 1800s to develop coal mining at Brora but without any return.¹⁸⁰ Harbours and fish processing were established at Brora and Helmsdale.¹⁸¹ Helmsdale had been created as a coastal town to receive population from the Sutherland clearances and, in 1864, 364 fishing boats operated from the port.¹⁸² When the Sutherland Railway opened in 1868 to Golspie, however, Brora and Helmsdale remained unconnected to the railway network and the Duke took the decision to finance entirely the construction of a line not only to complete the unfinished Golspie-Brora section of the Sutherland Railway but also to extend the route to Helmsdale on the Sutherland-Caithness border, thereby completing a railway link across the county. Sutherland shareholders were told the new terminus at Helmsdale would be 'within thirty-seven miles of Wick, the seat of the great herring Fisheries'.¹⁸³

¹⁷⁸ Minutes of the Highland Railway, 2 December 1873, NAS/BR/HR/1/2, p.332: the Highland board noted new steamer services from Aberdeen to Invergordon and from Leith to Inverness via Aberdeen.

¹⁷⁹ E Richards, 'An anatomy of the Sutherland Fortune: Income, Consumption, Investments and Returns, 1780-1880', p.67: £1.039 million was spent on improvements on Sutherland's highland estates in 1853-82, including £677,671 on estate works, £254,900 on land reclamation, £47,516 on work at Brora and £58,907 on estate management (from data given by Sutherland's commissioner to the Napier Commission in 1883).

¹⁸⁰ JS Owen, *Coal Mining at Brora, 1539-1974* (Inverness, 1995), p.16.

¹⁸¹ D Stirling, 'Land, Railways and the Dukes of Sutherland, pp.4-5; J Mitchell, *Reminiscences of My Life in the Highlands, vol.II*, p.90; JAR Smith, 'From Isolation to Integration: the development of roads in the northern Highlands of Scotland, 1800-1850', p.294.

¹⁸² E Richards, *The Leviathan of Wealth (the Sutherland fortune in the Industrial Revolution)* (London, 1973), p.287.

¹⁸³ Report to the Ordinary General Meeting of the Sutherland Railway, 29 October 1869, NAS/BR/SLD/1/1, pp.86-87 and page 1 of inserted printed report.

Work on the extension was in progress before parliamentary authority was obtained. The Act authorised the Duke to complete and work the line at his own expense and therefore did not prescribe capital powers.¹⁸⁴ The line was opened in 1871 and, by 1872, the Duke had spent £62,862 on its construction, approximately £31.4 million on a 2007 price base, but at a capital cost of just £3,644 per mile.¹⁸⁵ The Highland worked the line from June 1871, charging for each train run on the same basis as agreed with the Sutherland and Dingwall and Skye Railways.¹⁸⁶

Table 88: Financial indicators for the Duke of Sutherland's Railway, 1871-75

	31 August	1871	1872	1873	1874	1875
Capital raised (£)		61869	62862	62351	64723	64653
Gross annual revenue (£)		1549 (2)	3668	3955	4430	5124
Annual revenue balance (£)		304	597	833	958	1337
<i>Return of balance on capital</i> (%)		0.5%	0.95%	1.34%	1.48%	2.07%
Ratio of debentures to capital raised	No authorised or temporary debt incurred.					
Ratio of gross revenue to total debt	No authorised or temporary debt incurred.					
Source: Appendix, tables 23(e) and 23(f).						
(1): Shillings and pence have been rounded down; as a result some totals may not match precisely the sum of component items.						
(2): The line opened officially in June 1871, but revenue data to August 1871 also include receipts from some unofficial operations over part of the line that commenced in November 1870.						

Approximately 80 percent of gross revenue was absorbed by expenditure but, because the Duke of Sutherland's Railway required no loans or temporary debt, the revenue balance yielded a small nominal return on capital (table 88).¹⁸⁷ The accounts therefore suggest that, without the burden of guaranteed capital and

¹⁸⁴ 33&34 Vic. cap.31, 1870, The Duke of Sutherland's Railway Act: the act acknowledged that the Duke '... has already made at his own expense the greater portion of the railway, and he is willing on being empowered as in this Act provided to complete the railway, and maintain it at his own expense ...'. Section 29 approved the abandonment of the powers granted to the Sutherland Railway to construct the section of line between Golspie and Brora under 28&29 Vic.cap.169, 1865, The Sutherland Railway Act and 29&30 Vic. cap.181, 1866, The Sutherland Railway Act.

¹⁸⁵ Accounts of the Duke of Sutherland's Railway, 1871-75, inserted as loose papers in NAS/BR/DKS/1/1: the line ran over the Duke's land and therefore capital expenditure was free of land costs; Appendix, table 23(d); see Glossary entry on 'price base'.

¹⁸⁶ Minutes of the Highland Railway, 7 February 1871, NAS/BR/HR/1/2, p.51.

¹⁸⁷ Appendix, tables 23(e).

temporary debt, a railway could operate successfully in a sparsely populated district, but that any returns to investment were likely to accrue from economic improvements in the districts served rather than from the railway company itself.

- the Sutherland and Caithness Railway

By June 1871, the far north line had been extended to Helmsdale on the northern boundaries of Sutherland under the majority ownership and almost the sole direction of the Duke of Sutherland. The Caithness Railway had failed to raise the capital required to build its local Wick-Thurso line authorised in 1866, but proposed a parliamentary bill in 1870 to construct a line southwards to join the Duke of Sutherland's line at Helmsdale.¹⁸⁸ Caithness shareholders, however, disagreed on action, some advocating delay while others favoured abandoning the local line and 'and making a strong effort to carry the line into some central part of the county from the Helmsdale terminus of the Sutherland'.¹⁸⁹

Joseph Mitchell later wrote that the Duke found the traffic generated from the railway to Helmsdale 'wholly unremunerative' because it was dependent upon 'a sparse population' and so, for any prospect of return, the line required extension to Wick and Thurso.¹⁹⁰ The delays in Caithness and the need to improve the operational economics of the far north route resulted in the promotion of a new company, the Sutherland and Caithness, intimated by the Duke in November 1870.¹⁹¹ In March 1871, Highland shareholders approved the Sutherland and Caithness bill, which

¹⁸⁸ *Railway Times*, 8 October 1870, p.999: the Caithness directors warned their shareholders that '... if your directors should be disappointed in the support given to the bill, they will withdraw it so far as it relates to the line south, and limit it to the authorised line (Wick and Thurso) ...'.

¹⁸⁹ *Railway Times*, 8 October 1870, p.999.

¹⁹⁰ J Mitchell, *Reminiscences of My Life in the Highlands*, vol.II, p.225.

¹⁹¹ *Railway Times*, 5 November 1870, p.1092, reporting the Duke of Sutherland's statement to the Ordinary General Meeting of the Sutherland Railway held on 20 October 1870.

contained powers for a Highland subscription of £50,000.¹⁹² The Sutherland Railway approved the bill on the same day as the Highland, but with only three persons present, which further indicates the limited ownership and absolute control within that company.¹⁹³ The submission of this rival bill for the final section of the far north route, however, caused conflict with the Caithness proposals for its local line and a southern connecting route. The Earl of Caithness informed Caithness shareholders of 'unreasonable opposition suddenly made to both these lines',¹⁹⁴ and claimed a breach of trust because the Caithness lines were:

... part of an entire scheme which was fully discussed, and deliberately adopted at Inverness five and a half years ago (in September 1865), with the full concurrence, and I might even say, at the instance of the Duke of Sutherland and the Highland Company.¹⁹⁵

Although the Caithness meeting rejected the rival Sutherland and Caithness scheme in favour of their own, the shareholders' capital represented at the meeting amounted to just £15,590.¹⁹⁶ Only the previous year, the Caithness directors had acknowledged that any railway through Caithness required the financial support of

¹⁹² Minutes of a Special General Meeting of the Highland Railway, 7 March 1871, NAS/BR/HR/1/2, p.60; *Railway Times*, 11 March 1871, p.251, reporting Highland and Sutherland Railway meetings to consider the Sutherland and Caithness parliamentary bill where it was noted that the steamer from Caithness and Orkney was providing £38,000 of revenue yearly, and that Sutherland Railway traffic was 25 percent above that of the same period of the previous year.

¹⁹³ Minutes of a Special General Meeting of the Sutherland Railway, 7 March 1871, NAS/BR/SLD/1/1, p.99: the meeting was chaired by director Murray with only Fraser-Tytler and Dougall present representing the Highland Railway and other proxies.

¹⁹⁴ *Railway News*, 11 March 1871, p.351, reporting the Special General Meeting of the Caithness Railway held to gain shareholder approval for the Caithness Railway bill.

¹⁹⁵ *Railway News*, 11 March 1871, p.351.

¹⁹⁶ *Railway News*, 11 March 1871, p.351, recording that £14,500 of capital represented at the Special General Meeting of the Caithness Railway voted for the Caithness Railway scheme and £1,090 voted for the Sutherland and Caithness Railway bill; *Railway Times*, 11 March 1871, p.251, reporting the Special General Meeting of the Caithness Railway held on 3 March 1871, and recording that an amendment to seek a compromise with the Sutherland and Caithness Railway was lost by 290 votes to 1408.

the Duke of Sutherland and the Highland,¹⁹⁷ but with that support now assigned to the Sutherland and Caithness, the Caithness Railway was denied any prospect of raising the capital it had been seeking since 1866.¹⁹⁸

The Sutherland and Caithness Railway was incorporated in 1871 and, of the eight directors, two were to be appointed by the Highland in recognition of a £50,000 subscription and a further two were to be appointed by the Duke of Sutherland in return for a £60,000 subscription.¹⁹⁹ Thus, thirty percent of the authorised share capital was to be provided by the Duke and the Highland. Matheson and Bruce represented the Highland; the Duke, who was appointed chairman of the new company, appointed Loch and Murray.²⁰⁰ Matheson and Bruce thus held the Highland seats on the boards of both its far north subsidiaries, while the Duke chaired all three companies comprising the far north route.

By the time parliamentary authorisation was received, £79,320 had been subscribed of which £60,000 was to be supplied by the Duke and the remaining £19,320 by 121 other individuals (table 89).²⁰¹ Twenty-five percent of subscribers held just one £10 share and a further twenty-three percent held two shares, thus replicating the investment pattern of earlier Inverness lines, whereby the bulk of capital was

¹⁹⁷ *Railway Times*, 8 October 1870, p.999.

¹⁹⁸ *Railway Times*, 17 February 1872, p.193, announcing authorisation of the abandonment of the Caithness Railway as the result of a Board of Trade report, which identified that only £1,936 of the £130,000 capital had been subscribed [paid up], no contracts for land had been made, and that the Sutherland and Caithness Railway had been approved in Parliament in 1871 in preference to the Caithness Railway bill.

¹⁹⁹ 34&35 Vic. cap.99, 1871, The Sutherland and Caithness Railway Act, to construct a railway from Helmsdale to Wick and Thurso with authorised share capital of £360,000 and borrowing powers of £120,000: the £110,000 subscribed by the Highland and the Duke of Sutherland formed 30.6% of the authorised share capital.

²⁰⁰ 34&35 Vic. cap.99, 1871, The Sutherland and Caithness Railway Act, named Matheson and Bruce as Highland representatives and Loch and Murray as nominees of the Duke of Sutherland, who was appointed chairman at the first board meeting on 19 September 1871, NAS/BR/SUC/1/1, p.1.

²⁰¹ Data compiled from minutes of the Sutherland and Caithness Railway, 19 September 1871, NAS/BR/SUC/1/1, pp.2-4: these data refer to subscribers rather than shareholders, because the deposit of £2 per share was to be paid within one month of this board minute dated 19 September 1871 (p.6). The Duke had guaranteed a bank loan for £14,446 to pay the parliamentary deposit (p.8).

supplied by a few large landowners, but with the local populace providing their many small contributions. Only five subscribers, providing 1.2 percent of the funds, gave addresses outside the highland area, two from Edinburgh, one from Glasgow and two from England.²⁰² While 68.9 percent of the 122 subscribers gave a Thurso address, only 6.6 percent had a Wick address with a further 13.1 percent supplying a Halkirk address, the area in which the Thurso branch was join the main route to Wick. The small subscription from Wick, which had the largest population in the district, was attributed by the *Railway News* to 'a singular amount of apathy displayed in the district',²⁰³ but it also reflected local disagreement over the proposed route.²⁰⁴

Table 89: Subscriptions to the Sutherland and Caithness Railway, September 1871

Value of Shareholding (£)	No. of subscribers	Holder
£79,320	122	
<i>comprising:</i>		
£60,000	1 (1)	Duke of Sutherland, chairman
£6,000	1 (1)	Sir JG Tollemache Sinclair, deputy chairman (2)
£1,200	1 (1)	Colonel CS Guthrie, director
£1,000 - 1,199	5 (1)	(all provided £1,000 each)
£500 - 999	4	(all provided £500 each)
£200 - 499	6	
£30 - 199	45	
Two £10 shares	28	
One £10 share	31	
Source: Minutes of the Sutherland and Caithness Railway, 19 September 1871, NAS/BR/SUC/1/1, pp.2-4.		
(1): Eight subscribers held £72,200 of the share capital allotted (91.0%).		
(2): <i>Railway News</i> . 1 August 1874, p.134, reported that deputy chairman Sir JG Tollemache Sinclair had given 14 miles of land to the company without charge in addition to his £6,000 subscription. D McConnell, <i>Rails to Wick and Thurso</i> , p.36, states that this land was valued at £6,000, which, in effect, doubled Sinclair's contribution to the company.		

²⁰² Minutes of the Sutherland and Caithness Railway, 19 September 1871, NAS/BR/SUC/1/1, pp.2-4, showing two subscribers from Edinburgh (£200 and £100), one from Glasgow (£100) and two from England (£500 and £50), a total of £950 (1.2% of capital subscribed) from outside the highland area.

²⁰³ *Railway News*, 1 August 1874, p.134.

²⁰⁴ *Railway Times*, 14 October 1865, p.1344, reporting that the Earl of Caithness had confirmed that the local route of the Caithness Railway between Wick and Thurso would be via Castletown. That route was authorised under 29&30 Vic. cap.292, 1866, The Caithness Railway Act. However, the Sutherland and Caithness main route approved under 34&35 Vic. cap.99, 1871, the Sutherland and Caithness Railway Act, ran inland to Wick and did not pass through Castletown, which is situated on the north coast between Thurso and Wick.

The inland Caithness route presented engineering difficulties in crossing large areas of peat moss and engineers predicted that 'to combine economy with efficiency' the line would take three years to complete.²⁰⁵ As with the Sutherland Railway, many board meetings comprised the Duke and his commissioner Loch alone.²⁰⁶ A working agreement with the Highland Railway was made in April 1872 that charged for the cost of each train run, as on the Sutherland and Dingwall and Skye Railways.²⁰⁷

By August 1873, £202,424 of share capital was shown in the accounts as raised but, of this, £72,000 had been issued as security against a loan from the Aberdeen Town and County Bank to balance the capital account.²⁰⁸ Thus £130,424 of share capital had been received, 36.2 percent of that authorised, but, by recording shares issued in security as capital raised, previous Highland practice could be employed to declare that half of the share capital had been paid up and borrowing powers were released in October.²⁰⁹ Between October 1873 and May 1874, £122,260 of debenture loans were issued at 4½ percent, slightly above the authorised limit; all debenture holders gave Scottish addresses.²¹⁰

²⁰⁵ Minutes of the Sutherland and Caithness Railway, 25 October 1871, NAS/BR/SUC/1/1, p.13 and p.17.

²⁰⁶ Examples include the board meetings of 20 and 20 December 1871, 12, 25 and 30 January 1872, and 26 and 28 February 1872, which comprised the Duke of Sutherland and George Loch only, NAS/BR/SUC/1/1; also 27 April, 1 and 28 May, 26 June and 13 July 1872, NAS/BR/SUC/1/1, comprising only Sutherland and Loch and of which the majority were held at Sutherland's London residence at Stafford House.

²⁰⁷ Minutes of a Special General Meeting of the Sutherland and Caithness Railway, 29 April 1871, NAS/BR/SUC/1/1, p.42; Report to the Ordinary General Meeting of the Sutherland and Caithness Railway, 29 October 1872, NAS/BR/SUC/1/1, pp.96-97, and page 1 of inserted printed report; Minutes of a Special General Meeting of the Highland Railway, 26 April 1872, NAS/BR/HR/1/2, p.170 and page 2 of inserted printed report between pp.161-62 for the Ordinary General Meeting held on the same date.

²⁰⁸ Appendix, table 24(a), note (3).

²⁰⁹ Minutes of a Special General Meeting of the Sutherland and Caithness Railway, 31 October 1873, NAS/BR/SUC/1/1, p.123.

²¹⁰ Minutes of the Sutherland and Caithness Railway, 31 October, 8 and 24 November and 30 December 1873 and 27 January, 27 February, 29 April and 28 May 1874, NAS/BR/SUC/1/1, between pages 123 and 134; Appendix, table 24(a): by August 1874, debenture loans were shown in the accounts as £119,960, £40 below the authorised limit, but company minutes on these dates record the total of debentures issued by May 1874 to be £122,260, £2,260 above the authorised limit of £120,000.

The Sutherland and Caithness Railway opened in July 1874, completing the last main artery of the northern Scottish railway network.²¹¹ Capital expenditure on the line by its opening remained within estimate; land costs by 1874 comprised 6.0 percent of capital expenditure.²¹² The capital cost by 1875 was £5,235 per mile, confirming that 'cheap railway' principles had been applied successfully.²¹³ Nevertheless, in 1875, after the first full year of operation, the revenue of the company was insufficient to meet the operational costs of the line.²¹⁴ As on the Dingwall and Skye, the directors reduced the number of trains to lower expenditure.²¹⁵ The small revenue balance remaining in subsequent years after payment of Highland Railway and company costs was more than absorbed by mounting interest payments, which added to the debt of the company. In 1876, the £72,000 loan held with the Aberdeen Town and County Bank since 1873 was included in a consolidated loan of £112,000 for three years.²¹⁶ In 1879, the Duke of Sutherland provided a £100,000 loan for ten years and joined the directors in guaranteeing a reduced loan of £60,000 from the Town and County Bank.²¹⁷

²¹¹ Minutes of the Highland Railway, 4 August 1874, NAS/BR/HR/1/2, p.384.

²¹² Appendix, table 24(a).

²¹³ Appendix, table 24(a), note (4); Report to the Ordinary General meeting of the Sutherland and Caithness Railway, 29 October 1875, NAS/BR/SUC/1/1, pp.153-54 and page 1 of inserted printed report gives a figure of £5,295 for the capital cost per mile.

²¹⁴ Appendix, table 24(b): to 31 August 1875, the overall deficit on the revenue account of the Sutherland and Caithness was £11,363, comprising £1,421 on operations and £9,942 for interest.

²¹⁵ Report to the Ordinary General Meeting of the Sutherland and Caithness Railway, 29 October 1875, NAS/BR/SUC/1/1, pp.153-54 and page 1 of inserted printed report.

²¹⁶ Minutes of the Sutherland and Caithness Railway, 15 April 1876, NAS/BR/SUC/1/1: (NB: no page numbers are given in the minute book after 3 February 1876, p.157).

²¹⁷ Minutes of the Sutherland and Caithness Railway, 22 Feb 1879 and 2 May 1879, NAS/BR/SUC/1/1: by 1879, temporary bank loans amounted to £160,000. The Duke offered to borrow £100,000 for ten years, secured on his land and estates, to provide longer term security of funds to the Sutherland and Caithness; interest charges were to be refunded to the Duke by the company. These funds were used to reduce bank debt by £100,000 and £100,000 of company stock held as security in the Aberdeen Town and County Bank was re-assigned to the Duke as his security for the loan. This arrangement only altered the source of lending; the level of temporary loans remained at £160,000 until amalgamation in 1884 when company debts were absorbed by the Highland Railway; Appendix, table 24(a).

Table 90: Financial indicators for the Sutherland and Caithness Railway, 1875-79

	31 August	1875	1876	1877	1878	1879
Total debt	(£)	191960	231960	231993	256993	279853
Gross annual revenue	(£)	15389	16367	17865	17989	17483
Ratio of debentures to capital raised		37.0%	32.9%	32.8%	30.6%	28.9%
Ratio of gross revenue to total debt		0.080	0.071	0.077	0.074	0.062
Source: Appendix, table 24(c).						
(1): Comparative gearing ratios for the Caledonian Railway in 1849-50 were 24.5% for debentures/capital and 0.162 for gross revenue/debt.						

As revenue did not rise sufficiently to reduce the burden of debt, the Sutherland and Caithness produces a debt gearing as weak as the Dingwall and Skye (table 90).²¹⁸ It remained unable to meet all legitimate charges to its revenue account until it, with the Sutherland and Duke of Sutherland's Railways, was amalgamated with the Highland in 1884 on expiry of the ten-year working agreement.²¹⁹ Sutherland and Caithness shareholders received £50 of Highland stock for every £100 of stock held, Sutherland shareholders received £60, while the Duke received £87 for every £100 expended on the Duke of Sutherland's Railway.²²⁰

Although financially weak, the far north lines provide a unique example in Scottish railway history of the dominance of one large landowner in providing substantial capital for a main route, not for direct capital returns from railway investment but for the prospect of indirect returns from enhancing land values and stimulating economic

²¹⁸ Table 84 in this chapter shows the ratio of gross revenue to total debt on the Dingwall and Skye Railway to be 0.081 in its first full year of operation in 1871, and that by 1875 the ratio was 0.097.

²¹⁹ Appendix, table 24(b), shows the negative net revenue balances returned from 1874 to 1879; Accounts of the Sutherland and Caithness Railway, 1880-1884, contained in the minute book of the company, NAS/BR/SUC/1/1, show operating revenue surpluses of £5,212 in 1880 (but with £11,902 interest due), £4,421 in 1881 (with £12,526 interest due), £5,939 in 1882 (with £12,937 interest due), £8,710 in 1883 (with £13,245 interest due), and £9,377 in 1884 (with £13,160 interest due).

²²⁰ 47&48 Vic. cap.184, 1884, The Highland Railway (Northern Lines) Amalgamation Act, sections 15, 16 and 17; Minutes of the Sutherland and Caithness Railway, 23 October 1883, NAS/BR/SUC/1/1: dividend on exchanged Sutherland and Caithness stock was deferred until 1 September 1886, whereas exchanged Sutherland stock (which had received a small annual dividend since August 1875) was eligible for dividend from 1 September 1883 (23 October 1883, NAS/BR/SLD/1/1).

development in the counties served by the lines.²²¹ In 1874, the *Railway News* reported that the Duke of Sutherland had invested £341,000 in the Highland and far north lines following his subscription to the Sutherland and Caithness.²²²

Recalling perhaps the financial consequences that rebounded onto the Great North from its dominance of uneconomic branch companies, the Highland Railway provided fifteen percent of the initial capital of the Sutherland and Sutherland and Caithness Railways,²²³ but distanced itself from direct control. It worked the lines close to cost and sought its returns from far north traffic that was otherwise lost to sea competition. The Highland directors justified their decision:

This will complete the great line of through communication between all parts of the South and the extreme North of Scotland, and cannot fail to be of great importance to the Highland Company, in bringing new and additional traffic, which will pass over the entire length of the line from Bonar Bridge to Perth ... There is little or no prospect of the necessary capital being furnished by the locality for a long time to come ...²²⁴

Railways in the highlands, 1865-74

Earlier chapters have identified the important role played by large landowners in the establishment of the railways in the north of Scotland, but their dominance of railway development in the far north and north-west of the highlands has been a consistent

²²¹ *Railway Times*, 15 March 1873, p.296, reporting a statement by the Duke of Sutherland that he had spent 'about £200,000 in promoting and making railways in the north ... which I have laid out for the benefits of my estates and of the people in these remote districts'.

²²² *Railway News*, 1 August 1874, p.138, recording that the Duke of Sutherland 'held £105,000 of the Highland Company's stock, the line from Bonar Bridge to Golspie had cost him £116,000, and that from Golspie to Helmsdale £60,000. He now subscribed £60,000 more, raising his interest to £341,000'. The additional £60,000 subscription reported was the Duke's subscription to the Sutherland and Caithness Railway, although the list omitted the Duke's £5,000 investment in the Dingwall and Skye Railway.

²²³ The Highland subscribed £30,000 of the original £180,000 capital of the Sutherland Railway and £50,000 of the £360,000 capital of the Sutherland and Caithness Railway (14.8%).

²²⁴ Report to the Ordinary General Meeting of the Highland Railway, 26 April 1872, NAS/BR/HR/1/2, pp.161-62 and page 2 of inserted printed report.

theme throughout this chapter. Plans for the Skye and far north routes were conceived with a common objective of connecting the districts they served into the existing railway network by which land values and the economic prospects of the region might be improved. The implementation of these plans, however, was overshadowed by the financial difficulties of the Highland Railway between 1865 and 1872, which inevitably preoccupied its directors and officers and offered little immediate prospect of financial assistance to the new companies, despite an overlap in directorships. The Highland adopted a more detached stance towards these northern lines than the Great North had shown to its branch network, but the future intention of consolidating the far north companies within the Highland was implied by the ten-year working agreement begun when the Sutherland and Caithness opened in 1874.²²⁵

Although the strategic planning of highland promoters envisaged a unified scheme for a railway to the far north in 1864, the route had to be established in stages between 1865 and 1874 primarily due to capital constraints, mirroring in fact the phased development of the Inverness railway web in 1853-63. However, in contrast to the thorough planning of earlier railways conceived in Inverness, the plans for the Dingwall and Skye proved to be unrealistic and its formation problematic; the line exemplified many of the characteristics described in Aytoun's influential *Glenmutchkin* parody of the railway mania. The prime drivers of these northern developments were the landowner interests of Alexander Matheson to push a railway to the west coast, and of the Duke of Sutherland to establish a railway across Sutherland. The substantial capital inducements of the Duke prompted the construction of all three sections of the far north route, providing an example of capital supply being a cause rather than a result of railway promotion.

The principal promoters and investors in the Skye and far north railways were also major shareholders and directors of the Highland Railway. This integration of ownership and control was illustrated by the Highland's agreements to work these lines at marginal cost to try to ensure their economic viability and provide an

²²⁵ Minutes of the Highland Railway, 5 March 1872, NAS/BR/HR/1/2, p.149, which extended the working agreements with the Sutherland and Duke of Sutherland Railways to terminate ten years following the opening of the Sutherland and Caithness Railway.

improved transport service to the region. These agreements suggest that the notion of public service became part of the policy of the Highland and its northern satellites, but for local economic interests rather than to combat any potentially restrictive legislation that Channon concludes was the case in Britain in the last three decades of the century.²²⁶ Furthermore, the Highland's operation of these northern routes without a primary regard to profit parallels Hawke's conclusion that the pursuit of profit maximisation was 'not energetic' regionally in railway companies in England and Wales during this period.²²⁷ The multiplicity of traffic rates was given as the reason for the relaxation of profit maximisation in England and Wales, but traffic flows and regional development underpinned the motives to operate these northern Scottish railways near to cost. This explanation, however, correlates with Hawke's further assertion that railways south of the border 'recognised a special responsibility for developing the trade of particular regions'.²²⁸ The Highland board was prepared to countenance some cross-subsidy between component sections of its system to capture northern traffic because it was accepted from the outset that the Skye and far north lines would not generate returns comparable to those from its main routes, given the paucity of population and industry in those areas and the continued competition from sea transport.

The study has suggested that, without the burden of servicing guaranteed capital and temporary debt, it was possible for a small railway to operate successfully in a remote region; the Duke of Sutherland's Railway produced a nominal return on the Duke's capital of 1½ percent in 1874. In contrast, the insolvent Skye, struggling without the expected capital investment from larger railways, accumulated fixed interest debt to such an extent that it was unable to meet all interest due from revenue throughout its independent existence and, like the protégés of the Great North in the previous decade, an amalgamation with its parent company became essential for survival. The longer-term viability of the far north route strengthened

²²⁶ G Channon, *Railways in Britain and the United States, 1830-1940* (Aldershot, 2001), p.34.

²²⁷ GR Hawke, *Railways and Economic Growth in England and Wales 1840-1870*, p.333.

²²⁸ GR Hawke, 'Pricing Policy of Railways in England and Wales before 1881', in MC Reed (ed.), *Railways in the Victorian Economy* (Newton Abbot, 1969), p.110.

once the railway reached the two principal northern ports of Wick and Thurso, but its financial weaknesses were masked by the considerable capital investment made by the Duke of Sutherland. The evidence therefore supports Vamplew's contention that railway returns in the highlands were more likely to benefit the community than the investor, but gradually and over the long term.²²⁹

This chapter has shown that difficulties of raising share capital for railways in northern Scotland and the patterns of share ownership within them were repeated in these northern companies. The remote nature of the territory offered little prospect of direct returns on railway investment and so share capital even from other regions of Scotland was insignificant. The records of the Sutherland and Caithness Railway confirm the continued reliance on many small local subscriptions and the large contributions from a few landowners. The Duke of Sutherland had invested almost £¼ million in the far north route by 1874 (almost £12 million on a 2007 price base),²³⁰ while Matheson had invested £28,000 in the Dingwall and Skye by 1872 (almost £1½ million on a 2007 price base).²³¹ The chapter has also provided further examples of the widespread reliance on bank borrowing as an alternative source of finance for northern railways. The Dingwall and Skye and the Sutherland and Caithness Railways had both issued considerable amounts of ordinary stock as security for bank loans by the time their lines opened to traffic. Only the Sutherland and Duke of Sutherland Railways avoided heavy bank borrowing because of the substantial investment made by the Duke.

The Highland had extended its influence and operations between 1865 and 1874 whilst building its financial recovery. For the Great North, severely weakened and confined to its north-eastern territory, this decade was one of consolidation as the

²²⁹ W Vamplew 'Railway Investment in the Scottish Highlands', p.152.

²³⁰ *Railway News*, 1 August 1874, p.138, recording that the Duke of Sutherland had invested £116,000 in the line from Bonar Bridge to Golspie, £60,000 in the line from Golspie to Helmsdale and £60,000 in the line from Helmsdale to Wick and Thurso (£236,000); E Richards, 'An anatomy of the Sutherland Fortune: Income, Consumption, Investments and Returns, 1780-1880', p.54, provides slightly different data and states that the Duke of Sutherland invested £94,2000 in the Sutherland Railway, £63,000 in the Duke of Sutherland's Railway and £60,000 in the Sutherland and Caithness Railway (£217,000); See Glossary entry on 'price base'.

²³¹ *Railway Times*, 20 July 1872, p.728; See Glossary entry on 'price base'.

previous chapter has explained. The Highland paid a 5 percent dividend on ordinary shares in August 1873, but it was January 1874 before the Great North was able to offer its first ordinary dividend since 1864.²³² Nevertheless, both companies had re-established a sound financial base by 1874 when the region attracted new competitive attention.²³³ Plans were announced for 'a new Highland Railway at a cost of two millions' to connect Inverness with Glasgow via the Great Glen and a branch to 'touch Skye', for which capital would 'be largely obtained locally ...'.²³⁴ Scarce local capital was already heavily committed, although the proposal was resurrected, albeit unsuccessfully, in 1882 as a contactor's line to challenge the Highland's market dominance.²³⁵ Moreover, the resurgent Great North renewed its attempts to reach Inverness in 1883-84, opening a new competitive era between Aberdeen and Inverness, but beyond the scope of this study.²³⁶

²³² Appendix, tables 10(d) and 11(b): the Great North dividend for the half year to 31 January 1874 was ½ % which rose to 1 1/8 % for the half year to 31 July 1874.

²³³ Appendix, table 25: for the second half year of 1873, debt gearing on the Highland had reached 0.369 (August 1873), while the Great North's debt gearing was 0.255 (July 1873). These ratios were well above their lowest levels of 0.155 on the Highland (August 1866) and 0.119 on the Great North (January 1867), when the companies had exhibited a greater degree of weakness than the insolvent Caledonian in December 1849 (which then had a debt gearing of 0.162).

²³⁴ *Railway News*, 7 November, 1874, p.626, reporting the plans of S McBean CE of Westminster, London for a 'proposed Inverness and Glasgow Railway'.

²³⁵ J McGregor, *The West Highland Railway: Plan, Politics and People*, pp.27-32 and appendix 2, p.45, describing the plans of the Glasgow and North Western Railway in 1882-83.

²³⁶ The subsequent competitive attempts to breach the Highland Railway's monopoly of Inverness are recorded in: NT Sinclair, 'The Aviemore Line: Railway Politics in the Highlands, 1882-1898', *Highland Railway Journal*, 3, No 46 (Summer 1998), 4-12, and No.47 (Autumn 1998), 7-11; NT Sinclair, *The Highland Main Line* (Penryn, 1998), pp.41-50; D Ross, *The Highland Railway* (Stroud, 2005), pp.104-105; J McGregor, *The West Highland Railway: Plans, Politics and People* (Edinburgh, 2005), pp.27-24 and pp.81-106; HA Vallance, *The Highland Railway*, pp.49-55 and p.68; HA Vallance, *The Great North of Scotland Railway* (Newton Abbot, 1965), pp.103-115; Sir M Barclay-Harvey, *A History of the Great North of Scotland Railway* (London, 1949, reprinted Shepperton, 1998), pp.95-99 and pp.118-29.

Chapter 10: The northern railway system

The purpose of this thesis has been to investigate how a railway system was able to develop successfully between 1844 and 1874 in the north of Scotland, where economic conditions were distinctly unpromising and, drawing upon the historiographical record of earlier railway development in Britain, to assess the contributions made by the state, strategic planning and finance during this embryonic period. This chapter reviews the significance of these factors and concludes that the development of the railway system of northern Scotland exhibited some important differences from those that shaped the earlier growth of railways to the south in both Scotland and England.

The state and railway development

The reluctance of the state to intervene in economic affairs during the nineteenth century emanated from the dominant ideological influence of free market capitalism. Any state involvement was generally a reactive response to events. In northern Scotland, the substantial financial assistance given for improvements in highland roads and water transport in the early 1800s raised concerns about creating a dependency upon state aid and precluded any financial support for Scottish railways until the end of the century. In 1845, however, the executive of state in the form of the Railway Board recommended a coherent strategic plan for a Scottish railway system, which the legislature accepted. This finding contrasts with the general historiographical view that the state was largely detached from planning a British railway network. The state's blueprint prescribed an Anglo-Scottish trunk route from the south to Aberdeen and indicated the logical route for extension further north to Inverness, for which a scheme was approved in 1846. This study shows that railway development to the north of Scotland's Forth-Clyde valley was influenced more by this strategic plan than by the national railway speculation of 1845. It thus supports the contention of Simmons and Robertson that Scotland was less affected by the railway mania than England.

Historians have argued that throughout the nineteenth century the state adopted policies towards British railways that were incongruous. Proposals for the amalgamation and lease of railway companies, in particular, elicited disparate views. The more economic and efficient working that such arrangements might produce had to be weighed against the price and service benefits that free market competition was expected to generate. Governments differed on where this balance lay. Nevertheless, the principle of amalgamations between companies along one main route was widely adopted in northern Scotland because it afforded the only viable way of improving transport links into a large and economically disadvantaged region. The absence of state opposition to amalgamation proposals emanating from Aberdeen or Inverness corroborates Simmons' assertion that from the late 1840s the state began to show less concern over amalgamations of 'end-on' railways that formed a continuous route.

The study illustrates contrasting extremes in the use of monopoly powers awarded by the state to railway companies. The Great North of Scotland Railway generated substantial returns from its truncated main line in 1857-64, but its responses to complaints about high prices and quality of service display the traits of a complacent monopolist. Vigorous competition reduced this once-dominant regional monopoly to a rural, isolated system of branch railways by 1866. As the Highland Railway began to operate new railways to the north of Inverness from the mid 1860s, however, the study indicates a more benevolent use of market power through a selective relaxation of the profit motive. There is a parallel, therefore, with the policies that Hawke detected regionally in England and Wales, but the underlying causes were different. The purpose in the north was primarily strategic to provide viable connections between these remote regions and national networks of trade from which improved land values were anticipated by investor landowners. By contrast, Hawke considered that the less energetic pursuit of profit maximisation south of the border was the result of regional price discrimination and the increasing complexity of traffic rates.

Hawke did argue, however, that railways in England and Wales recognised a special responsibility for developing the trade of particular region, an objective that this study shows was an important tenet of railway policy in northern Scotland. This principle

was exemplified by the decision of the Highland Railway to work the far north and west lines close to cost to capture and develop trade in these regions, relying on the revenue earned from its own well-established routes to sustain shareholder returns. Once again, however, northern motives were different. The far north system was developed essentially as a public utility from which the indirect regional economic benefits sought by its landowner directors might accrue over time, whereas more generally in Britain, Channon suggests that railway companies began to accept the obligations of public service as a means to resist further restrictions on their commercial freedom.

State policy towards the Scottish railway system after 1844 therefore illustrates a divergence from the generally reactive and detached role that historians have identified in England and Wales. Scotland was different, but the case should not be over-stated. The state's role in Scotland was as a catalyst rather than an active participant in the building of the network into the north of the country.

Strategic planning and direction

The British railway network evolved through private enterprise, but the extent to which strategic planning influenced its outline has been the subject of historiographical debate. This study demonstrates that the railway system of northern Scotland, initially stimulated by the state's blueprint for Scottish railways, was shaped primarily by judicious strategic planning conceived and directed by the commercial leaders of Aberdeen and the landowning proprietors of Inverness and the highlands. Their primary motive was to enhance the economic importance of their respective centres. Throughout 1844-74, this strategic planning was founded upon the objective of obtaining independent regional control of railway transport that provided the security of a land-based monopoly. However, the study reveals the difficulties encountered in translating these long-term plans into reality.

The escalating scale of railway enterprise in nineteenth century Britain increasingly required a new division of delegated responsibilities between directors and managers. The dangers posed by the absence of such structures in periods of rapid

expansion were exposed by the findings of the Caledonian shareholders' inquiry of 1849. In comparison to the Caledonian, however, the northern railway companies throughout 1844-74 remained relatively small. Regional interests dominated the boards of these companies; policies were managed effectively by officers, but set and closely supervised at board level. Indeed, the astute strategic planning of northern railways identified in this study was generated not as a consequence of company size or the evolution of executive management, but through the vision and determination of specific individuals and groups within company boards. Foremost regional examples of board strategists include Stewart and Duncan in Aberdeen, and Matheson and Bruce, aided by engineer Mitchell, in Inverness. While Bruce, as managing director of the Inverness web companies, provided the essential oversight of the development and operation of the Inverness lines, the study illustrates in particular the active leadership and strategic direction given by Matheson, whose financial acumen and contacts, substantial personal investment, and dependable monetary guarantees were seminal in the successful realisation of the Inverness web. The thesis therefore contends that Slaven's assessment that there is little evidence to show Matheson played a significant role in the development of the operations of the railways of which he was chairman for nearly thirty years is too severe a judgement.

Historiography indicates that a consequence of the increasing scale of railway enterprise was a growing separation of ownership and control within companies. Expensive competition and expansion approved by railway boards contributed to a growth in capitalisation, particularly through the issue of guaranteed stock, which tended not only to depress dividends and incite shareholder dissatisfaction but also to weaken the influence of ordinary shareholders. Nevertheless, this separation was not generally experienced in northern Scotland. The study demonstrates that a substantial degree of accountability of board to shareholder was retained as the northern railway system expanded. The commercial leaders of Aberdeen held control of all the Aberdeen web companies in 1846, but English capital was sufficiently strong to be able to recast the board of the Aberdeen Railway in 1848. The Great North ensured congruence between the ownership and control of its nominally independent branch network by providing much of the capital, holding majorities on company boards and providing the operation and management for the

lines. The Inverness web companies and their northern satellites, however, provide the most striking examples of the accountability retained between directors and shareholders in northern Scotland. These companies were financed substantially by aristocratic highland landowners and new landowners bringing their own earned capital into the highlands. As principal shareholders, they dominated company boards, ensuring that ownership and control remained almost synonymous. More specifically, it was this unanimity that facilitated the promotion and operation of railways to the north of Inverness, where directors and shareholders alike accepted that returns were uncertain and unlikely to arise from railway investment alone.

Whilst acknowledging the interlinking of bank and railway directorships, historians have questioned whether financial interests played any important or dominant role in shaping the strategies and structure of British railway companies. This study suggests a fundamental role was undertaken by banks and bankers in the planning and development of the northern railway system. The Caledonian Bank, through manager Waterston and director Mitchell, was influential in the formulation and implementation of plans for the Inverness railway web from the earliest days of the unsuccessful Inverness promotions in 1846. It is the North of Scotland Bank, however, that provides examples of a bank guiding the strategy of a northern railway company. That bank made any further loan to the Great North in 1854 conditional upon not extending the line beyond Huntly. It was its manager Lumsden who compiled the list of acceptable directors for the new Great North board in 1867 and proposed its new board and chairman, and Lumsden who discussed with the Highland a possible abandonment of the Great North route to Elgin via Rothes as part of the company's strategy for financial recovery. The bank's primary motive was to protect its capital, but these actions shaped the Great North's plans and structure at critical points in its development.

The thesis shows that the development of the Scottish railway system in 1844-74 was founded upon the cogent strategic plans formulated and driven by two distinct regional groups, highland landowners and Aberdonian entrepreneurs, to try to secure control of the traffic of northern Scotland. A feature of these plans was the desire for local direction of the railway network to meet local needs, exemplified by the unity between ownership and control maintained within these northern railway

companies as late as the 1870s. Scotland, at least in the north, was thus different from many other parts of Britain.

Sources and management of railway finance

A persistent theme throughout this study is the almost universal difficulty experienced by these remote northern railways in raising share capital, which resulted in an extensive reliance on local capital and loans. Borrowing is shown consistently to be an alternative rather than a complementary source of capital for these railways, and previous chapters illustrate the widespread problems encountered in servicing both authorised and floating debt. By 1845, when the first trunk route north of the Forth-Clyde valley was authorised, the scale of capital required for British main line railways had outstripped local sources and was increasingly supplied from a national capital market that could channel funds to the most profitable opportunities. The many references in this thesis to the railway financial journals of the period indicate that investors had access to comprehensive information about the prospects and performance of railway companies. Improved knowledge is a feature of a more perfect market and this study demonstrates that these northern railways, where returns were uncertain, offered little attraction to national investors.

The study furthers the debate on the sources of capital in the development of Scottish railways that previously has been largely confined to the period prior to the 1845 mania. There is general agreement that English capital invested in Scottish railways tended to be directed towards trunk routes, in particular the Anglo-Scottish routes of the 1840s, and that local lines relied upon Scottish capital. This pattern is specifically illustrated in this study by the Perth and Inverness and Inverness and Elgin schemes of 1846. English investment in the later Inverness railway web and its northern satellites, however, was insignificant, which substantiates the historiographical view that some Scottish companies faced disadvantages in raising capital on a national market because of their small scale and remoteness. Data from 1854-74 analysed in the study reveal the heavy dependence on local capital to finance northern railways, which, almost without exception, proved to be insufficient

to meet their needs. The Inverness and far north companies obtained a majority of their capital from a few large shareholders, principally the major landowners in the districts served by the lines, supported by many small local subscriptions. Moreover, the evidence suggests that these shareholdings tended to be held for the long-term.

In the opening chapter, the question was posed whether the availability of finance might have encouraged the promotion of new railways, rather than providing the means to realise existing projects. Capital for railways was usually supplied following the preparation of plans and the presentation of a prospectus to the public. The promotion of the Great North conformed to this pattern; its shares were heavily oversubscribed in the maelstrom of the 1845 railway mania. Following the collapse of confidence in railway shares after the mania, however, the Great North was just one of the many companies nationally unable to translate subscription offers into firm investment funds. Northern railway promoters needed to adopt new tactics to raise the necessary capital. The Inverness web promotions of 1854-62 illustrate the extensive preliminary work undertaken to obtain landowner agreements and to identify significant capital sources before seeking parliamentary powers and inviting wider public investment. Nevertheless, the plans submitted for these routes predated assured capital supply and, in several cases, the tentative offers of investment by larger southern railway companies failed to materialise, causing similar capital shortages to those experienced by the Great North. Only a few years later, however, the far north lines provide examples of capital availability encouraging plans for new railways. The offers of large capital investment by the Duke of Sutherland, seeking the economic benefits of improved transport for his vast estates, induced the extension of the Inverness network north of Invergordon to Bonar Bridge, opened in 1864, and then propelled the creation of the full through route to Wick and Thurso by 1874. Thus the complete system worked by the Highland Railway in 1874 comprised some routes where capital supply had stimulated promotion and others where plans had preceded the certainty of substantial investment.

To create economically viable railways, northern promoters had to obtain significantly lower capital expenditure per mile than incurred on earlier railways in Scotland and England. Historians have generally ascribed the high costs of railway

development in Britain to a combination of inaccurate estimates, unforeseen cost increases, elaborate construction, engineering difficulties and excessive land costs. Northern Scotland, however, provides some contrasts. This study shows that the scale of cost inaccuracies tended to reduce progressively as the railway system extended northwards. Substantial economies were achieved on main lines and branches using the principles of the 'cheap railway', exemplified by the cost of approximately £9,000 per mile for the Inverness-Perth main line, only a quarter of the cost of the Edinburgh-Glasgow inter-urban route opened twenty years earlier.

Yet on this highland trunk route, designed by Mitchell who had extensive experience of railway construction, costs exceeded estimates by sixty percent despite its remarkably low cost per mile. Moreover, overall costs for the Inverness web routes were approximately fifty percent above estimates, although some of this excess was the result of amended plans. These data lend credence to Robertson's suspicion that, in Scotland, there may have been some deliberate attempts to keep estimates low to strengthen the perceived viability of schemes to investors and Parliament, but the evidence remains circumstantial.

The study illustrates in particular the large reductions in the proportion of capital spent on land for these northern routes compared to the earlier Scottish inter-urban lines and many railways in England. It also suggests that land costs were a more significant factor in cost excesses on main routes and that feu duties were more readily granted on branches and the post-1865 northern extensions because of their expected local benefit. With widespread landowner support for extensions into the far north and west of Scotland, for example, land costs for these main routes were relatively insignificant.

The widespread use of bank credit is revealed consistently throughout the study as an alternative rather than a complementary source of capital for northern railways, and thus extends Reed's conclusion drawn for British railways in 1820-44 into the post-mania railway history of Scotland. It concludes that capital constraints within these northern railway companies arose more from the difficulties of raising initial share capital than from erroneous estimates, and it highlights the major impact of hidden debt incurred through temporary loans. Furthermore, it confirms that the

importance of loan capital in pre-1844 Scottish railways, identified by Gourvish and Reed, continued throughout 1844-74 in northern Scotland. The Great North and all of its associated branches used bank advances to supply capital prior to their lines opening; moreover, debt interest absorbed at least half of gross revenue at some juncture on each branch. All the Inverness web companies employed substantial bank lending, aided by the personal connections and guarantees of directors. The role of banks in the supply of capital was crucial, not just once a railway was open and generating revenue as Vamplew suggests, but in many instances by granting advances during the construction phase. In effect, banks supplied temporary finance within authorised loan limits before the companies could demonstrate legitimately that half of the share capital had been paid up, which was the condition imposed by the state before borrowing powers could be exercised, and redemption was expected once debentures could be issued. Although there is no evidence to link directly the earlier development of banking networks in Scotland with the extension of railways into the north, the study illustrates the widespread influence of the established regional banks in Aberdeen and Inverness and it corroborates Checkland's assertion of the importance of banks in Scottish railway finance.

Through the identification of the scale of hidden debt accumulated by the Great North and Highland companies and the analysis of the strategies used by them to redeem these considerable liabilities, this study contributes to historiography two salient case-histories of Victorian railway companies extricating themselves from severe financial crises. Backed by the personal guarantees of some of its directors, the Highland was able to extend the term of its bank lending, gaining time to build its revenue and strengthen its share value, which then enabled stock held in security to be sold to discharge its temporary debt by 1872. The Great North, without wealthy guarantors and lacking assured revenue from a trunk route, negotiated a refinancing package with two banks in 1868 that facilitated the repayment of its bank debt, also by 1872. The Highland, in fact, held a relatively greater burden of bank debt than the Great North, but its stronger revenue stream and the sureties of its directors made its financial insecurity less apparent.

The Great North and the Inverness companies demonstrated that main railway routes in northern Scotland were viable and could generate returns to capital by

containing costs through the successful application of 'cheap railway' principles. However, the study shows that the ubiquitous difficulty of raising share capital for these small and remote companies from a national capital market resulted in a significant dependence on local finance and borrowing. In particular, it reveals the burden placed on companies by the scale of temporary debt, which was not always disclosed to shareholders in published accounts and which has received little previous investigation in the historiography of Scottish railways.

Northern railways and the Scottish network

Strategic planning by the state and regional interests, substantial reductions in the costs of construction, local investment for future indirect returns to capital, and the financial buttress of temporary credit, particularly that supplied by banks, constitute the substructure for the successful expansion of the railway network into the north of Scotland in 1844-74. Throughout this study, all of these factors evoke contrasts between the evolution of a railway system in northern Scotland and that suggested in the historiography of railway development in Britain. The nature of the distant northern economy and the determined local independence of both Aberdeen and Inverness underlie these differences, which is illustrated particularly by the Inverness railway web extending outwards to connect into the national railway network, rather than awaiting the inclination of large southern companies to push northwards. The thesis therefore concludes that Simmons was correct in surmising that different developmental characteristics might be found north of the border. Furthermore, it supports Devine's wider premise that there were differences between Scotland and England in their patterns of economic and social transformation in the nineteenth century.

This thesis has focused upon a particular region and time period, not least for reasons of scale. Whilst it offers a comprehensive examination of the establishment of the railway system of northern Scotland from 1844, the concluding date of Robertson's study, it explores only part of the development for Scotland envisaged in the state's blueprint of 1845. Similar investigations of the evolution of the three large railway conglomerates in central and southern Scotland, the Caledonian, the North

British and the Glasgow and South-Western, are needed to address more fully the neglect of the economic history of Scottish railways that Robertson detected in 1983. It is perhaps surprising that, although the Caledonian was amongst the largest business enterprises in Scotland throughout the century, no detailed business history of it has yet been written.

These substantial topics alone indicate the substantial research still required purely to examine the development of the Scottish railway system. Simmons argued, however, that the examination of the development of railways was only the first stage in assessing their impact and consequences, the focus of his major study of England and Wales. A similar evaluation of the contribution of railways to the wider economic and social development of Scotland, on which Scottish historiography is largely silent, remains to be tackled.

More specifically, the renewed competition that emerged in the 1880s to challenge the Highland Railway's dominance of northern railway traffic suggests an extension to the scope of this study. Although the political objectives of these competitors have been subject to some investigation, indicated in the previous chapter, further research is necessary to determine the financial impact of this new competition and thus to assess whether any lessons of the financial crises of 1865-67 outlined in earlier chapters were learned or repeated in northern Scotland.

Vigorous defence of territory and competition was not, of course, unique to the north. Reference was made in the opening chapter to Robertson's apt description of Scottish railway politics as semi-controlled warfare. This thesis endorses the validity of that observation for northern Scotland in 1844-74. Nevertheless, the successful products of northern strategies and strategists remain substantially intact to form today's railway system of northern Scotland.

APPENDIX

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Explanatory notes to the financial tables

(1): Company accounts in 1844-74 were constructed in the currency units of pounds, shillings and pence. Shillings (twenty to the pound) and pence (twelve to the shilling) have been rounded down in the tables to the nearest pound. Some account totals, therefore, may not match precisely the sum of component items.

(2): Some northern railway companies produced half-yearly accounts, in January or February, and again in July or August, but many others reported annually in July or August. The period of the account is indicated in the tables.

Table 1: Aberdeen Railway

1(a): Capital account of the Aberdeen Railway, 1845-50

CAPITAL	(£)	07.1845	08.1847	08.1848	08.1849	07.1850	07.1850
		<i>authorised</i>				<i>authorised</i>	
Capital raised							
<i>Including:</i>							
Original shares 1845 Act		830000			804125	830000	804955
Brechin Deviation Act 1847						3000	0
Pref. Shares 6% 1848 Act					225539	276666	274412
Pref Shares 7% 1850 Act						150000	0
Shares		830000	582039	784847	1029664	1259666	1077367
Loans 1845 Act		276666				276666	
Loans 1847 Act						1000	
Loans 1848 Act						92222	
Loans 1850 Act						50000	
Loans		276666	69376	205556	305350	419888	363447
Capital (shares & loans)		1106666					1440814
Capital raised	(1)		653221	1000547	1366713	1679555	1441700
Balance			4203	5024	- 28151		- 148070
Capital spent			649018	995523	1394864		1589770
<i>Including:</i>							
Preliminary & Parliamentary			29393	33440	37807		38998
Construction			411519	661319	956757		1137527
Land and compensation			89815	102675	127314		137723
Land consignments			29930	22728	14878		14878
Engineering			3000	6771	20008		22165
Interest to shareholders			10676	11205	11268		12369
Interest on loans			-	10573	18805		30274
Stations			32903	47462	49465		55718
Locomotives			9000	35834	39912		48789
Rolling stock			15216	39824	38049		56236
Alford Valley Railway Bond					4699		
Deeside Railway Stock					16843		

Source: Reports to Ordinary General Meetings of the Aberdeen Railway (NAS/BR/RAC(S)/1/36).

(1): Data for capital raised includes minor miscellaneous receipts that are not itemised in this table.

(2): Shillings and pence have been rounded down; as a result some totals may not match precisely the sum of component items.

(3): The Aberdeen Railway opened throughout to Aberdeen on 1 April 1850. Authorised capital under the 1845 Act was £830,000 with £276,666 in borrowing powers.

(4): In August 1849, capital expenditure was 68.1% above estimate with land costs comprising 10.2% of the total. By 1850 when the full line opened, capital expenditure was 91.5% above estimate: the capital cost per mile was £22,004, construction costs were £15,744 per mile and land costs were 9.6% of capital expenditure.

(continued)

1(b): Capital account of the Aberdeen Railway, 1850-56

CAPITAL	(£)	07.1850	01.1851	07.1851	01.1852	07.1852	01.1853
Shares		1077367	1092529	1160360	1167496	1193032	1228065
Debenture loans		363447	354381	360312	410590	382349	405610
Capital (shares & loans)		1440814	1446910	1520672	1578086	1575381	1633675
Capital raised (inc misc.)		1441700	1447755	1521562	1578975	1576272	1634565
Balance		- 148070	- 189342	- 138939	- 102202	- 114904	- 58986
Capital spent		1589770	1637098	1660501	1681177	1691176	1693552
<i>Including:</i>							
Interest to shareholders		12369	10822	10822	10822	10822	10822
Interest on loans		30274	33540	42854	44273	46813	47121
Land		152601	150450	154976	156598	160878	161339
Plant		105025	109529	102010	105363	105339	108483

CAPITAL	(£)	07.1853	01.1854	07.1854	01.1855	07.1855	01.1856
Shares		1228295	1228452	1299474	1299474	1302964	1303024
Debenture loans		407450	414719	456359	473858	477596	489839
Capital (shares & loans)		1635745	1643171	1755833	1773332	1780560	1792863
Capital raised (inc misc.)		1636635	1644061	1756724	1776454	1785908	1793313
Balance		- 66979	- 85309	- 76632	- 68484	- 60704	- 74298
Capital spent		1703614	1729371	1833356	1844939	1846613	1867612
Interest to shareholders		10822	10822	10822	10822	10822	10822
Interest on loans		47121	47799	48876	48887	49006	49006
Land		161688	160734	161465	161676	161222	161499
Plant		113238	123998	130304	133811	135842	151872

Source: Reports to Ordinary General Meetings of the Aberdeen Railway (NAS/BR/RAC(S)/1/36).

(5): Part of the surviving statement of account to 31 January 1856 in the National Archives of Scotland is damaged and the figures for loans have therefore been derived from other data on the published account sheets.

(6): The capital cost per mile of the Aberdeen Railway by 1851, one year after full opening, was £22,983, 100.1% above estimate, which rose to £25,273 per mile by January 1855 after opening of the new Aberdeen terminus at Guild Street, which added approximately $\frac{1}{4}$ miles to the $72\frac{1}{4}$ miles of the system. In July 1851, land costs comprised 9.3% of capital expenditure.

1(c): Revenue account of the Aberdeen Railway, 1848-56

REVENUE (£)	08.1848	08.1849	07.1850
Accounts period	7 months	12 months	11 months
Gross revenue	14015	30482	48237
Revenue Balance	4989	- 546	- 7610
Expenditure	9025	31029	55848
<i>Including:</i>			
Operating expenses		19907	25685
General Balance Sheet			
Bills payable			134475
Amounts due to contractors			39657

REVENUE (£)	07.1850	01.1851	07.1851	01.1852	07.1852	01.1853
Accounts period	11 months	Half year	Half year	Half year	Half year	Half year
Gross revenue	48237	33573	35237	36803	38918	41343
Revenue Balance	- 7610	- 1305	- 4307	- 4010	- 2869	72
Expenditure	55648	34878	39545	40813	41788	41270
<i>Including:</i>						
Operating expenses	25685	18862	20216	22474	22301	23789
Interest (on loans and preference shares) of which	n/a	10024	13282	12292	13440	11442
<i>Interest on loans</i>	n/a	9675	9775	9565	9670	9375
General Balance Sheet						
Bills payable	134475	156020	120750	88914	94096	44207
Amounts due to contractors	39657	27600	24910	21409	344140	29623
Amount due on revenue, including dividend arrears	n/a	46951	52769	57313	65484	84629

REVENUE (£)	07.1853	01.1854	07.1854	01.1855	07.1855	01.1856
Accounts period	Half year	Half year	Half year	Half year	Half year	Half year
Gross revenue	41656	46488	49973	53098	56992	61015
Revenue Balance	274	3232	5339	6287	10600	6751
Expenditure	41381	43255	44633	46811	46392	54264
<i>Including:</i>						
Operating expenses	24233	25494	25695	27388	26994	33927
Interest (on loans and preference shares) of which	11096	11714	12892	13376	13351	14290
<i>Interest on loans</i>	9481	9754	10748	11383	11629	12497
General Balance Sheet						
Bills payable	49736	51881	45130	46799	46647	57355
Amounts due to contractors	31387	38018	36935	34088	21043	37827
Amount due on revenue, including dividend arrears	91925	116499	50795	61999	58961	80013

Source: Reports to Ordinary General Meetings of the Aberdeen Railway (NAS/BR/RAC(S)/1/36).

(1): Shillings and pence have been rounded down; as a result some totals may not match precisely the sum of component items.

(2): Amounts due on revenue account in the general balance sheet below the line include the accumulated debt on preference dividends and other guaranteed payments.

(3): The large reduction in suspense account debt on revenue in July 1854 is due to the capitalisation of the arrears of preference dividend.

(4): No dividend was paid on ordinary stock until 1861, by when the Aberdeen Railway was a constituent of the Scottish North-Eastern Railway, formed from the amalgamation of the Aberdeen and Scottish Midland Junction Railways in 1856. In the half year to January 1861, the first dividend was paid on Aberdeen ordinary stock at ¼ %. See also Appendix table 21(a), and tables 33 and 34 in chapter 4 of the main text of the thesis.

1(d): Financial Indicators for the Aberdeen Railway 1849-56

Data for periods a shown	(£)	08.1848	08.1849	07.1850
<i>Accounts compiled for:</i>		<i>Part year</i>	<i>12 months</i>	<i>11 months</i>
Capital raised		1000547	1366713	1441700
Debenture loans		205556	305350	363447
Interest paid to shareholders		11205	11268	12369
Interest on loans (excluding shareholder loans)		10573	18805	30274
Total interest paid on capital account		21778	30073	42643
Estimated fixed interest debt at a notional 5% interest		435560	601460	852860
Debt below the line in accounts				134475
Estimated total debt		435560	601460	987335
Gross half year revenue		(14015)	30482	48237
Gross annual revenue		n/a	30482	52622 (2)
Ratio of loans to capital raised		20.5%	22.3%	25.2%
Ratio of gross revenue to total debt			0.051	0.053
(1): Total debt is imputed from the total interest paid given in the accounts at a notional 5% interest rate.				
(2): Gross annual revenue for 1850 is estimated from the figure of £48,237 reported for the 11 months shown in the accounts.				

Data for half years	(£)	01.1851	07.1851	01.1852	07.1852	01.1853
<i>Accounts compiled for</i>		<i>Half year</i>				
Capital raised		1447755	1521562	1578975	1576272	1634565
Debenture loans		354381	360312	410590	382349	405610
Interest paid to shareholders		10822	10822	10822	10822	10822
Interest on loans (excluding shareholders)		33540	42854	44273	46813	47121
Total interest paid on capital account		44362	53676	55095	57635	57943
Estimated fixed interest debt at a notional 5% interest		887240	1073520	1101900	1152700	1158860
Debt below the line in accounts (3)		202971	173519	146227	159580	128836
Estimated total debt		1090211	1247039	1248127	1312280	1287696
Gross half year revenue		33573	35237	36803	38918	41343
Gross annual revenue (2)		59884	68810	72040	75721	80261
Ratio of loans to capital raised		24.5%	23.7%	26.0%	24.3%	24.8%
Ratio of gross revenue to total debt		0.055	0.055	0.058	0.058	0.062

Data for half years	(£)	07.1853	01.1854	07.1854	01.1855	07.1855	01.1856
<i>Accounts compiled for</i>		<i>Half year</i>					
Capital raised		1636635	1644061	1756724	1776454	1785908	1793313
Debenture loans		407450	414719	456359	473858	477596	489839
Interest paid to shareholders		10822	10822	10822	10822	10822	10822
Interest on loans (excluding shareholders)		47121	47799	48876	48887	49006	49006
Total interest paid on capital account		57943	58621	59698	59709	59828	59828
Estimated fixed interest debt at a notional 5% interest		1158860	1172420	1193960	1194180	1196560	1197760
Debt below the line in accounts		141661	168380	95925	108798	105608	137368
Estimated total debt		1300521	1340800	1289885	1302978	1302168	1333928
Gross half year revenue		41656	46488	49973	53098	56992	61015
Gross annual revenue		82999	88144	96461	103071	110090	118007
Ratio of loans to capital raised		24.9%	25.2%	26.0%	26.7%	26.7%	27.3%
Ratio of gross revenue to total debt		0.064	0.066	0.075	0.079	0.084	0.088
(3): Debt below the line in the accounts comprises bills and amounts due on revenue including arrears of dividend.							

Table 2: Aboyne and Braemar Railway

2(a): Capital account of the Aboyne and Braemar Railway, 1866-74

CAPITAL (£)	31 July	1866	1867	1868	1869	1870	1871	1872	1873	1874
Ordinary shares (4) (6)		39696	40096	40096	38250	38250	38250	38250	38250	38250
Loans		900	21999	21999	21999	21999	21999	21999	21999	21999
Capital raised		40596	62095	62095	60249	60249	60249	60249	60249	60249
Balance		- 7370	- 508	- 3730	-10558	-10699	- 9993	- 9993	-10267	-10267
Capital spent		47966	62604	65826	70808	70948	70242	70242	70516	70516
<i>Including:</i>										
Preliminary & Parliamentary		1582	2206							
Engineering and plans		58	549							
Land and compensation		186	1278							
Land consignments		2000	4590							
Construction inc rails		43735	48973							
Stations		0	3975							
Interest (5)		182	558							
<i>Capital spent to the last ½ year</i>				63557	69006	70841	70085	70242	70477	70516
<i>Capital spent in ½ year</i>				2249	823	106	157	0	39	0
General balance sheet										
Amount due to bankers					3009	3126	2995	3048	3397	3421
Sundries due		7408	7264	7237	6169	6098	6103	6142	6202	6144
<i>Including:</i>										
Commercial Bank		2778								
Commercial Bank		2000								
Contractor		5436								
Bills		4564								

Source: Minutes of the Aboyne and Braemar Railway, 1865-76 (NAS/BR/ABR/1-2).

(1): Shillings and pence have been rounded down; as a result some totals may not match precisely the sum of component items.

(2): Authorised share capital in 1865 was £66,000 plus £22,000 in borrowing powers. The line opened in October 1866; by 1869, capital expenditure was 7.3% above estimate with a capital cost per mile of £6,437. Land costs in 1867 were 9.4% of capital expenditure.

(3): The line was subsidised by the Deeside/Great North lease in that working expenses were not to be charged until the line dividend reached 4½% but that period was not to exceed 10 years from the opening of the line.

(4): Of the 6,600 £10 shares, 3,312 shares had been paid in full at £10 by July 1866.

(5): The company defaulted on £219 of interest on debentures in the first half year of 1867.

(6): The reduction in share capital raised in 1869 was caused by the declaration of additional contractor shares as forfeited. These shares had been issued nominally to allow the company to access its borrowing powers (Minutes of the Aboyne and Braemar Railway, 18 May 1866, NAS/BR/ABR/1/1, p.32).

2(b): Revenue account of the Aboyne and Braemar Railway, 1867-74

REVENUE(£)	31 July	1867	1868	1869	1870	1871	1872	1873	1874
Total annual revenue		1852	3269	3159	3113	3369	3562	3524	3780
Balance		332	512	2136	2123	2383	2475	2281	2305
Total annual expenditure		1520	2677	1023	990	986	1087	1243	1475
<i>Including:</i>									
Working expenses (3)		624	893	899	851	883	870	1033	1169
Feu duties, taxes and rates		33	132	123	137	101	216	208	305
Debenture and other interest		810	1649	1622	1525	1430	1418	1414	1379
<i>Including:</i>									
Interest on debenture loans		672	1099	1096	1120	1113	1099	1087	1050
Interest to banks		189	312	526	405	317	319	327	329
Interest (miscellaneous)			186						
Balance for dividends (3)		449	1708	2604	2373	2574	2819	2511	2524
Annual dividend (%) (3)		0	0	2	2	2	3	2 ½	2 ¼

Source: Minutes of the Aboyne and Braemar Railway, 1865-76 (NAS/BR/ABR/1-2).

(1): Shillings and pence have been rounded down; as a result some totals may not match precisely the sum of component items.

(2): Data is calculated for the full year from half-yearly data in the accounts.

(3): The line was subsidised by the Deeside/Great North lease in that working expenses were not to be charged until the line dividend reached 4½% but the period was not to exceed 10 years from the opening of the line. Therefore the balance shown as available for dividends, which included carryforwards, was artificially high because no charge was made for working the line throughout this period.

2(c): Financial indicators for the Aboyne and Braemar Railway. 1866-74

(£)	31 July	1867	1868	1869	1870	1871	1872	1873	1874
Capital raised		62095	62095	60249	60249	60249	60249	60249	60249
Debenture loans (2)		21999	21999	21999	21999	21999	21999	21999	21999
Estimated temporary loans		3780	9960	10520	8100	6340	6380	6540	6580
Estimated total debt		25779	31959	32519	30099	28339	28379	28539	28579
Gross annual revenue		1852	3269	3159	3113	3369	3562	3524	3780
Ratio of debentures to capital raised		35.4%	35.4%	36.5%	36.5%	36.5%	36.5%	36.5%	36.5%
Ratio of gross revenue to total debt (3)		0.072	0.102	0.097	0.103	0.119	0.126	0.123	0.132

(1): Estimated temporary loans are derived from bank interest paid and calculated from a notional 5% interest rate on total gross interest paid, which was the rate charged by the Great North to other branch lines for plant use.

(2): £219 of interest due on debentures was not paid in the first half of 1867.

(3): The ratio of gross revenue to total debt is calculated without imputing any cost for working the line which was in abeyance until dividend reach 4½% or for a maximum of ten years. If a 50% working charge had been charged, as commonly applied on other railways, the company would have been unable to pay its interest and debts.

Table 3: Alford Valley Railway

3(a): Capital account of the Alford Valley Railway, 1857-65

CAPITAL	(£)	08.1857	08.1858	08.1859
Share capital		14447	43401	37267
New preference stock				
Temporary loan from the Great North of Scotland				7437
Debenture loans			28000	28000
Total capital raised	(2)	14447	71401	72705
Balance		897	905	- 28256
Total expenditure		13549	70496	100961
<i>Including:</i>				
Preliminary and Parliamentary expenses		5593	5593	6645
Construction		6527	59769	84339
Land and compensation		510	1829	2487
Land assignments			648	934
Engineering and plans		400	1514	2247
Interest		462	740	2515

CAPITAL	(£)	08.1860	08.1861	08.1862	08.1863	08.1864	08.1865
Share capital		37291	37821	38940	38939	38939	38939
New preference stock (3) (5)					39420	44920	45020
Great North temporary loan		7437	6907				
Debenture loans		28000	27962	27962	27762	27162	24282
Total capital raised	(3)	72729	72692	66902	106122	111022	108242
Balance		- 30807	- 31821	- 38508	- 50	+ 4268	+ 1115
Total expenditure		103536	104513	105410	106172	106753	107127
Capital spent to previous yr		100961	103536	104513	105410	106172	106753
Capital spent in current year		2575	976	597	761	581	373

Source: Minutes of the Alford Valley Railway, 1855-66 (NAS/BR/ALF/1/1).

- (1): Shillings and pence have been rounded down; as a result some totals may not match precisely the sum of component items.
- (2): The figure for share capital in 1858 includes the sum paid by the Great North for its subscription of 1,500 shares.
- (3): The large fall in capital raised shown between 1861 and 1862 was due to the cancellation of forfeited shares used to create preference stock, which was then taken by the Great North in payment of debts; thus the burden of debt was redistributed within the company and not fully discharged.
- (4): The authorised capital for the line in 1856 was £85,000 plus £28,000 in borrowing powers. The capital expenditure by opening in 1859 exceeded estimates by 18.8%; land costs were 3.4% of capital expenditure. The capital cost per mile was £6,310 by 1859.
- (5): Preference stock was authorised from the conversion of forfeited ordinary shares under 25&26 Vic. cap.87, 1862.

3(b): Revenue account of the Alford Valley Railway, 1860-65

REVENUE	(£)	08.1860	08.1861	08.1862	08.1863	08.1864	08.1865
Total annual revenue	(4)	5987	5604	5756	5009	5562	5864
Balance		- 607	- 2062	- 2017	- 2408	- 192	+ 241
Total annual expenditure		6595	7666	7773	7418	5754	5623
<i>Including:</i>							
Debenture interest		754	1205	1190	1176	1148	1118
Bank and temporary loan interest (2)(5)		1877	2112	1956	2176	343	202
Working charge to GNSR		1428	1531	1662	1462	1452	1463
5% interest on plant to GNSR		447	493	508	433	426	426
Interest as % of gross revenue (3)		51.4	68.0	63.5	75.6	34.5	29.8
General balance sheet							
Amount due to bank		5198	6246	4294	3569	3238	3636
Sundries on account		26622	28769	39068	3894	3019	8453
Source: Minutes of the Alford Valley Railway, 1855-66 (NAS/BR/ALF/1/1).							
(1): Shillings and pence have been rounded down; as a result some totals may not match precisely the sum of component items.							
(2) In 1860, the Alford Valley was paying 5% annually on a £30,000 loan from the Great North.							
(3): Interest as a proportion of gross revenue includes the 5% interest charged by the Great North on the use of plant.							
(4): Data for the first five months of operation in 1859 are omitted; net revenue for this period was £512 and 2% dividend was paid; no further dividends were subsequently paid by the company.							
(5): Interest on temporary loans fell sharply once preference stock had been issued in 1863							

3(c): Financial indicators for the Alford Valley Railway, 1860-65

(£)	31 August	1860	1861	1862	1863	1864	1865
Capital raised		72729	72692	66902	106122	111022	108242
Debenture loans		28000	27962	27962	27762	27162	24282
Temporary debt		37540	42240	39120	43520	6860	4040
Total debt (excluding preference stock)		65540	70202	67082	71282	34022	28322
6% preference stock (2)					39420	44920	45020
Total debt (including preference stock)		65540	70202	67082	71282	78942	73342
Gross annual revenue		5987	5604	5756	5009	5562	5864
Ratio of debentures to capital raised		38.5%	38.5%	41.8%	26.2%	24.5%	22.4%
Ratio of gross revenue to total debt (excluding preference stock)		0.091	0.080	0.086	0.070	0.163	0.207
Ratio of gross revenue to total debt (including preference stock)		0.091	0.080	0.086	0.070	0.070	0.080
(1): The estimated temporary debt is calculated from a notional 5% interest rate, which was the rate charged by the Great North for plant use and includes advances made by the Great North.							
(2): The 6% preference stock is shown as a component of debt gearing from 1864, the year when the guaranteed preference dividends were due for the 1863-64 financial year, because these shares were issued to replace loans made by the Great North and therefore re-distributed debt within the accounts rather than discharging it.							

**Table 4: Banff, Macduff and Turriff Junction Railway,
renamed the Aberdeen and Turriff Railway (1859)**

4(a): Capital account of the Aberdeen and Turriff Railway, 1856-65

CAPITAL	(£)	08.1856	08.1857	08.1858	08.1859	08.1860
Shares		30224	75748	84535	85155	85290
Calls in advance		8108				
Preference stock						
Debentures			33800	39700	39900	39900
Capital raised		38332	109549	124236	125056	125191
Balance		2936	- 19858	- 20773	- 23289	- 23483
Capital spent		41268	129407	145009	148345	148674
<i>Including:</i>						
Preliminary and Parliamentary		1888	2029	2831	3674	
Construction		29401	109187	121803	122615	
Land		3023	9702	10758	11160	
Land consignments		3900	2400	2400	2400	
Interest		234	1118	1519	1606	
General balance sheet						
Due to bankers	(4)	12545	20473	17148	18843	1454
Bills payable				4547	1077	
Sundries owing	(4)			419	4794	25141

CAPITAL	(£)	08.1861	08.1862	08.1863	08.1864	08.1865
Shares		85290	85290	85290	85290	85290
Calls in advance						
Preference stock						32900
Debentures		39900	39475	39830	36886	39371
Capital raised		125191	124766	125121	122177	157562
Balance		- 23278	- 24783	- 24830	- 28344	+ 7844
Capital spent		148469	149549	149951	150521	149717
General balance sheet						
Due to bankers	(4)	2199	1107	(Cr) 73	140	(Cr) 218
Bills payable						
Sundries owing	(4)	25400	27821	30499	34597	336

Source: Minutes of the Aberdeen and Turriff Railway, 1854-66 (NAS/BR/ABT/1/1).

(1): Shillings and pence have been rounded down; as a result some totals may not match precisely the sum of component items.

(2): Authorised capital was £120,000 plus £40,000 in borrowing powers and so capital expenditure exceeded estimates by 23.6% by 1859.

(3): The capital cost per mile was £8,241 in 1859. Land costs by 1859 represented 9.1% of capital expenditure.

(4): The general balance sheet line for sundries includes advances made by the Great North to replace bank loans in 1859-60. The amount due for sundries fell sharply in 1865 when the Great North replaced floating debt by paying for £32,900 of preference stock.

(5): Preference stock was authorised from the conversion of forfeited ordinary shares under 22 Vic. cap.11, 1859 and the Great North took the full approved £37,220 as collateral for their £25,000 advance to the company from 29 November 1859 (NAS/BR/ABT/1/1, pp.126-27), which was not shown in the accounts until 1865 because new capital was not raised from this preference stock..

4(b): Revenue account of the Aberdeen and Turriff Railway, 1858-65

REVENUE (£)	31 August	1858	1859	1860	1861	1862	1863	1864	1865
Total annual revenue		7589	7478	6945	7852	8257	8410	8768	8969
Balance		+ 200	- 1113	- 1256	- 899	- 278	- 288	- 525	+ 11
Total annual expenditure		7388	8592	8201	8751	8536	8699	9294	8958
<i>Including:</i>									
Working expenses		4110	4880	4465	4571	4564	4772	4958	5257
(of which Great North charges) (2)		2008	1743	1640	1672	1800	1823	1795	1833
(of which GN interest on plant at 5%)		557	535	500	481	518	535	522	519
Interest (4)		2980	2914	3024	3466	3271	3253	3677	3066
(of which debenture interest)		1430	1952	1709	1928	1907	1846	1632	1658
(of which interest on temporary loans)		1221	835	1321	1537	1364	1406	2044	1408
Interest as % of gross revenue (3)		46.6	46.1	50.7	50.3	45.9	45.0	47.9	40.0
Source: Minutes of the Aberdeen and Turriff Railway, 1854-66 (NAS/BR/ABT/1/1).									
(1): Shillings and pence have been rounded down; as a result some totals may not match precisely the sum of component items.									
(2): The reduction in the Great North's working charges from 1858 was as a result of cutting the number of trains run to reduce costs as the result of limited traffic.									
(3): Interest as a proportion of gross revenue includes the 5% interest charged by the Great North on the use of plant.									
(4): The total of interest paid was offset by interest received on past share calls and arrears on calls.									

4(c): Financial indicators for the Aberdeen and Turriff Railway, 1858-65

(£)	31 August	1858	1859	1860	1861	1862	1863	1864	1865
Capital raised		124236	125056	125191	125191	124766	125121	122177	157562
Debenture loans		39700	39900	39900	39900	39475	39830	36886	39371
Temporary debt		24420	16700	26420	30740	27280	28120	40880	28160
Total debt		64120	56600	66320	70640	66755	67950	77766	67531
Gross annual revenue		7589	7478	6945	7852	8257	8410	8768	8969
Ratio of debentures to capital raised		32.0%	31.9%	31.9%	31.9%	31.6%	31.8%	30.2%	25.0%
Ratio of gross revenue to total debt		0.118	0.132	0.105	0.111	0.124	0.124	0.113	0.133
(1): Estimated temporary debt is calculated from a notional 5% interest rate, which was the rate charged by the Great North of Scotland Railway for the use of plant.									

Table 5: Banff, Macduff and Turriff Extension Railway

5(a): Capital account of the Banff, Macduff and Turriff Extension Railway, 1858-65

CAPITAL	(£)	08.1858	02.1859	08.1859	02.1860
Capital raised from shares		24862	35024	42623	44864
Debenture loans				17187	27000
Capital raised (inc miscellaneous)		29499	35685	59810	71866
Balance		6711	2843	794	- 260
Capital expenditure		22787	32841	59016	72126
<i>Including</i>					
Spent to previous year					
Spent in year					
Preliminary and Parliamentary costs		1687	1692	3098	3898
Construction		20146	27901	50801	62983
Land and compensation		871	2096	2459	2470
Engineering and plans		29	976	1240	1314
Source: Minutes of the Banff, Macduff and Turriff Extension Railway, 1857-66 (NAS/BR/BMEX/1/1).					
(1): Shillings and pence have been rounded down; as a result some totals may not match precisely the sum of component items.					
(2): Land costs were only 3.4% of capital expenditure by opening in 1860 because most land was given via a feu duty by Earl of Fife, whose commissioner, WJ Tayler, was chairman of the Extension Railway.					
(3): The total of capital raised includes some miscellaneous items: for example, transfer fees.					
(4): Authorised capital was £81,000 with £27,000 in borrowing powers, giving an estimated cost of £6,894 per mile.					
(5): Preference stock was authorised from the conversion of forfeited ordinary shares under 26&27 Vic. cap.188, 1863.					

CAPITAL	(£)	08.1860	08.1861	08.1862	08.1863	08.1864	08.1865
Capital raised from shares		49845	49872	49872	49875	49875	49875
Debenture loans		27000	27000	27000	27000	27000	27000
Capital raised (inc misc.)		76846	76846	76874	76876	76876	76876
Balance		- 3236	- 4850	- 5500	- 5866	- 6352	- 7625
Capital expenditure		80083	81724	82374	82743	83228	84501
(5): The capital cost per mile by August 1860 was £6,816, 1.1% within estimate.							

5(b): Revenue account of the Banff, Macduff and Turriff Extension Railway, 1861-65

REVENUE (£)	08.1861	08.1862	08.1863	08.1864	08.1865
Total annual revenue	3108	3170	3438	3313	3240
Balance	-922	-1316	-1003	-1108	-1222
Total annual expenditure	4030	4486	4441	4421	4462
<i>Including:</i>					
Working expenses	2129	2526	2500	2441	2449
<i>(of which GNSR charges)</i>	885	907	931	904	904
<i>(of which GNSR interest on plant at 5%)</i>	209	219	236	226	214
Interest	1425	1465	1454	1484	1534
<i>(of which debenture interest)</i>	1285	1335	1335	1335	1335
<i>(of which interest on advances)</i>	127	7	18	33	54
<i>(of which interest on bills)</i>	0	121	100	114	144
Interest as % of gross revenue (2)	52.6	53.1	49.2	51.6	54.0
General balance sheet					
Sundries due	9712	13769	17003	11663	14593
Amount due to bankers	583	636	1148	313	311
Source: Minutes of the Banff, Macduff and Turriff Extension Railway, 1857-66 (NAS/BR/BMEX/1/1).					
(1): Shillings and pence have been rounded down; as a result some totals may not match precisely the sum of component items.					
(2): Interest as a proportion of gross revenue includes the 5% interest charged by the Great North on the use of plant.					

5(c): Financial indicators for the Banff, Macduff and Turriff Extension Railway, 1861-65

(£)	31 August	1861	1862	1863	1864	1865
Capital raised		49872	49872	49875	49875	49875
Debenture loans		27000	27000	27000	27000	27000
Estimated total debt		28500	29300	29080	29680	30680
Gross annual revenue		3108	3170	3438	3313	3240
Ratio of debentures to capital raised		54.1%	54.1%	54.1%	54.1%	54.1%
Ratio of gross revenue to total debt		0.109	0.108	0.118	0.111	0.106
(1): Estimated debt is calculated from a notional 5% interest rate on total interest paid, which was the rate charged by the Great North for the use of plant. £27,000 of debt is represented by debentures, although statements made by the company chairman indicate that debenture interest was not paid in full when due (18 April 1863, NAS/BR/BMEX/1/1, pp.194-99).						
(2): The accounts are obscure on the level of bank loans, but minutes show that a bank loan of £15,000 was taken in 1857 (30 November 1857, NAS/BR/BMEX/1/1, p.7) and a further loan of £4,000 in 1860 (23 February 1860, NAS/BR/BMEX/1/1, p.95).						
(3): Great North accounts (NAS/BR/RAC(S)/1/14 and NAS/BR/GNS/1/5) shows advances and subscriptions were made by the Great North to the company, which are not matched fully in the Extension Railway accounts. If these sums attracted 5% interest, as was customary for Great North advances, then the estimated total debt shown above represents a minimum amount.						

Table 6: Banff, Portsoy and Strathisla Railway, renamed the Banffshire Railway (1863)

6(a): Capital account of the Banffshire Railway, 1858-67

CAPITAL	(£)	08.1858	02.1859	08.1859	02.1860	08.1860	02.1861
Ordinary shares		16519	26524	46002	46848	47715	48212
Advance calls and interest		200	244	173			
Debenture loans					28400 (3)	28400	28400
Capital received		16709	26769	46175	75248	76115	76612
Balance		621	- 8145	- 16908	- 4860	- 20876	- 25858
Capital expenditure		16087	34914	63084	80108	96991	102470
<i>Including:</i>							
Prelim and Parliamentary		1216	1216	1216	1216	1531	1531
Construction		12894	30592	55456	62900	73624	76527
Engineering and plans		1574	2074	2574	3174	3174	3174
Land and compensation		149	617	3295	5865	7378	7680
Rolling stock					5786	9133	11095
General balance sheet							
Bills due	(2)		6161	15000	9455	11077	9600
Bank balance			- 2346	- 2242	+ 6393	- 7558	- 15566
Sundries due							

Source: Minutes of the Banffshire Railway, 1857-67 (NAS/BR/BAN/1/1-2).

(1): Shillings and pence have been rounded down; as a result some totals may not match precisely the sum of component items.

(2): The £15,000 bill, shown on 31 August 1859, was a credit from North of Scotland Bank, which was converted into debentures from 29 February 1860.

(3): The £28,400 total of debentures reported issued at 29 February 1860 was held as security against a £15,000 loan from the North of Scotland Bank and a £13,400 loan from the Royal Bank of Scotland.

(4): The capital authorised in the 1857 Act was £90,000 in shares and £30,000 in borrowing powers. The cost of line by February 1861 was 13.9% above estimate and land costs formed 7.5% of capital expenditure.

(5): The capital cost per mile was £5,465 in February 1861, rising to £6,313 by 1863 when the Great North began working the line.

CAPITAL	(£)	07.1861	07.1862	07.1863	07.1864	07.1865	07.1866	07.1867
Ordinary shares		48276	49020	49076	49076	49076	49076	49076
Debenture loans		28400	28400	28400	28400	28400	28400	28400
Capital received		76676	77420	77476	77476	77476	77476	77476
Balance		- 32495	- 37911	- 40898	- 41850	- 42879	- 42954	- 43101
Capital expenditure		109172	115332	118374	119326	120355	120430	120577
Spent to previous ½ year		102470	114377	116401	118374	119326	120355	120430
Spent in current ½ year		6701	954	1973	952	1029	75	147
General balance sheet								
Bills due	(6)	38000	38000	38000	40000	40943	40681	40681
Bank accounts		+ 5730	+ 858	- 1071	- 379	- 651	- 260	- 43
Sundries due			4896	7853	9816	12570	17264	18608
GNSR advances included in sundries					2000	4626	2000	

(6): A new loan of £38,000 from North of Scotland Bank shown in the July 1861 accounts below the line was secured by a bill and financed the deficit on the capital account.

(7): The capital authorised in 1857 Act was increased in the 1863 Act by £100,000 in shares and £33,000 in borrowing powers for the Buckie extension. The proposed 1866 amalgamation with the Great North failed in Parliament because half this total capital had not been paid up. The 1867 amalgamation act included abandonment of the Buckie extension and so the paid up capital then more than met the standing orders for the amalgamation bill, allowing amalgamation from 1867.

(8): The advances shown as paid by the Great North are taken from the Great North's accounts contained in NAS/BR/RAC(S)/1/14 and are included in the sundries of the general balance sheet.

(9): The accounting period changed to January/July from July 1861.

6(b): Revenue account of the Banffshire Railway, 1860-67

REVENUE (£)	08.1860	07.1861	07.1862	07.1863	07.1864	07.1865	07.1866	07.1867
Total annual revenue	5218	5331	5502	5973	5864	6279	6535	6759
Balance	684	- 895	-1306	-1472	- 1229	- 1755	- 1837	- 855
Total annual Expenditure	4534	6226	6808	7445	7093	8034	8372	7615
<i>Including:</i>								
Working expenses	2856	3443	3762	3710	3810	3767	3594	3717
Gross interest (3)	1523	2078	2847	3156	4070	4824	5585	4527
Less interest on plant (4)					- 1048	- 675	- 950	- 781
Net interest	1523	2078	2847	3156	3022	4149	4635	3746
<i>Including</i>								
Loans and debentures	665	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Bank interest	415	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Dividend	2%	-	-	-	-	-	-	-
GNSR working charges				65%	65%	60%	55%	55%

Source: Minutes of the Banffshire Railway, 1857-67 (NAS/BR/BAN/1/1-2).

(1): Shillings and pence rounded down: totals may not match precisely the sum of component items.

(2): The accounting period changed to January/July from July 1861.

(3): Gross interest includes bank loans. Two bank loans were taken in 1859-60 for a total of £28,400, but are not identified separately in the accounts because the funds are recorded as issued debentures. The £38,000 loan taken from North of Scotland Bank in 1861 was recorded in the general balance sheet below the line of the main accounts.

(4): Interest was charged on plant from 1863-64 when the Great North took over working the line. Net interest shown is the amount due on loans.

6(c): Financial indicators for the Banffshire Railway, 1860-67

(£)	08.1860	07.1861	07.1862	07.1863	07.1864	07.1865	07.1866	07.1867
Capital raised	76115	76676	77420	77476	77476	77476	77476	77476
Debenture loans	28400	28400	28400	28400	28400	28400	28400	28400
Estimated debt (1) (2)	30460	41560	56940	63120	60440	82980	92700	74920
Gross annual revenue	5218	5331	5502	5973	5864	6279	6535	6759
Ratio of debentures to capital raised	37.3%	37.0%	36.7%	36.7%	36.7%	36.7%	36.7%	36.7%
Ratio of gross revenue to total debt	0.171	0.128	0.097	0.095	0.097	0.076	0.070	0.090

(1): Estimated debt is calculated from a notional 5% interest rate on net interest paid, which was the rate charged by the Great North for plant use.

(2): Estimated debt based on interest paid must be regarded as conservative because a bank loan of £38,000 was taken from the North of Scotland Bank in 1861 on a bill with interest and with stock given as security. By 1864, the bank was demanding unpaid interest due (1 November 1864, NAS/BAN/1/2, pp.68-69).

(3) Company debts were underwritten by the Great North of Scotland Railway, which temporarily took 100% of line revenue (14 September 1865, NASBAN/1/2. pp.96-97).

Table 7: Accounts of the Deeside Railway

7(a): Capital account of the Deeside Railway, 1853-74

CAPITAL (£)	31 August	1853	1853	1854	1855	1856	1857
	<i>Authrs'd</i>						
Deeside ordinary shares	106250	54725	71172	76668	83378	90297	
Deeside Loans	35400	22750	35380	35400	34530	35364	
<i>Authorised capital</i>	141650						
Miscellaneous		112	17	17	17	17	
Capital raised		77588	106569	112085	117725	125678	
Balance		+ 1968	- 2281	- 16083	- 11788	- 9968	
Capital expenditure		75620	108851	128168	129713	135646	
<i>Including:</i>							
Prelim and Plmt costs 1846 act		4250	4250	4250	4250	4250	
Prelim and Plmt costs 1852 act		1360	1421	2979	2979	3100	
Land and compensation		11259	16259	17695	17695	18547	
Consignments for land		528	775	19	19	19	
Construction works		55814	65992	71641	71641	72531	
Engineering and plans		1610	2892	3305	3305	3345	
Interest		141	1143	1298	1298	1298	
Locos and rolling stock			11497	16149	16149	19869	
General balance sheet							
Bank accounts		+1780	+2101	+2241	+3588	+11	
Open accounts due			6111	14306	11781		
Bills due			4425	300	0		
Sundries due on revenue			1765	1987	2217	2288	
Sundries due on capital account						3907	
Source: Minutes of the Deeside Railway, 1845-76 (NAS/BR/DEE/1/1-3).							
(1): Shillings and pence have been rounded down; as a result some totals may not match precisely the sum of component items.							
(2): The Deeside Railway opened to Banchory in September 1853. The capital cost per mile for the Aberdeen-Banchory section was £6,803 on opening in 1854 and £8,011 by 1855. In 1854, therefore, the capital expenditure was only 2.5% above estimate, but 20.6% by 1855: approximately one-quarter of the increase (£19,317) can be attributed to the purchase of extra plant to deal with increased traffic (£4,652). Land costs were 15.6% of total capital expenditure in 1854 and 13.8% in 1855.							

(continued)

7(a): Capital account of the Deeside Railway (continued)

CAPITAL (£)	31 August	1858	1859	1860	1861	1862	1862
						<i>Authrs'd</i>	
Deeside ordinary shares		90367	94245	95808	101526	106250	106001
Deeside Loans		35400	35400	35400	35400	35400	35400
4 ½ % preference stock						24000	
1862 Act loans						8000	
<i>Authorised capital</i>						173650	
Miscellaneous		17	17	17	17		17
Capital raised		125783	129662	131224	136943		141417
Balance		- 13390	- 20900	- 20078	- 23786		- 20270
Capital expenditure	(3) (4)	139174	150562	151303	160729		161687
<i>Including:</i>							
Prelim and Parliamentary costs	(5)	7350	7475				
Land and compensation		18547	18837				
Consignments for land		19	0				
Construction works		72531	72564				
Engineering and plans		3345	3345				
Interest		1298	1298				
Locos and rolling stock		19870	26555				
Shares in Deeside Extension		625	5000	5000	5000		5000
<i>Capital spent in previous year</i>				150562	146303		155729
<i>Capital spent in current year</i>	(6)			740	9426		958
General balance sheet							
Bank accounts		+51	+77	+31	+6		+12
Sundries due on revenue account		1191	2483	3825	2964		3362
Sundries due on capital account		79	14437	19515	16747		12273
<p>(3): Capital spent in 1859 included the £5,000 subscription to the Deeside Extension Railway. Capital spent, however, exceeded the authorised limit for the Deeside Railway from 1859 until the 1862 act amended capital powers (25&26 Vic. cap.88, 1862, The Deeside Railway Act).</p> <p>(4): By 1859 when the extension line opened, the capital cost per mile had risen to £9,410 but 36.6% of the increased capital expenditure since 1854 was spent on rolling stock to accommodate additional traffic (£15,058 of the additional £41,171 capital expenditure).</p> <p>(5): Preliminary and parliamentary costs cover both the original 1846 Act and the revised 1852 Act.</p> <p>(6): The figure of £9,426 capital spent to 31 August 1860 includes £6,183 for the rolling stock for the Deeside extension line.</p>							

CAPITAL (£)	31 August	1863	1864	1865	1865	1866	1867
						<i>Authrs'd</i>	
Deeside ordinary shares		106227	106227	106250	106227	106227	112227
Deeside Loans	(2)	35400	35400	35400	35400	42811	43400
4 ½ % preference stock		8412	8547	24000	10388	14168	17257
1862 Act loans				8000			
1865 Aboyne & Braemar Act				10000			
<i>Authorised capital</i>				183650			
Premium on shares							1293
Miscellaneous		17	17		17	17	1
Capital raised		150056	150191		152032	163223	174178
Balance		- 12364	- 18456		- 21207	- 19935	- 10073
Capital expenditure	(4)	162420	168647		173239	183158	184252
<i>Including:</i>							
Shares in Deeside Extension		5000	5000		5000	5000	5000
Shares in Aboyne & Braemar						4800	4800
<i>Capital spent in previous year</i>		156687	157420		163647	168239	173358
<i>Capital spent in current year</i>		733	6227		4591	5118	1094
General balance sheet							
Bank accounts		+ 2421	+ 7				
Open accounts due							
Bills due							
Sundries due on revenue		3317	3936		4025	4225	
Sundries due on capital		9367	10672		14275	11760	

(continued)

7(a): Capital account of the Deeside Railway (continued)

CAPITAL (£)	31 August (7)	1868	1869	1870	1871	1872	1873	1874
Ordinary shares		116227	116227	116227	116227	116227	116227	116227
Debenture Loans (8)		43400	43400	43400	43400	43400	43400	43400
4 ½ % preference stock		23825	23825	23825	23825	23825	23825	23825
Premium on shares (9)		2948	2948	2948	2948	2948	2948	2948
Miscellaneous		1	1	1	1	1	1	1
Capital raised		186401	186401	186401	186401	186401	186401	186401
Balance		- 1126	- 3122	- 3122	- 3122	- 3122	- 3122	- 3122
Capital expenditure		187526	189524	189524	189524	189524	189524	189524
<i>Including:</i>								
Shares in Deeside Extension		5000	5000	5000	5000	5000	5000	5000
Shares in Aboyne & Braemar		8000	8000	10000	10000	10000	10000	10000
<i>Capital spent in previous year</i>		<i>174452</i>	<i>174524</i>	<i>174524</i>	<i>174524</i>	<i>174524</i>	<i>174524</i>	<i>174524</i>
<i>Capital spent in current year</i>		<i>76</i>	<i>- 4</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
General balance sheet								
Bank accounts			- 1150	- 1478	- 1414	- 1410	- 1416	- 1415
Temporary loans			-590					
Debts due			5696	5149	6944	9477	9019	9772
<p>(7): The format of accounts was changed from 1867 one the Great North began its lease of the Deeside Railway from 1 September 1866 which was authorised under 29&30 Vic. cap.288, 31 July 1866.</p> <p>(8): Loans are shown in the accounts as combined for the Deeside and Deeside Extension – the maximum sum authorised (£43,400) was held on loan for the rest of the existence of the Deeside as an independent company.</p> <p>(9): The successful trading of the company allowed a premium on shares to be obtained.</p> <p>(10): The Deeside Railway was amalgamated with the Great North of Scotland Railway from August 1875, for which the 1876 legislation was retrospective.</p>								

7(b): Revenue account of the Deeside Railway, 1854-74

REVENUE (£)	31 August	1854	1855	1856	1857
Total annual revenue		8836	10808	12392	12834
Balance		3536	3638	4379	5092
Total annual expenditure		5300	7170	8012	7742
<i>Including:</i>					
Working expenses		3598	4358	4766	4745
Feu duties, taxes and rates		392	1201	1289	1315
<i>(including rent to Aberdeen Railway) (2)</i>			698	700	725
Total interest paid (3)		1309	1610	1957	1681
<i>Including:</i>					
<i>Interest on loans</i>		<i>n/a</i>	<i>1607</i>	<i>1526</i>	<i>1501</i>
<i>Interest on bank accounts</i>		<i>n/a</i>	<i>399</i>	<i>711</i>	<i>275</i>
Annual ordinary dividend		5%	5%	5%	5%
Working expenses (net)		41%	40%	39%	37%
Source: Minutes of the Deeside Railway, 1845-76 (NAS/BR/DEE/1/1-3).					
<p>(1): Shillings and pence have been rounded down; as a result some totals may not match precisely the sum of component items.</p> <p>(2): Rent to the Aberdeen Railway (the Scottish North-Eastern Railway after the 1856 amalgamation of the Aberdeen and Scottish Midland Junction Railways) was for the use of the Guild Street station and lines from Ferryhill.</p> <p>(4): Total interest paid was offset by interest paid on calls in advance in the period 1854-60; therefore, total interest paid appears in some years to be less than debenture and bank loan interest.</p>					

(continued)

7(b): Revenue account of the Deeside Railway (continued)

REVENUE (£) 31 August	1858	1859	1860	1861	1862	1863	1864	1865	1866
Total annual revenue	13072	14296	14569	15102	15458	15398	16763	19792	18638
Balance	4721	5616	5727	6023	6782	6922	7666	8873	8213
Total annual expenditure	8351	8680	8842	9078	8675	8475	9096	10919	10424
<i>Including:</i>									
Working expenses	4783	5043	5211	5210	5078	5164	5735	7061	6771
Feu duties, taxes, rates	1625	1713	1786	1831	1854	1876	1934	2152	2093
<i>(inc. rent to SNER)</i>	1025	1100	1100	1125	1150	1150	1225	1385	1310
Total interest paid	1931	1923	1844	2035	1742	1434	1426	1705	1559
<i>Including:</i>									
Interest on loans	1495	1458	1422	1428	1415	1416	1415	1418	1497
Interest to banks	433	441	435	607	774	18	10	287	228
Annual dividend	5%	6%	6%	6%	7 1/4%	7%	7%	7%	7%
Working expenses (net)	36.5 %	35%	35.75%	34.5%	33%	n/a	34%	35.7%	36.3%
(5): With the lease to the Great North of Scotland Railway commencing on 1 September 1866, the format of the revenue account changed and combined the Deeside and Deeside Extension into one account.									

REVENUE (£)	31 August	1867	1868	1869	1870	1871	1872	1873	1874
Deeside Railway									
Gross Revenue		17397	17422	18470	18698	19265	20331	20917	23485
Deeside Extension Railway									
Gross Revenue		6994	6767	7068	6994	7374	7845	7766	8639
TOTAL REVENUE		24391	24190	25538	25692	26640	28177	28683	32125
Less debenture and guaranteed dividends		14917	14884	14784	14746	14662			
<i>Max gross revenue to be charged for working agreement</i>							27000	27000	27000
<i>Excess for extra dividends (6)</i>							1177	1683	5125
Surplus for working expenses, rents and taxes		9474	9306	10753	10946	12017			
Annual ordinary dividends (%)									
Deeside Railway		7 1/2	7 1/2	7 1/2	7 1/2	7 1/2	8	8 1/4	9 1/2
Deeside Preference Stock		4 1/2	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2
Deeside Extension Railway		3	3 1/2	3 1/2	3 1/2	3 1/2	4	4 1/2	6 3/8
(6): The Great North of Scotland lease of the Deeside lines guaranteed 7 1/2 % dividend on Deeside ordinary stock. 4 1/2 % on Deeside preference stock and 3% on Deeside extension ordinary stock, rising to 3 1/2 % in the second year. The lease also allowed for extra dividends to be paid above the guaranteed levels once gross revenue exceeded £27,000 per year. Half of any surplus was to be paid to the Deeside lines to be divided in the proportions of 17/32 to the Deeside and 15/32 to the Deeside Extension.									
(7): Apart from debenture loans, the Deeside lines held no other debt under the terms of the Great North's lease from 1866.									

7(c): Financial indicators for the Deeside Railway. 1854-74

(£)	31 August	1854	1855	1856	1857	1858	1859	1860
Capital raised		106569	112085	117725	125678	125783	129662	131224
Debenture loans		35380	35400	34530	35364	35400	35400	35400
Estimated temporary loans		1800	7908	14220	5500	8660	8820	8700
Estimated total debt		37180	43308	48750	40864	44060	44220	44100
Gross annual revenue		8836	10808	12392	12834	13072	14296	14569
Ratio of debentures to capital raised		33.2%	31.6%	29.3%	28.1%	28.1%	27.3%	27.0%
Ratio of gross revenue to total debt		0.238	0.250	0.254	0.314	0.297	0.323	0.330

(1): Estimated temporary loans are derived from bank interest paid and calculated from a notional 5% interest rate on total gross interest paid, which was the rate charged by the Great North to other branch lines for plant use. The Deeside did not hold any temporary loans in the general balance sheet; its total debt comprised debenture loans and temporary loans from banks, both of which were reported consistently in the revenue account and were paid fully from it.

(£)	31 August	1861	1862	1863	1864	1865	1866
Capital raised		138943	141417	150056	150191	152032	163223
Debenture loans		35400	35400	35400	35400	35400	42811
Estimated temporary loans		12140	15480	360	200	5740	4560
Estimated total debt		47540	50880	35760	35600	41140	47371
Gross annual revenue		15102	15458	15398	16763	19792	18638
Ratio of debentures to capital raised		25.9%	25.0%	23.6%	23.6%	23.3%	26.2%
Ratio of gross revenue to total debt		0.318	0.304	0.431	0.471	0.481	0.393

(£)	31 August	1867	1868	1869	1870	1871	1872	1873	1874
Deeside capital		174178	186401	186410	186410	186410	186410	186410	186410
Extension capital		103946	103946	103946	103946	103946	103946	103946	103946
Total capital		278124	290347	290356	290356	290356	290356	290356	290356
Deeside Debentures		43400	43400	43400	43400	43400	43400	43400	43400
Extension debentures		24300	24300	24300	24300	24300	24300	24300	24300
Estimated temporary loans		0	0	0	0	0	0	0	0
Estimated total debt		67700	67700	67700	67700	67700	67700	67700	67700
Gross annual revenue		24391	24190	25538	25692	26640	28177	28683	32125
Ratio of debentures to capital raised		24.3%	23.3%	23.3%	23.3%	23.3%	23.3%	23.3%	23.3%
Ratio of gross revenue to total debt		0.360	0.357	0.377	0.379	0.393	0.416	0.424	0.475

(2): Under the lease agreement, the only fixed interest debt incurred by the Deeside companies was for its debenture capital.

7(d): Capital account of the Deeside Extension Railway, 1858-74

CAPITAL (£)	31 August	1858	1859	1860	1861	1862	1863	1864
Ordinary shares		21522	42258	51847	48737	79560	79644	79644
Debenture Loans			12870	24300	24300	24300	23174	24262
Miscellaneous		133	1	2	2	2	2	2
Capital raised		21655	55130	76149	73039	103862	102820	103901
Balance		10360	- 14334	- 25043	- 29596	+ 254	- 1090	- 211
Capital expenditure		11295	69465	101192	102635	103607	103910	104119
<i>Including:</i>								
Preliminary & Parliamentary		1457	1624	1671	1763	1848	1998	2002
Engineering and plans		912	1662	2593	2916	3010	3010	3010
Land and compensation		2095	6880	8256	8557	8621	8634	8638
Consignments for land								
Construction works		6754	58025	73721	76833	77256	77393	77467
Rolling stock (3)				6183	- 6183	1133	1133	1133
Interest				1124	1133			
General balance sheet								
Bank accounts		+340	+192	+29	+42	+ 31	+ 27	+ 39
Open accounts due		2511						
Sundries due on revenue			692	7286	266	122	282	385
Sundries due on capital			17681	21161	30699	788	1211	362

Source: Minutes of the Deeside Railway, 1845-76 (NAS/BR/DEE/1/1-3).

- (1): Shillings and pence have been rounded down; as a result some totals may not match precisely the sum of component items.
- (2): Authorised capital for the 1857 Deeside Extension Railway was £80,000 share capital plus £26,600 in borrowing powers: by 1860, capital expenditure was 26.5% above estimate with a capital cost per mile of £6,529. Land costs formed 8.2% of capital expenditure by 1860.
- (3): The decision of the Deeside company to charge 1859-60 rolling stock costs to the extension railway account was reversed in 1860-61.
- (4): No change in the authorised capital for the Deeside Extension was made in the 1862 Act (25&26 Vic. cap.88, 1862, The Deeside Railway Act) because the Great North of Scotland bought the full £30,823 of unallocated shares of the extension company, which enabled the redemption of bank advances, indicated by the large fall in the sundries on the general balance sheet and the rise in ordinary share capital..

CAPITAL (£)	31 August	1865	1866	1867	1868	1869	1870-74
Ordinary shares		79644	79644	79644	79644	79644	Note (5)
Debenture Loans		24300	24100	24300	24300	24300	
Miscellaneous		2	2	2	2	2	
Capital raised		103946	103746	103946	103946	103946	103946
Balance		- 197	- 3931	- 3900	- 858	- 858	- 858
Capital expenditure		104143	107677	107846	104804	104804	104804
<i>Including:</i>							
Prelim and Plmt costs		2002	2052				
Engineering and plans		3010	3010				
Land and compensation		8638	8648				
Consignments for land							
Construction works		77491	77500				
Rolling stock		1133					
Interest			1244				
Shares in Aboyne & Braemar			3200				
General balance sheet							
Bank accounts		+ 47				-3752	
Open accounts due							
Sundries due on revenue		439					
Sundries due on capital		89					

(5): From 1869-74, the capital account remains unchanged at the figures shown for 1869. The company's bank account remained in deficit by amounts ranging between £3,775 and £3,900 during the period 1870-74.

7(e): Revenue account of the Deeside Extension Railway, 1860-67

REVENUE (£) 31 August	1860	1861	1862	1863	1864	1865	1866	1867
	8 months							(4)
Total annual revenue	3833	5327	5569	5657	5777	6003	6724	6994
Balance	677	- 117	905	1616	1606	1660	2105	
Total annual expenditure	3156	5445	4664	4040	4171	4343	4618	
<i>Including:</i>								
Working expenses	1563	3116	2855	2921	3036	3155	3460	
Total interest paid	1465	2107	1572	901	907	953	923	
<i>Including:</i>								
Interest on loans	702	1020	1012	850	963	974	986	
Interest to banks (3)	828	1087	644	71	0	0	47	
Dividend %	1¼%	0	1%	2%	2%	2%	2¼%	(5)
Working expenses	40%					52.5%	51.5%	

Source: Minutes of the Deeside Railway, 1845-76 (NAS/BR/DEE/1/1-3).

(1): Shillings and pence have been rounded down; as a result some totals may not match precisely the sum of component items.

(2): The line opened in December 1859.

(3): The impact of the purchase of shares by the Great North of Scotland in 1862 is indicated by the fall in interest paid on bank advances from 1863.

(4): From 1867, the line was worked by the Great North and the revenue accounts were combined with those of the Deeside Railway – see table 7(b).

(5): Dividends reached 4% in 1872 and 4½% in 1873 under the Great North's lease agreement.

7(f): Financial indicators for the Deeside Extension Railway. 1861-66

(£)	31 August	1861	1862	1863	1864	1865	1866
Capital raised		73039	103862	102820	103901	103946	103746
Debenture loans		24300	24300	23174	24262	24300	24100
Estimated temporary loans		21740	12880	1420	0	0	940
Estimated total debt		46040	37180	24594	24262	24300	25040
Gross annual revenue		5327	5569	5657	5777	6003	6724
Ratio of debentures to capital raised		33.3%	23.4%	22.5%	23.4%	23.4%	23.2%
Ratio of gross revenue to total debt		0.116	0.150	0.230	0.238	0.247	0.269

(1): Estimated temporary loans are derived from bank interest paid and calculated from a notional 5% interest rate on total gross interest paid, which was the rate charged by the Great North to other branch lines for plant use.

(2): The Great North purchased all unissued ordinary shares in the extension company in 1862 to try to block the plans of the Scottish North-Eastern to build the Limpet Mill line, which included running powers over the Deeside into Aberdeen; the impact of this purchase is evident by the virtual removal of temporary debt by 1863.

Table 8: Accounts of the Dingwall and Skye Railway

8(a); Capital account of the Dingwall and Skye Railway, 1865-74

CAPITAL	(£)	08.1865	08.1866	08.1867	08.1868	08.1869
Capital received		9841	10293	10293	14326	112995
Capital spent		1210	383	4815	12262	106016
Balance		8631	9910	5478	2064	6979
Sources: Minutes and accounts of the Dingwall and Skye Railway, 1864-80 (NAS/BR/DSK/1/1 and NAS/BR/RAC(S)/1/68).						
(1): Shillings and pence have been rounded down; as a result some totals may not match precisely the sum of component items.						
(2): Authorised capital was £450,000 with borrowing powers of £150,000 under 28&29 Vic.cap.223, 1865, The Dingwall and Skye Railway Act. The Act was for a line from Dingwall to Kyle of Lochalsh (63½ miles), but the line was built to Strome Ferry (53 miles) opening in 1870; the extension to Kyle was opened in 1897. The estimated capital cost per mile of the full projected line to Kyleakin was £7,087.						
(3): 31 Vic. cap.19, 1868, The Dingwall and Skye Railway (Deviation) Act reduced the capital to £400,000 with borrowing powers of £133,300 with the intention of constructing to Attadale (48 miles) giving a capital cost per mile of £8,333, but the company resolved to build an extra 5 miles to Strome Ferry at an estimated additional cost of £5,232 (Minutes of the Dingwall and Skye Railway, 23 March 1869, NAS/BR/DSK/1/1, p.72).						

CAPITAL	(£)	08.1869	08.1870	08.1871	08.1872	08.1873	08.1874
Share capital created		238500	238500	238500	238500	238500	238500
loan capital created		0	79500	79500	79500	79500	133300
Stocks and shares (3) (8)		112995	151099	153666	227601	228546	229047
Arrears on share calls		75857	n/a	63269	3929	2862	2631
Unissued shares		16320	n/a	21564	6969	7091	7091
Debentures		0	79481	79481	79481	79414	82472
Total capital raised		112995	230580	233147	307082	307961	320972
Balance		6979	3489	- 36856	12573	14011	4630
Capital expenditure (5)		106016	227091	270004	294509	293949	316342
<i>Including spent within the year:</i>							
Land:		4305	n/a	2182	7767	1516	828
Construction		56246	n/a	31518	17166		2542
Maintenance				2122			
Rails, sleepers etc.		28228	n/a				
Engineering and surveying		1487	n/a	950	743		
Law, parliamentary, general		1896	n/a	146	559	2117	489
Steamers (5)			7249	2186	1732 (cr)	54	18532
Loans and stock in security							
Stock issued as security on loans		105000 (4)	105000	105000	80000	80000	80000
Temporary loans (8)		30000 (4)	50000	60000	76498	80000	80000

(4) Data for 1870 is drawn from Bradshaw's *Railway Almanack* as there is no data in surviving company records (NAS/BR/DSK/1/1 or NAS/BR/RAC(S)/1/68).

(4): £105,000 of stock was issued in 1869 as security for temporary loans. Although the company report for 1870 is missing from the National Archive records, Dingwall and Skye accounts survive for 1871 and show the same £105,000 of stock held in security against the £50,000 bank loan. Therefore, this figure of £105,000 for stock held in security is assumed for 1870. Bradshaw, however, indicates a figure of £50,000 to match the value of the loan, which appears to be illogical given the evidence of £105,000 held in security in 1869 and 1871.

(5): Capital expenditure on the line of £219,842 by 1870 was increased by £7,249 for expenditure on steamers to provide a service to the Isles following the refusal of David Hutcheson and Company to provide a service from Strome.

(6): Data of capital expenditure in company records is given for each year and therefore the absence of data for 1870 does not allow total costs to be calculated. Caution therefore is required in making any comparisons of costs due to incomplete data.

(7): By 1872, capital expenditure was 26.4% below estimate, albeit for a shorter line. Capital cost per mile was £5,557. Known cost of land to that date accounted for 4.8% of capital expenditure, but 1870 data for land costs is not available.

(8): The accounts for 1869-71 appear to include in the sum of share capital raised the receipts from temporary bank loans, but included at the value of the loan and not the total par value of shares issued in security, which was considerably greater until 1872.

8(b): Steamer account for the Dingwall and Skye Railway, 1871-77

(£)	08.1871	08.1872	08.1873	08.1874	08.1875	08.1876	08.1877
Capital spent	9433	7701	7756	26288	29494	29620	29634
Revenue	1835	2986	3667	4788	5389	4855	4958
Expenditure	4417	3546	4254	4954	6699	5334	5133
Balance	-2582	-560	-587	-166	-1310	-479	-175
Sources: Minutes and accounts of the Dingwall and Skye Railway, 1864-80 (NAS/BR/DSK/1/1 and NAS/BR/RAC(S)/1/68).							
(1): Shillings and pence have been rounded down; as a result some totals may not match precisely the sum of component items.							
(2): The steamer services were taken over by the Highland Railway in 1877 (40 Vic. cap.4, 1877) and then by David MacBrayne, successor to Hutcheson's, in 1880.							

8(c): Revenue account for the Dingwall and Skye Railway, 1871-75

Annual reports	08.1871	08.1872	08.1873	08.1874	08.1875
Revenue (£)	First full year				
Passengers and mails	7786	10013	10447	11456	11391
Goods	3403	4269	4517	5459	7076
Miscellaneous	138	178	98	88	118
Total annual revenue	11328	14460	15063	17005	18587
Expenses, including:					
Highland Railway working charge	6386	6840	6834	6844	7079
Steamer expenses	4417	3546	4254	4954	6699
Maintenance charged to capital	2212 <i>credit</i>	-	-	-	-
Total annual expenditure	9290	11155	12096	12874	14838
Balance before interest	2038	3305	2966	4130	3748
Ordinary dividend	-	-	-	-	-
Debenture interest	3972	3973	4117	3620	4844
Interest on temporary loans	2890	4191	3788	4171	3805
Total interest due	6862	8164	7905	7791	8649
<i>Interest as % of gross revenue</i> (3)	60.6%	56.6%	52.5%	45.8%	46.5%
Net balance	-4824	-4859	-4939	-3661	-4901
Other data quoted in reports					
Traffic expenses as % receipts	63.31	53.27	52.40	46.82	44.07
Steamer expenses as % receipts	39.48	24.83	28.43	29.29	36.28
Total expenses as % receipts	83.02 (4)	78.10	80.83	76.11	80.35
Mileage authorised (constructed)	63 ½ (53)	63 ½ (53)	63 ½ (53)	63 ½ (53)	63 ½ (53)
Mileage run (all mixed trains)	57053	68569	68544	68691 ½	71203 ½
Sources: Minutes and accounts of the Dingwall and Skye Railway, 1864-80 (NAS/BR/DSK/1/1 and NAS/BR/RAC(S)/1/68).					
(1): Shillings and pence have been rounded down; as a result some totals may not match precisely the sum of component items.					
(2): From 1873, Highland Railway charges were included in data of total expenditure.					
(3): Interest as a percentage of gross revenue was 50.1% in 1876, 52.8% in 1877, 65.1% in 1878, and 68.4% in 1879 (NAS/BR/DSK/1/1 and NAS/BR/RAC(S)/1/68).					
(4): The percentage of receipts absorbed by total expenses in 1871 was offset by the £2212 credit obtained by moving maintenance costs to capital.					

8(d): Financial indicators for the Dingwall and Skye Railway, 1871-75

(£)	31 August	1871	1872	1873	1874	1875
Capital raised		233147	307082	307960	311519	340220
Debenture loans		79481	79481	79414	82472	111172
Temporary loans		60000	76498	80000	80000	80000
Total debt		139481	155979	159414	162472	191172
Gross annual revenue		11328	14460	15063	17005	18587
Ratio of debentures to capital raised		34.1%	25.9%	25.8%	26.5%	32.7%
Ratio of gross revenue to total debt		0.081	0.093	0.094	0.105	0.097

Table 9: Accounts of the Formartine and Buchan Railway

9(a): Capital account of the Formartine and Buchan Railway, 1859-65

CAPITAL	(£)	08.1859	08.1860	08.1861	08.1862	08.1863	08.1864	08.1865
Ordinary shares		57303	157799	159236	180995	182256	187439	191172
Preference shares							175000	200870
Debenture loans				45458	100228	99978	97579	98974
Capital raised		57303	157799	204694	281223	282234	460018	491017
Balance		- 15084	- 23691	- 72755	- 48967	- 68593	- 87149	-132365
Capital expenditure		72387	181490	277450	330191	350828	547168	623382
<i>Including:</i>								
Preliminary and Parliament (2)		27664	28502	28998	29033			
Construction		40435	133818	214658	261753			
Land and compensation		1351	9807	1228	14034			
Land consignments				949	1303			
Engineering and plans		292	2641	3601	4981			
Capital spend previous year						330191	349851	352075
Capital spend in year						19660	2223	5686
Fraserburgh extension expenditure						976	70093	108830
Peterhead extension expenditure							352075	357762
<i>Shares held in security</i> (7)				50000	50000	50000	125000	156790
General Balance Sheet								
Bills due		21365	1500			4105	0	23761
Amount due to bank		16812	+ 9906	63109	2389	22162	76714	75627
Advances from Great North of Scotland Railway (5)			54600	54600	84100	100300	25000	25000
Amount due for sundries				6593	21212	1093	986	8935

Source: Minutes of the Formartine and Buchan Railway, 1858-66 (NAS/BR/FBR/1/1).

(1): Shillings and pence have been rounded down; as a result some totals may not match precisely the sum of component items.

(2): The high costs of preliminary and parliamentary expenses were the result of obtaining incorporation after three applications to Parliament and vigorous competition from the rival Aberdeen, Peterhead and Fraserburgh company.

(3): Authorised capital in 1858 was £300,000 plus £100,000 in borrowing powers. Land costs were only 4.64% of capital expenditure by 1862 but the line was only open for 29 miles of its projected 54 miles.

(4): Authorised capital was raised in 1863 to £400,000 plus £133,000 in borrowing powers to allow construction to Fraserburgh: the cost by 1865 was 55.8% above estimate and the capital cost per mile was £11,544.

(5): Advances made by the Great North by 1863 amounted to £100,300 on which interest was charged at 5%.

(6): £100,000 of preference shares were issued to the Great North in 1864 in settlement of advances and a new additional subscription of £25000 from the Great North was agreed.

(7): Shares shown in italics were held in security for loans and are included in the figures given by the company for issued ordinary and preference shares.

(8): Preference stock was authorised under 26&27 Vic. cap.189, 1863, The Formartine and Buchan Railway Act.

9(b): Revenue account of the Formartine and Buchan Railway, 1861-65

REVENUE	(£)	08.1862	08.1863	08.1864	08.1865
Total annual revenue		16130	20276	21453	25915
Balance before 5% preference dividend		1388	686	4487	6680
Less preference share dividend 5%				4574	5000
Net balance after preference dividend		1388	686	- 87	1680
Total annual expenditure		14742	19590	16966	19235
<i>Including:</i>					
Working expenses		6319	9026	9247	10569
Interest	(3)	7555	9105	6082	6859
<i>Including:</i>					
Interest on debentures		3849	4452	4365	4409
Interest on bank accounts		1629	59	2209	4611
Interest on advances from the Great North		2075	5038	2193	1619
Interest on contractor's bills			982	2685	421
Dividend (%)		1 ¼	½	0	1 ¼
<i>Interest as % of gross revenue</i>	(3)	<i>46.8</i>	<i>44.9</i>	<i>43.1</i>	<i>26.5</i>
Working expenses (% of gross receipts)		39	40	44	41
Source: Minutes of the Formartine and Buchan Railway, 1855-66 (NAS/BR/FBR/1/1).					
(1): Shillings and pence have been rounded down; as a result some totals may not match precisely the sum of component items.					
(2): Revenue increases reflect the opening of specific sections of the line; to Mintlaw in 1861, to Peterhead in 1863 and to Fraserburgh in 1865.					
(3): Interest shown in the accounts in 1863-65 was offset by a charge for interest on expenditure for extension lines to Peterhead and Fraserburgh and by interest on share guarantees, and so the net total interest paid appears lower than the sum of the specific component items shown in the table for 1863-65.					

9(c): Financial indicators for the Formartine and Buchan Railway, 1861-65

(£)	31 August	1862	1863	1864	1865
Capital raised		281223	282234	460018	491017
Debenture loans		100228	99978	97579	98974
Amount due to bank (general balance sheet)		2389	22162	76714	75627
Advances from the Great North (general balance sheet)		84100	100300	25000	25000
Amount due for sundries (general balance sheet)		21212	1093	986	8935
Bills due (general balance sheet)		0	4105	0	23761
Estimated total debt		207927	227638	200272	232297
Gross annual revenue		16130	20276	21453	25915
Ratio of debentures to total capital raised		35.6%	35.4%	21.2%	20.2%
Ratio of gross revenue to total debt		0.078	0.089	0.107	0.112
(1): Estimated debt is calculated from specific items in the capital account and the general balance sheet and detailed above because the company revenue account offsets a notional sum for interest charged on the expenditure of extension lines and for share guarantees and so the net figure of interest published does not reflect the total of authorised and temporary debt of the company (see also note (3) in table 9(b) above).					
(2): The significant fall in the debenture/capital ratio in 1864 is caused by the issue of preference shares, the majority of which were allocated to the Great North for advances made.					

Table 10: Accounts of the Great North of Scotland Railway

10(a): Authorised capital of the Great North of Scotland Railway 1855-61

Authorised capital reported in company accounts	31.08.1855	31.08.1859
Ordinary shares 1846 Act (revised in 1851 Act)	276860	
1959 GNSR Consolidation Act – original shares		276860
1851 5 % preference shares (£10)	830580	
1859 5% preference shares (£10)		291090
New 1859 4 ½ % preference shares (£10)		482050
Total shares authorised	1107400	1050000
Loans	300000	350000
Total loans authorised	300000	350000
Total Capital authorised	1407440	1400000
Sources: Minutes of the Great North of Scotland Railway, 1845-63 (NAS/BR/GNS/1/1-4) and accounts of the Great North of Scotland Railway, 1849-75 (NAS/BR/RAC(S)/1/14).		

10(b): Capital account prior to construction, 1845-52

CAPITAL	31 August (£)	1846	1847	1848	1849 (March)	1849	1850	1851	1852
					note (2)				
Total capital raised		143416	143809	144252	70901	71242	71754	72400	72474
Balance		- 18436	58817	- 20420	- 20420	-21384	-22398	-22894	-23272
Total capital spent		161852	84991	164672	91322	92627	94153	95295	95746
Sources: Minutes of the Great North of Scotland Railway, 1845-54 (NAS/BR/GNS/1/1) and accounts of the Great North of Scotland Railway, 1849-75 (NAS/BR/RAC(S)/1/14).									
(1): Shillings and pence have been rounded down; as a result some totals may not match precisely the sum of component items.									
(2): Capital receipts prior to 1849 include £73,350 nominally received as £45 paid on each of 1,630 shares issued to the Great North's law agents, Adam and Anderson and using a loan of that amount arranged by the law agents with the North of Scotland Bank (of which they were both directors). The sum was repaid by the Great North to Adam and Anderson in 1849, when the North of Scotland Bank was under pressure, and the bank loan was redeemed (recorded in minutes of the Great North of Scotland Railway, 11 and 24 February 1849, NAS/BR/GNS/1/1, p.177 and p.181). Great North minutes (29 March 1849, NAS/BR/GNS/1/1, p.189) show the revised receipts at 1 March 1849 to be £70,901 following the repayment made for the shares, at which point the liabilities of the Great North exceeded assets by £8,275. The accurate figure of capital raised by the Great North is therefore shown in the accounts from 1849 onwards.									

10(c): Capital account of the Great North of Scotland Railway, 1853-1874

CAPITAL (£)	08.1853	08.1854	08.1855	08.1856	08.1857	08.1858
Ordinary shares 1846 Act	94042	160719	230322	232094	232244	232324
Preference shares 1851 Act	94125	325174	287265	289000	330390	330768
Total stock (inc miscellaneous receipts)	188210	485946	517642	521149	567689	565147
Debenture loans	-	-	65100	212616	248963	299998
Total capital raised (inc. miscellaneous)	188210	485946	582742	733765	816652	865145
Balance	- 12130	- 32285	- 42569	- 14558	- 29665	- 42077
Total capital spent - including	200340	518232	625312	748323	846318	907223
Preliminary and parliamentary expenses	83835	84185	86054	89313	89447	89463
Construction and works	79189	250516	322876	394226	426568	440213
Land and compensation	6649	26438	43100	49706	57347	59496
Consignments on account of lands	5726	14330	8498	7436	3090	3090
Consignments for Aberdeenshire Canal		39272	39272	39272	39272	39272
Engineering	1834	5293	9006	12755	13532	13584
Locomotives		10013	20362	31531	40374	40440
Carriages, wagons and rolling stock		4952	43949	48187	57066	63663
Interest on calls paid in advance	700	3924	4584	4584	4584	4584
Interest and commission	1416	6232	8280	9676	12288	14842
Brokerage on sale of shares	503	2507	4226	4226	4226	4226
Subscriptions, disbursements	1853	1854	1855	1856	1857	1858
Inverury and Old Meldrum Junction Railway			310	610	2000	2000
Banff, Macduff and Turriff Junction Railway			7689	20200	36650	40020
Banff, Macduff and Turriff Extension Railway					750	1750
Inverness and Aberdeen Junction Railway				4000	20234	40000
Alford Valley Railway				1887	6411	15000
Keith and Dufftown Railway					150	350
Morayshire Railway						5000
Balance due to bankers			41244	5983	13840	50837
Sources: Minutes of the Great North of Scotland Railway, 1845-76 (NAS/BR/GNS/1/1-9) and accounts of the Great North of Scotland Railway, 1849-75 (NAS/BR/RAC(S)/1/14).						
(1): Shillings and pence have been rounded down; as a result some totals may not match precisely the sum of component items.						
(2): By 1857, the capital cost of the 54 miles to Keith was £15,672; land (and canal) comprised 11.8% of expenditure.						

CAPITAL (£)	07.1859	01.1860	07.1860	01.1861	07.1861
(half yearly reports in Jan/July from 1859)					
Ordinary shares 1846 Act	276545	276860	276860	276860	276860
Preference shares 1851 Act	290780	291090	291090	291090	291090
Preference shares 1859 Act		199625	209925	210000	210800
Total stock (including miscellaneous receipts)	607380	767630	777930	778005	778805
Debenture loans	340548	349145	349999	349999	349999
Total capital raised (inc. miscellaneous)	947928	1116775	1127929	1128004	1128804
Balance	- 38296	+ 70750	+ 86784	+ 72261	+ 49258
Total capital spent	986225	1046024	1041144	1055742	1079546
Revised reporting from 1859:					
Capital spent to July in previous year on works, land, legal etc. (3)	693481	874348	889147	919027	930713
Subscriptions, disbursements	1859	1860 (1)	1860 (2)	1861 (1)	1861 (2)
Inverury and Old Meldrum Junction Railway	2000	2000	2000	2000	2000
Banff, Macduff and Turriff Junction Railway (renamed Aberdeen and Turriff Railway)	40020	40020	40020	40020	40020
Banff, Macduff and Turriff Extension Railway	3990	5085	5085	5085	5085
Inverness and Aberdeen Junction Railway	40000	40000	repaid		
Alford Valley Railway	15000	15000	15000	15000	15000
Keith and Dufftown Railway	350	350	4494	7406	8000
Formartine and Buchan Railway	5000	50000	50000	50000	50000
General Balance Sheet					
Sundries and debit balances				28601	17017
Balance due to bankers	33652	18915	34703	43879	70985
(3): The format of reporting was changed in 1859; capital shown as spent to the end of 1858 referred to works, land and legal costs and this budget line did not include subscriptions made to other railways.					
(4): In 1859; the reporting period was adjusted to July rather than August and half-year reports began in 1860.					

10(c): Capital account of the Great North of Scotland Railway (continued)

CAPITAL (reports continued ½ yearly but the data below is shown annually from 1862)	(£)	01.1862	07.1862	07.1863	07.1864	07.1865	07.1866
Ordinary shares 1846 Act		276860	276860	276860	276860	276860	276860
Preference shares 1851 Act		291090	291090	291090	291090	291090	291090
Preference shares 1859 Act		391612	482012	482050	482050	482050	482050
Preference shares 1862 Act				150160	317825	345985	358305
Total stock (including miscellaneous receipts)		959617	1050017	1200214	1367880	1395985	1408305
<i>(including shares issued in security)</i>					100000	128160	140380
Debenture loans		350000	350000	348750	412887	420661	418081
Total capital raised (including miscellaneous receipts)	(5)	1309617	1400017	1548964	1780767	1816646	1826386
BALANCE		+ 88077	- 40064	+ 75501	+111375	- 30964	- 137736
Total capital spent		1221539	1440081	1473463	1669392	1847610	1964122
Expenditure to 31.07 previous year on works, land, legal etc.		953924	995917	1027969	1081992	1108981	1189531
Subscriptions, disbursements		1862(1)	1862 (2)	1863 (2)	1864 (2)	1865 (2)	1866 (2)
Inverury & Old Meldrum Junction Railway		2000	2000	2000	2000	2000	2000
Banff, Macduff & Turriff Junction Railway (renamed Aberdeen and Turriff Railway)		40020	66114	69744	74129	72920	72920
Banff, Macduff & Turriff Extension Railway		5085	5085	5085	27065	27578	31904
Alford Valley Railway		15000	53970	54420	59920	59920	59920
Keith and Dufftown Railway		8000	24595	26000	26000	34780	36000
Formartine and Buchan Railway		50000	146170	150000	175000	175000	175000
Morayshire Railway			17844	20000	10531	23151	23151
Strathspey Railway		100000	100000	100000	100000	173841	184765
Branch company shares held as security					100000	128160	140380
General Balance Sheet							
Sundries and debit balances		32859	23289	22948	25353	41057	41225
Balance due to bankers		963	50663	18628	66218	153711	274527
Advances to other railway companies	(6)		179479	92703	179416	151826	143742
<p>(5): Total capital figures include miscellaneous amount for transfer fees and forfeited shares.</p> <p>(6): The general balance sheet shows sums given to other railway companies, some as advances and some backed by stock. Investment in the Deeside and Montrose and Bervie Railways, which amounted to £102,762 in July 1866, was held in the general balance account and formed 71.5% of this total budget line (accounts of the Great North of Scotland Railway, 31 July 1866, NAS/BR/RAC(S)/1/14, showing under the general balance sheet heading of 'temporary advances' £90,762 to the Deeside and Deeside extension, and £12,000 to the Montrose and Bervie Railways). Investment in shares of these companies by the Great North had attracted censure in the 1865 shareholder inquiry because the committee concluded that the share purchases had never been authorised (report of 22 April 1865, NAS/BR/GNS/1/32). At the time of that inquiry, £86,982 had been invested in Deeside shares and £7,450 in the Montrose and Bervie (accounts to 31 January and 31 July 1865, NAS/BR/RAC(S)/1/14), but further calls were pending, hence the higher figure reported in July 1866.</p> <p>(7): After 1866 (2nd half year to 31 July), the accounts show the capital of the new amalgamated Great North company.</p>							

(continued)

10(c): Capital account of the Great North of Scotland Railway (continued)

CAPITAL (2nd half year accounts)	(£)	07.1867	07.1868	07.1869	07.1870
GNoSR Preference Stock 5% (1859)		291090	291090	291090	291090
GNoSR New Preference Stock A 4 ½ % (1859)		482050	482050	482050	482050
GNoSR New Preference Stock B 4 ½ % (1862)		358410	222400	222400	218030
GNoSR (Old Meldrum) Preference Stock 4 ½ % (1866)		13810	13810	13810	13810
GNoSR (Aberdeen & Turriff) Preference 5% (1866)		32900	32900	32900	25400
GNoSR (Formartine & Buchan) preference 5% (1866)		203270	198526	199613	172598
GNoSR (Formartine and Buchan) Ordinary Stock (1866)		129874	124892	124916	106466
Banffshire Preference Stock 5% (1867)				44500	46010
GNoSR Ordinary Stock		819383	862205	862655	862655
Total stock (including miscellaneous receipts)		2330872	2227873	2273934	2218109
<i>(including total of stock held in security)</i>		<i>448266</i>	<i>162040</i>	<i>131512</i>	<i>37636</i>
Debenture loans				840350	848948
Debenture Stock				11915	11915
Debentures and Debenture Stock		756579	833859	852265	860863
Capital raised (Inc miscellaneous)	(9)	3087451	3061732	3126200	3078972
BALANCE		- 278038	- 182695	+ 41813	+ 19003
Capital spent, including:	(10)	3365489	3244428	3084387	3059969
- in 1867 and 1868 stock and debentures held in security		448266	162040	(10)	-
Subscriptions and advances to other companies (included above)					
Banffshire (amalgamated 31 July 1867)		2000			
Morayshire (amalgamated 1 October 1880)		23151	23151	23151	23151
General balance sheet items					
Balances due to bankers		303171	181549	91963	32674
Amounts due to contractors		31013	10673	7704	0
(8): Accounts from 1867 show the capital for the amalgamated Great North company.					
(9): Minor miscellaneous receipts are not itemised, but included in total of capital raised.					
(10): In the 1867 and 1868 accounts, the Great North included stock and debentures issued in security within its total capital spend, but ceased to do so from 1869, hence the apparent fall in capital expenditure between 1868 and 1869.					

CAPITAL (2nd half year accounts)	(£)	07.1871	07.1872	07.1873	07.1874
GNoSR Preference Stock 5% (1859)		291090	291090	291090	291090
GNoSR New Preference Stock A 4 ½ % (1859)		482050	482050	482050	482050
GNoSR New Preference Stock B 4 ½ % (1862)		218030	218030	218030	218030
GNoSR (Old Meldrum) Preference Stock 4 ½ % (1866)		13810	13810	13810	13810
GNoSR (Aberdeen & Turriff) Preference 5% (1866)		25400	25400	25500	32900
GNoSR (Formartine & Buchan) preference 5% (1866)		179133	174123	183973	203270
GNoSR (Formartine and Buchan) Ordinary Stock (1866)		102313	102413	102413	102822
Banffshire Preference Stock 5% (1867)		46010	46010	46010	46010
GNoSR Ordinary Stock		860936	860962	860962	860962
Redeemable GNoSR Preference Stock 4 % (1873)	(11)				40615
Total stock (including miscellaneous receipts)		2218872	2213888	2223838	2291109
<i>(including total of stock held in security)</i>		<i>18400</i>	<i>6000</i>	<i>5000</i>	<i>0</i>
Debenture loans		848039	838110	819294	809926
Debenture Stock		11915	25140	44210	54210
Debentures and Debenture Stock		859954	863250	863504	864136
Capital raised		3078827	3077139	3087342	3155246
BALANCE		+ 11837	+ 837	- 10244	+ 2916
Capital spent	(13)	3066989	3076302	3097587	3152329
Subscriptions and advances to other companies (included above)					
Morayshire (amalgamated 1 October 1880)	(12)	23151	23151	23151	23151
General balance sheet items					
Floating debt to bankers		10300	0		
(11): The 4% redeemable preference stock (1873) was created to convert arrears of dividend due on the 5% preference stock.					
(12): The £23151 expenditure on the Morayshire comprised £10531 in subscription and £12620 in advances.					
(13): The capital expenditure in 1874 (2) included a one-off payment of £40165 to reduce arrears of preference dividend.					

10(d): Revenue account of the Great North of Scotland Railway, 1855-74

REVENUE (£)	08.1855	08.1856	08.1857	08.1858	07.1859	07.1860	07.1861
Line opening dates: Great North of Scotland (GNSR)	To Huntly 09.1854		To Keith 10.1856				
Line opening dates to: Inverness and Nairn (I&NR) Inverness and Aberdeen (I&AJR)	To Nairn 11.1855 I&NR			To Keith 08.1858 I&AJR			
Passenger Numbers	244758	313011	410290	416707	457314	533113	565219
Goods (tons)	61555	87243	121285	131974	159475	170594	196547
½ year revenue to 31 January						40280	43038
½ year revenue to 31 July						44323	46857
Total annual revenue	34123	46368	59751	63201	69468	84603	89895
½ year expenditure to 31 January						20718	18319
½ year expenditure to 31 July						19784	19238
Total annual expenditure	19021	21500	27083	27253	40976	40502	37557
Surplus (£)	15102	24868	32668	35948	28492	44101	52338
½ year ordinary dividend - January						6%	6 ½%
½ year ordinary dividend - July						7%	7%
Annual dividend (%)	1 ½%	2 ¼%	4 ½%	4 ½%	5%	6 ½%	6 ¾%
Working expenses (%)				31 ½	32 ½	33	30 ½
Sources: Minutes of the Great North of Scotland Railway, 1845-76 (NAS/BR/GNS/1/1-9) and accounts of the Great North of Scotland Railway, 1849-75 (NAS/BR/RAC(S)/1/14).							
(1): Shillings and pence have been rounded down; as a result some totals may not match precisely the sum of component items.							
(2): The accounting period changed from August to July in 1859. Half-yearly reporting commenced in 1859-60.							

REVENUE (£)	07.1862	07.1863	07.1864	07.1865	07.1866
½ year revenue to 31 January	50715	53694	54811	40731	52112
½ year revenue to 31 July	49893	55917	58354	52483	51673
Total annual revenue (3)	100608	109611	113165	93214	103785
½ year expenditure to 31 January	18424	18615	26463	19177	33517
½ year expenditure to 31 July	22712	19371	32706	33109	38402
Total annual expenditure	41136	37986	59169	52286	71919
Surplus (£)	59472	71625	53996	40928	31866
<i>Change in surplus (%)</i>	13.6	20.4	-24.6	-24.2	-22.1
½ year ordinary dividend - January	7 ¼%	7%	5%	0	0
½ year ordinary dividend - July	7%	7%	5%	0	0
Annual dividend (%)	7 ¼%	7%	5%	0	0
Working expenses (4) (%)	33	32 ¼	36	38	41 ¼
(3): In the period 1862-65, company reports to Ordinary General Meetings gave few statistics, confining information to generalised statements in the published reports. However, the rise in gross expenditure (55.8%) in 1863-64 is the result of the Great North beginning to work the through route to Elgin from July 1863. Therefore, it is the data of revenue surpluses from 1863 that show the impact of competition on the Great North and, in particular, the effects of the new the Inverness-Perth line, and account for the very modest growth of gross revenue (3.2%) in 1863-64.					
(4): Working expenses for 1866 are the average of the two half years quoted by the company.					

(continued)

10(d): Revenue account of the Great North of Scotland Railway (continued)

REVENUE	(£)	07.1867	07.1868	07.1869	07.1870	07.1871
½ year revenue to 31 January		79112	90112	90209	89394	97228
½ year revenue to 31 July		86466	90658	90700	95214	99690
Total annual revenue	(5)	165578	180770	180909	184608	196918
<i>Change in total revenue</i>	(6)		9.2%	0.1%	2.0%	6.7%
½ year expenditure to 31 January		46596	56838	47572	46711	49390
½ year expenditure to 31 July		54204	58426	48871	47952	49536
Total annual expenditure	(5)	100800	115264	96443	94663	98926
<i>Change in total expenditure</i>	(6)		14.3%	-16.3%	1.8%	4.5%
Surplus before fixed interest		64778	65506	84466	89945	97992
Debenture interest (£)		25535	35799	41462	40949	39917
Surplus after fixed interest		39243	29707	43004	48996	58075
<i>Floating Debt (£)</i>		<i>345972</i>	<i>181549</i>	<i>91963</i>	<i>32674</i>	<i>10300</i>
½ year ordinary dividend - January		0	0	0	0	0
½ year ordinary dividend - July		0	0	0	0	0
Working expenses	(%)					
Full year		n/a	46.00	46.56	47.11	
- to 31 January						44.62
- to 31 July						43.28

(5): The large rise in revenue and expenditure between 1866 and 1867 reflects the first full year of operation of the Great North with its amalgamated branches.
(6): No figures for change in revenue and expenditure are shown for 1867 as the new amalgamated company began operations in 1866 and the 1866 accounts data refers purely to the original Great North company and does not include its branches.
(7): Between 1867 and 1871, the company built up arrears of dividend due on preference stock of £44,554 by paying less than the guaranteed 4½% and 5% due.

REVENUE	(£)	07.1872	07.1873	07.1874
½ year revenue to 31 January		103621	107745	119613
½ year revenue to 31 July		105548	112176	121151
Total annual revenue		209168	219921	240764
<i>Change in total revenue</i>		6.2%	5.1%	9.5%
½ year expenditure to 31 January		48722	52917	59022
½ year expenditure to 31 July		50496	58361	60615
Total annual expenditure		99218	111278	119637
<i>Change in total expenditure</i>		0.3%	12.2%	7.5%
Surplus before fixed interest		109950	108643	121127
Debenture interest (£)		38346	37256	37276
Surplus after fixed interest		71604	71387	83851
<i>Floating Debt (£)</i>		<i>0</i>	<i>0</i>	
½ year ordinary dividend - January		0	0	½ % (10)
½ year ordinary dividend - July		0 (8)	0 (9)	1 1/8%
Working expenses	(%)			
- to 31 January		40.67	42.56	42.77
- to 31 July		41.52	44.80	43.59

(8): An additional 1½% was paid on preference stock in 1872 to reduce the arrears of dividend owed to shareholders.
(9): An Act of Parliament (36&37 Vic. cap.107, 1873, The Great North of Scotland Act) allowed the capitalisation of arrears of dividend into a new 4% preference stock.
(10): On 27 March 1874, the Ordinary General Meeting authorised the first payment of ordinary dividend since 1864 (27 March 1874, NAS/BR/GNS/1/9, p.378).

10(e): Financial indicators for the Great North of Scotland Railway, 1855-66

(£)	31 August 1855-58 31 July from 1859	08.1855	08.1856	08.1857	08.1858	07.1859	07.1860
Capital raised		582742	733765	816652	865145	947928	1127929
Debenture loans		65100	212616	248963	299998	340548	349999
Temporary loans		41244	5983	13840	50837	33652	34703
Debit balances							28601
Hidden debt (by 2 nd half year)		41244	5983	13840	50837	33652	63304
Estimated total debt		106344	218599	262803	350835	374200	413303
Gross annual revenue		34123	46368	59751	63201	69468	84603
Ratio of debentures to capital raised		11.2%	29.0%	30.5%	34.7%	36.0%	31.0%
Ratio of gross revenue to total debt		0.321	0.212	0.227	0.180	0.186	0.204

(£)	31 July 1861-65 Half-year data 1866	07.1861	07.1862	07.1863	07.1864	07.1865	01.1866	07.1866
Capital raised		1128804	1400017	1548964	1780767	1816646	1816126	1826386
Debenture loans		349999	350000	348750	412887	420661	407821	418081
Temporary loans		70985	50663	18628	66218	153711	245156	274527
Debit balances (1)		17017	23289	22948	25353	41057	41225	41225
Hidden debt		88002	73952	41576	91571	194768	286381	315752
Estimated total debt		438001	423952	390326	504458	615429	694202	733833
Gross annual revenue		89895	100608	109611	113165	93214	104595	103785
Ratio of debentures to capital raised		31.0%	25.0%	22.5%	23.2%	23.2%	22.5%	22.9%
Ratio of gross revenue to total debt		0.205	0.237	0.281	0.224	0.151	0.151	0.141

(1): No debit balance is shown in the accounts for 1866(2) and so it is assumed at the level of 1866(1) in the table.
(2): Data for 1866(1) to 31 January 1866 and 1866(2) to 31 July 1866, shown in the shaded columns, refers to Great North finances before the branch amalgamations commenced on 1 August 1866.

Data for half years as shown	(£)	01.1866	07.1866	01.1867	07.1867	07.1868	07.1869
Capital raised		1816126	1826386	3085817	3087451	3061732	3126200
Debenture loans (and stock from 1869)		407821	418081	755046	756579	833859	852265
Temporary loans		245156	274527	345972	303171	181549	91963
Estimated total debt		694202	733833	1101018	1059750	1015408	944228
Gross annual revenue (4)		104595	103785	130785	165578	180770	180909
Ratio of debentures to capital raised		22.5%	22.9%	24.5%	24.5%	27.2%	27.3%
Ratio of gross revenue to total debt		0.151	0.141	0.119	0.156	0.178	0.192

(2): Data for 1866(1) to 31 January 1866 and 1866(2) to 31 July 1866, shown in the shaded columns, refers to Great North finances before the branch amalgamations commenced on 1 August 1866.
(3): Data is given for half years 1866-67 to illustrate the effects of absorbing the debts of the amalgamated companies. Gross revenue is calculated from cumulative half year revenue data (NAS/BR/RAC(S)/1/14).
(4): The Great North estimated the combined revenue of the original company and its branches to 31 July 1866 as £147,610, reported at the Ordinary General Meeting held on 2 October 1866 (NAS/BR/RAC(S)/1/14).

(£)	31 July	07.1870	07.1871	07.1872	07.1873	07.1874
Capital raised		3078972	3078827	3077139	3087342	3155246
Debenture loans and stock		860863	859954	863250	863504	864136
Temporary loans		32674	10300	0	0	0
Estimated total debt		893537	870254	863250	863504	864316
Gross annual revenue		184608	196918	209168	219921	240764
Ratio of debentures to capital raised		28.0%	28.0%	28.1%	28.0%	27.4%
Ratio of gross revenue to total debt		0.207	0.226	0.242	0.255	0.279

10(f): summary table of indebtedness of the Great North of Scotland Railway to its bankers, 1855-75

Date	Amounts due to bankers for temporary loans held on the general balance sheet (£)
31.08.1855	- 41244
31.08.1856	- 5983
31.08.1857	- 13840
31.08.1858	- 50837
31.07.1859	- 33652
31.01.1860	- 18915
31.07.1860	- 34703
31.01.1861	- 43879
31.07.1861	- 70985
31.01.1862	- 963
31.07.1862	- 50663
31.01.1863	- 33093
31.07.1863	- 18628
31.01.1864	- 53624
31.07.1864	- 66218
31.01.1865	- 95804
31.07.1865	-153711
31.01.1866	-245150
31.07.1866	-274527
31.01.1867	-345972
31.07.1867	-303171
31.01.1868	-350348
31.07.1868	-181549
31.01.1869	- 94331
31.07.1869	- 91963
31.01.1870	- 39099
31.07.1870	- 32674
31.01.1871	- 32695
31.07.1871	- 10300
31.01.1872	0
31.07.1872	0
31.01.1873	0
31.07.1873	0
31.01.1874	- 877
31.07.1874	0
Sources: Minutes of the Great North of Scotland Railway, 1854-76 (NAS/BR/GNS/1/2-9) and accounts of the Great North of Scotland Railway, 1849-75 (NAS/BR/RAC(S)/1/14).	

Table 11: Accounts of the Highland Railway

11(a): Capital account of the Highland Railway, 1865-74

CAPITAL	(£)	08.1865	02.1866	08.1866	02.1867	08.1867	02.1868
Stocks and shares		1837651	1537509	1544077	1580177	1580600	1583610
Debentures loans		565241	669128	693172	694122	697872	700237
Temporary loans	(3)	<i>550000</i>	<i>465000</i>	<i>485000</i>	<i>505000</i>	<i>535000</i>	<i>535000</i>
Stock issued and held in security		<i>(inc. above)</i>	<i>465000</i>	<i>485000</i>	<i>505000</i>	<i>535000</i>	<i>535000</i>
Total raised		2402892	2671637	2722249	2779300	2813473	2818848
Balance		- 201460	- 13582	- 4626	10654	9069	1157
Total capital expenditure		2604352	2685220	2726876	2768645	2804403	2817690
Capital expenditure on Highland		2604352	2685220	2726876	2755145	2774403	2787690
Sutherland Railway stock		-	-	-	13500	30000	30000

Source: Minutes and accounts of the Highland Railway, 1865-76 (NAS/BR/HR/1/1-2).

(1): Shillings and pence have been rounded down; as a result some totals may not match precisely the sum of component items.

(2): Authorised capital under the 1865 was £2,209,080 with £700,880 in borrowing powers (£2,909,960)

(3): The £550,000 of temporary loans held at the formation of the Highland Railway in 1865 (shown in italics above) is not identified in the first accounts, but was reported by the chairman at the first ordinary general meeting in October, 1865 and is included in the total of stocks and shares of £1,837,651 (*Railway Times*, 4 November 1865, p.1407; Report to the first Ordinary General Meeting of the Highland Railway, 27 October 1865, NAS/BR/HR/1/1, pp.42-43). Security stock is separately identified from 1866.

Capital	(£)	08.1868	02.1869	08.1869	02.1870	08.1870	02.1871
Stocks and shares	(4)	1585230	2112490	2113450	2117540	2123690	2196798
Less stock issued as security re-acquired by the company		-	-	-	-	20000	120000
Debenture loans		700634	700419	700549	699999	700049	696277
Debenture stock account			150	150	710	710	4600
Temporary loans		<i>565000</i>	<i>625000</i>	<i>625000</i>	<i>625000</i>	<i>605000</i>	<i>520000</i>
(stock held as security)	(4)	<i>565000</i>	<i>524000</i>	<i>524000</i>	<i>524000</i>	<i>504000</i>	<i>384000</i>
Total capital raised		2850864	2813059	2814149	2818249	2804449	2777675
Balance		10952	- 95827	- 122824	- 126132	- 123000	- 154442
Total capital expenditure		2839912	2908886	2936973	2944382	2927449	2932118
Total expended on Highland		2809912					
Subscription to the Sutherland Railway		30000	30000	30000	30000	30000	30000

(4): from 1869, stock held as security against loans was included in the total of stocks and shares issued.

Capital	(£)	08.1871	02.1872	08.1872	02.1873	08.1873	02.1874	08.1874
Stocks and shares		2159536	2474885	2327600	2327633	2327633	2364000	2364000
Less stock issued as security re-acquired by the Company		110000	274000	<i>All stock acquired</i>				
Loans and debenture debt		696172	666200	614030	576310	482649	444257	418802
Debenture stock account (5)		4600	31674	86606	124192	218139	256550	282020
Temporary loans		450000	<i>All repaid</i>					
(stock held as security)		274000						
Total capital raised		2750308	2898759	3028236	3028135	3028421	3064807	3064822
Balance	(6)	- 186375	- 46937	+ 248	- 17927	- 45171	- 30541	- 131615
Total capital expenditure		2936684	2945697	3027988	3046063	3073593	3095349	3196437
Capital previously spent		2568413	2573859	2578117	2581913	2585768	2594253	2616302
Subscriptions to the Sutherland, Sutherland and Caithness and Dingwall and Skye Railways.		30000	30000	95000	105000	115000	115000	115000

(5) By 1874, one third of authorised borrowing had been converted from debenture loans to debenture stock.

(6): 37 Vic. cap. 103, 1874, The Highland Railway (Additional Capital) Act, authorised an additional £500,000 of capital with £166,000 of borrowing powers, which gave scope to resolve the capital deficit.

11(b): Revenue account of the Highland Railway, 1865-74

	08.1865	02.1866	08.1866	02.1867	08.1867	02.1868	08.1868
Revenue (£)							
Total Revenue including:	100733	82668	99744	96362	103766	100169	107164
Passenger traffic	51187	39376	52138	43345	49587	43142	51858
Mails	6076	5230	5246	5227	5227	5227	5227
Less Scottish North-Eastern tolls	5343	4531	4119	<i>Amalgamated with Caledonian, 1866</i>			
Less Scottish Central tolls	52	52	<i>Amalgamated with Caledonian, 1865</i>				
Less Caledonian Railway tolls	-	-	-	2500	2500	2500	2500
Goods, parcels, livestock	46691	41006	44783	45177	50476	50826	51130
Expenditure (£)							
Total working expenses	46244	38264	40803	39958	40508	42073	37925
Feu duties, rates and taxes	2709	2598	3383	3262	3300	3279	3191
Passenger duty	1241	1159	1374	1349	1462	1094	1627
Interest	26090	19280	29148				
Total annual expenditure (£)	76285	61302	74709				
Net revenue (£)	24448	21366	25034	51792	58494	53721	64420
Interest				27128	28142	28590	29941
Dunkeld 6% stock dividend	2660	2280	2280	2280	2280	2280	2280
Nairn 5% stock dividend	1311	1124	1124	1124	1124	1124	1124
Nairn 6% dividend	2067	1772	1772	1772	1772	1772	1772
Class A 4 ½% dividend	9468	8218	8218	8558	8893	8893	8893
Class B 5% dividend	166	4153	6980	7202	7267	7293	7310
Ordinary dividend	8516	3649	3649	3649	7299	3649	10949
Expenditure on dividends	24191	21197	24025	24586	28636	25012	32329
Total on loans & dividends				51715	56778	53603	62271
Balance	256	168	1009	77	1715	118	2148
Ordinary dividend	2%	1%	1%	1%	2%	1%	3%
Working expenses	44 ½%	44 ½%	38%	42%	40%	42 ½%	38 ½%
Source: Minutes and accounts of the Highland Railway, 1865-76 (NAS/BR/HR/1/1-2).							
(1): Shillings and pence have been rounded down; as a result some totals may not match precisely the sum of component items.							

REVENUE (£)	02.1869	08.1869	02.1870	08.1870	02.1871	08.1871	02.1872
Total Revenue including:	102563	110964	101251	113645	107967	118799	123117
Passenger traffic	44515	53404	41852	54463	44819	58018	48011
Mails	5238	5232	5235	5283	5292	7612	10015
Less Caledonian Railway tolls	2500	2500	2500	2500	2500	2500	2500
Parcels, carriages, horses	4348	2464	4509	3877	4575	5563	6355
Goods, livestock, minerals	46785	49490	48795	50694	50315	48160	58289
Expenditure:							
Total working expenses	37328	38240	37312	38164	37547	41259	44665
Feu duties, rates and taxes	2136	4016	2333	4793	3268	5603	3314
Passenger duty	1354	1707	1466	2071	1552	1931	1617
Net Revenue	61743	67000	60138	68616	65598	70004	73518
Interest	32004	31594	31251	28862	28275	26219	15674
Dunkeld 6% stock dividend	2280	2280	2280	2280	2280	2280	2280
Nairn 5% stock dividend	1124	1124	1124	1124	1124	1124	1124
Nairn 6% dividend	1772	1772	1772	1772	1772	1772	1772
Class A 4 ½% dividend	8893	8893	8893	8893	8894	9496	11325
Class B 5% dividend	7334	7353	7411	7570	8533	9998	10000
Ordinary dividend	8212	12774	7299	14599	14599	18249	30900
Total on loans & dividends	61619	65791	60032	65101	65480	69140	73078
Balance	123	1208	106	3514	117	863	440
Ordinary dividend	2 ½%	3 ½%	2%	4%	4%	5%	6%
Working expenses	37%	34%	37%	33.39%	35.76%	34.57%	36.41%
% revenue from mail contracts	5.1%	4.7%	5.2%	4.6%	4.9%	6.4%	8.1%

(continued)

11(b): Revenue account of the Highland Railway (continued)

REVENUE	(£)	08.1872	02.1873	08.1873	02.1874	08.1874
Total Revenue including:		131140	124792	133872	134288	146322
Passenger traffic		62044	48574	62806	50337	70174
Mails		9999	10006	10001	10004	10002
Less Caledonian Railway tolls		2500	2500	2500	2500	2500
Parcels, carriages, horses		6119	6910	5597	5947	6817
Goods, livestock, minerals		52955	57342	55518	64023	59580
Expenditure:						
Total working expenses		46594	53390	52408	63323	62356
Feu duties, rates and taxes		4580	3588	5733	3725	6615
Passenger duty		2019	1612	2103	1658	2110
Net Revenue		77945	66201	73627	65581	75239
Interest		15511	14768	15136	15753	16469
Dunkeld 6% stock dividend		2280	2280	2280	2280	2280
Nairn 5% stock dividend		1124	1124	1124	1124	1124
Nairn 6% dividend		1772	1772	1772	1772	1772
Class A 4 ½% dividend		11557	11557	11557	11557	11557
Class B 5% dividend		10000	10000	10000	10000	10000
Ordinary dividend		33213	24414	28722	22978	30004
Total on loans & dividends		75459	65917	70593	65466	73208
Balance		2485	284	3033	115	2031
Ordinary dividend	(3)	6%	4 ¼ %	5%	4%	5%
Working expenses		35.53%	43.48%	39.13%	48.59%	42.54%
% revenue from mail contracts		7.6%	8.0%	7.5%	7.5%	6.8%
<p>(2): Shillings and pence have been rounded down; as a result some totals may not match precisely the sum of component items.</p> <p>(3): The 4 ¼ % dividend to February 1873 was raised to 6% by a 1 ¼ % addition taken from the reserve account containing the accumulated premiums received from share sales in 1872. This decision was justified because of a temporary fall in revenue as a result of crop failures in the northern counties (Report to the Ordinary General Meeting of the Highland Railway, 25 April 1873, NAS/BR/HR/1/2, p.266).</p>						

11(c): Financial indicators for the Highland Railway, 1865-74

Data for half years (£)	08.1865	02.1866	08.1866	02.1867	08.1867	02.1868	08.1868
Capital raised	2402892	2671637	2722249	2779300	2813473	2818848	2850864
Debenture loans	565241	669128	693172	694122	697872	700237	700634
Temporary loans (1)	550000	465000	485000	505000	535000	535000	565000
Total fixed interest debt	1115241	1134128	1178172	1199122	1232872	1235237	1265634
Gross half year revenue	100733	82668	99744	96362	103766	100169	107164
Gross annual revenue	-	183401	182412	196108	200128	203935	207333
Ratio of debentures to capital raised	23.5%	25.0%	25.5%	25.0%	24.8%	24.8%	24.6%
Ratio of gross revenue to total debt		0.162	0.155	0.164	0.162	0.165	0.164

(1): The figure of £550,000 in temporary loans is obtained from the Highland Railway chairman's statement to the first Ordinary General Meeting of the company on 28 October 1865 (*Railway Times*, 4 November 1865, p.1407; Report to the first Ordinary General Meeting of the Highland Railway, 27 October 1865, NAS/BR/HR/1/1, pp.42-43).

Data for half years (£)	02.1869	08.1869	02.1870	08.1870	02.1871	08.1871	02.1872
Capital raised	2812909	2814149	2818249	2804449	2777675	2750308	2898759
Debenture loans	700419	700549	699999	700049	696277	696172	666200
Debenture stock	150	150	710	710	4600	4600	31674
Temporary loans	625000	625000	625000	605000	520000	450000	0
Total fixed interest debt	1325569	1325699	1325709	1305759	1220877	1150772	697874
Gross half year revenue	102563	110964	101251	113645	107967	118799	123117
Gross annual revenue	209727	213527	212215	214896	221612	226766	241916
Ratio of debenture loans and debenture stock to capital raised	24.9%	24.9%	24.9%	25.0%	25.2%	25.5%	24.1%
Ratio of gross revenue to total debt	0.168	0.161	0.160	0.165	0.182	0.197	0.347

Data for half years (£)	08.1872	02.1873	08.1873	02.1874	08.1874
Capital raised	3028236	3028135	3028421	3064807	3064822
Debenture loans	614030	576310	482649	444257	418802
Debenture stock	86606	124192	218139	256550	282020
Temporary loans	0	0	0	0	0
Total fixed interest debt	700636	700502	700788	700807	700822
Gross half year revenue	131140	124792	133872	134288	146322
Gross annual revenue	254257	255932	258664	268160	280610
Ratio of debenture loans and stock to capital raised	23.1%	23.1%	23.1%	22.9%	22.9%
Ratio of gross revenue to total debt	0.363	0.365	0.369	0.383	0.400

11(d): Comparison of debt gearing of Highland Railway constituents, 1864-65

	1864	08.1865 (4)
Companies	I&AJ/I&PJ	HR
I&AJR revenue (to 31 July 1864)	91356 (2)	
I&PJR revenue (to 31 July 1864)	78531 (2)	
I&AJR revenue (1 August 1864 to 31 January 1865)		67310
I&PJR revenue (1 August 1864 to 31 January 1865)		52030
HR revenue (seven months 31 January to 31 August 1865)		100733 (5)
HR revenue adjusted for a six month period		86343 (5)
Total combined annual revenue	169887	205683
I&AJR debenture loans	320179	
I&PJR debenture loans	243000	
HR debenture loans at 31 August 1865		565241
Total combined debenture loans	563179	565241
I&AJR estimated hidden debt	220352	
I&PJR estimated hidden debt	171480	
Total of I&AJR and I&PJR estimated debt	391832	
Floating debt reported to Highland Railway shareholders		550000
Total estimated debt	955011	1115241
Debt gearing for the two Inverness companies (1864)	0.178	
Debt gearing using Highland Railway floating debt (1865)		0.184

(1): The table uses 1864 data from the Inverness and Aberdeen Junction (I&AJR) and Inverness and Perth Junction (I&PJR) Railways contained in appendix tables 12 and 14 and combines the final half year data of these constituent companies with the revenue, capital and debt of the new Highland Railway for January-August 1865 in order to derive an indicative debt gearing for the amalgamated company.

(2): The Inverness and Aberdeen Junction and Inverness and Perth Junction Railways adjusted their accounting periods from February/August to January/July for accounts first reported at their ordinary general meetings both held on 30 March 1864, although the Highland reverted to February/August accounting periods in 1865. As a result, reported revenue for the Aberdeen and Perth Junction companies to 31 January 1864 represented only five months trading and so the data above includes an adjustment to reflect a six month period, as also explained in footnote (5) of appendix table 12(c) and footnote (2) of appendix table 14(c).

(3): The 1864 debt gearing of the Inverness and Aberdeen Junction Railway was 0.169 (table 12c); the 1864 debt gearing of the Inverness and Perth Junction Railway was 0.189 (table 14c).

(4): The data for August 1865 are as reported to the first Ordinary General Meeting of the Highland Railway, 27 October 1865, (NAS/BR/HR/1/1, pp.42-43), and includes the figure given by Chairman Alexander Matheson that £550,000 was owed in floating debt to banks by the new company (quoted in *Railway Times*, 4 November 1865, p.1407).

(5): The first reporting period of the Highland Railway covered 7 months to 31 August 1865 and so the revenue used to calculate debt gearing has been adjusted pro-rata to represent a six month period to allow a comparison with the estimated debt gearing of the Aberdeen and Perth Junction companies in 1864.

11(e): Summary of debentures, loans and share capital for the Highland Railway, 1865-74

		Data published in Highland Railway accounts						Derived data
		A	B	C	D	E	F	G
								G=(A - B - D)
(£)	½ yr report	Total share and loan capital issued	Debenture loans and stock created and issued	Temporary Loans from banks	Share capital raised (excluding stock in security)	Share capital raised (including stock in security)	Stocks shown held in security	Stock held in security but not separately identified
1865	Aug	2402892	565241	550000 (e)		1837651	n/a	n/a
1866	Feb	2671637	669128	465000	1537509		n/a	465000
	Aug	2722249	693172	485000	1544077		n/a	485000
1867	Feb	2779300	694122	505000	1580177		n/a	505000
	Aug	2813473	697872	535000	1580600		n/a	535000
1868	Feb	2818848	700237	535000	1583610		n/a	535000
	Aug	2850864	700634	565000	1585230		n/a	565000
1869	Feb	2813059	700569	625000		2112490	524000	0
	Aug	2814149	700699	625000		2113450	524000	0
1870	Feb	2818249	700709	625000		2117540	524000	0
	Aug	2804449	700759	605000		2103690	504000	0
1871	Feb	2777675	700877	520000		2076798	384000	0
	Aug	2750308	700773	450000		2049535	274000	0
1872	Feb	2898759	697874	0		2200885	0	0
	Aug	3028236	700636	0		2327600	0	0
1873	Feb	3028135	700502	0		2327633	0	0
	Aug	3028421	700788	0		2327633	0	0
1874	Feb	3064807	700807	0		2364000	0	0
	Aug	3064822	700822	0		2364000	0	0

Source: Minutes and accounts of the Highland Railway, 1865-76 (NAS/BR/HR/1/1-2).

(1): Shillings and pence have been rounded down; as a result some totals may not match precisely the sum of component items.

(2): (e) shows the estimated figure of temporary loans given at the first shareholder's meeting, 27 October 1865.

(3) Highland accounts in 1865 did not specify temporary loans and any shares issued in security for loans were included in the total of share capital raised.

(4): From 1866-68, the accounts do not show the amount of share capital issued as security for loans but the amount can be derived. The accounts, however, show data of share and debenture capital issued and data of share and debenture capital actually received. Published data of debenture capital issued and raised were identical, but there is a difference between the value shares issued and share receipts, which can therefore be deduced as the value of stock held by banks as security for loans. In this period, 1866-68, the par value of stock matches the published figures of bank lending.

(5): From 1869, the accounts published data of bank debt and stock held in security, which show that the par value of stock issued was less than the amount of bank lending, which reflects the reduced degree of risk to the banks as a result of the personal guarantees given for the loan capital and interest by directors of the company.

(continued)

11(e): Summary of debentures, loans and share capital for the Highland Railway, 1865-74 (continued)

		Derived data	Data published in Highland Railway accounts				
		H	J	K	L	M	N
		H=B+C			Authorised capital		
(£)	½ yr report	Total of authorised and temporary loans	Total interest on debentures and loans	Interest on temporary loans included in column J	Authorised Share capital	Authorised loan capital	Total of authorised capital
	Aug	1115241	26090	6605	2209080	700880	2909960
1866	Feb	1134128	19280	14774	2209080	700880	2909960
	Aug	1178172	29148	13315	2209080	700880	2909960
1867	Feb	1199122	27128	13594	2209080	700880	2909960
	Aug	1232872	28142	14365 (e)	2209080	700880	2909960
1868	Feb	1235237	28590	15170 (e)	2209080	700880	2909960
	Aug	1265634	29941	14952	2209080	700880	2909960
1869	Feb	1325569	32004	14178	2329000	700880	3029880
	Aug	1325699	31594	13648	2329000	700880	3029880
1870	Feb	1325709	31251	13296	2329000	700880	3029880
	Aug	1305759	28862	12337	2329000	700880	3029880
1871	Feb	1220877	28275	10453	2329000	700880	3029880
	Aug	1150773	26219	0	2329000	700880	3029880
1872	Feb	697874	15674	0	2379000	700880	3079880
	Aug	700636	15511	0	2379000	700880	3079880
1873	Feb	700502	14768	0	2379000	700880	3079880
	Aug	700788	15136	0	2379000	700880	3079880
1874	Feb	700807	15753	0	2379000	700880	3079880
	Aug	700822	16469	0	2879000	866880	3745880

(e): Highland Railway accounts omit details of interest paid on temporary loans for the half years ending February and August 1868. The interest paid on temporary loans in the four half years in the accounts for 1867 and 1869 averages at 5.37% and this rate is applied to derive the two estimates above,

Table 12: Accounts of the Inverness and Aberdeen Junction Railway

12(a): Capital account of the Inverness and Aberdeen Junction Railway, 1859-65

CAPITAL	(£)	08.1859	08.1860	08.1861	08.1862	08.1863	07.1864	01.1865
<i>Amalgamations</i>	(2)			<i>I&NR</i>	<i>I&RR</i>			<i>I&PJR</i>
£10 ordinary shares		318503	319944	320067	320109	339783	339857	339907
5% Nairn Preference A stock				42811	44903	44916	44956	44956
6% Nairn ordinary B Stock				59242	59242	59242	59242	59080
Preference capital		0	54812					
4 ½ % I&AJR Preference C				99875	124248	149998	150000	150000
4 ½ % I&AJR Preference D				-	-	108982	109538	109570
Ross-shire stock	(3)			-	129751	131219	136671	209764
Ross-shire Extension stock	(3)			-	-	16459	42743	144454
Burghead Branch					9198	-		
Debenture loans		107910	108298	187848	266266	265528	320179	320199
Capital Raised		426413	483054	709844	953738	1116129	1203186	1377931
Balance		- 75007	- 49380	+ 28485	+14552	- 4308	- 190585	- 105588
Capital spent		501421	532435	681359	939186	1120437	1393772	1483520
<i>Including:</i>								
Preliminary & Parliamentary		12851	12910					
Engineering		6043	8593					
Law expenses		4818	9824					
Land and compensation		34305	38351					
Works and stations		358022	369609					
Plant		64091	67194					
Annual interest & commission		10867	14596	n/a				
<i>including:</i>								
<i>Interest on debentures</i>	(5)	2635	5057	6840	8721	10892	n/a	n/a
<i>Interest on temporary loans</i>	(5)	2214	3894	n/a	n/a	n/a	n/a	n/a
Inverness & Ross-shire Stock		-	2250	25000	25000	25000	25000	(3) 0
Inverness and Perth Stock					7500	50000	50000	50000
Sums due								
Sundries due	(6)	86679	112562	36161	47847	26937	220352	146102

Source: Minutes and accounts of the Inverness and Aberdeen Junction Railway, 1855-65 (NAS/BR/IAJ/1/1-3).

- (1): Shillings and pence have been rounded down; as a result some totals may not match precisely the sum of component items.
- (2): Authorised capital in 1856 was £325,000 with £108,300 in borrowing powers. The capital account reflects the amalgamation of the Inverness and Nairn Railway (I&NR) from 17 May 1861 and the Inverness and Ross-shire Railway (I&RR) from 30 June 1862.
- (3): The Ross-shire capital includes undefined levels of stock held as security against loans (see table 15). The separate stock of the Inverness and Ross-shire ceased to be identified separately in the capital account by 1865.
- (4): The line opened to Keith in August 1858; by 1860, capital expenditure was 63.8% above parliamentary estimate. Land costs accounted for 7.2% of total capital spent by 1860; capital cost per mile in 1860 was £13,395.
- (5): Interest data on debentures and temporary loans shown for 1859 is for the second half year only; the accounts contain no data for the first half year, although total interest and commission paid for the full year was £10,867. A proportion of interest on debentures continued to be paid from the capital account until at least 1863: the practice was continued by the successor Highland Railway in 1865 and 1866 (*Railway Times*, 5 May 1866, p.515; Report to the Ordinary General Meeting of the Highland Railway, 27 October 1865, NAS/BR/HR/1/1, pp.42-43 and page 2 of printed report).
- (6): Sundries are not detailed in the accounts other than by a one-line statement. In 1864, for example, this budget line of £220,352 represents the hidden debt of the company.
- (7): Chairman Matheson gave the cost of the Inverness and Aberdeen Junction Railway as £578,000 in October 1865, which would imply a capital cost per mile of £14,541 for the line and 77.8% above the 1855 estimate.
- (8): Account reporting dates were amended from February/August to January/July at the Ordinary General Meeting of 30 March 1864, although the Highland reverted to February/August accounting periods in 1865.

12(b): Revenue account of the Inverness and Aberdeen Junction Railway, 1859-65

REVENUE (3) (£)	08.1859	08.1860	08.1861	08.1862	08.1863	07.1864	01.1865
<i>Amalgamations</i> (4)			<i>I&NR</i>	<i>I&RR</i>			(6)
½ year revenue to Jan/Feb	n/a (2)	21753	20736	23272	27672	26997 (3)	67316
½ year revenue to July/Aug	21619	22863	24515	27404	35935	58960 (5)	-
Gross revenue	-	44616	45251	50676	63607	85957	126276
Less sums paid to Inverness & Nairn and Morayshire Railways	3331	6199	2530	-	-	-	-
Total revenue	-	38417	42721	50676	63607	85957	126276
½ year expenditure to Jan/Feb	n/a (2)	12667	10825	12188	15182	12194	48633
½ year expenditure to July/Aug	11318	13161	12568	13186	17883	40944 (5)	-
Total expenditure	-	25828	23393	25374	33065	53138	89577
<i>Including annual interest</i>	3060	6123	5265	4887	6243	9532	(5097)
Surplus (£)		12589	19328	25302	30542	32819	36699
½ year dividend – Jan/Feb		4%	3½%	3½%	4%	4%	4%
½ year dividend – July/Aug	2½%	4%	4½%	5%	5¼%	4%	
Annual working expenses (7)	37%	37½%	37%	36½%	37¼%	44%	n/a

Source: Minutes and accounts of the Inverness and Aberdeen Junction Railway, 1855-65 (NAS/BR/IAJ/1/1-3).

(1): Shillings and pence have been rounded down; as a result some totals may not match precisely the sum of component items.

(2): The first detailed data for the line is reported in the company minutes for the half year to August 1859, although the line opened to Keith in August 1858.

(3): Account reporting dates were amended from February/August to January/July at the Ordinary General Meeting of 30 March 1864, although the Highland reverted to February/August accounting periods in 1865. Revenue to 31 January 1864 therefore covers a five month period.

(4): The Inverness and Nairn Railway (I&NR) amalgamated with the Inverness and Aberdeen Junction Railway from 17 May 1861; the Inverness and Ross-shire Railway (I&RR) amalgamated with the Inverness and Aberdeen Junction Railway from 30 June 1862.

(5): The large increases in revenue and expenditure from 1864 are due to the working of the new Inverness and Perth Junction line by the Inverness and Aberdeen Junction Railway; revenue includes the working charge of 50% of gross receipts levied on the Inverness and Perth Junction Railway.

(6): The figures for gross revenue and expenditure for 1865 represent the previous 12 months trading up to January 1865, i.e. half-yearly revenue reported to 31 July 1864 and 31 January 1865, and are therefore not directly comparable with previous full-year figures, which cover a slightly different accounting period (see note (3) above).

(7): Working expenses shown are an average of the figures contained in half-yearly reports to shareholders.

12(c): Financial indicators for the Inverness and Aberdeen Junction Railway, 1860-65

(£)	31 August 1860-63	1860	1861	1862	1863	1864	1865
(4)	31 July 1864-65						
Capital raised		483054	681359	939186	1120437	1393772	1483520
Debenture loans		108298	187848	266266	265528	320179	320199
Hidden debt (estimated) (1)		112562	36161	47847	26937	220352	146102
Estimated minimum total debt (2)		220860	224009	314113	292465	540531	466301
Total revenue (annual)		38417	42721	50676	63607	91356 (5)	126276
Ratio of debentures to capital raised		22.4%	27.6%	28.4%	23.7%	23.0%	21.6%
Ratio of gross revenue to total debt		0.174	0.191	0.161	0.217	0.169 (4)	0.271 (3)

(1): The company did not publish details of loans within its general balance sheet and so the amounts shown in the accounts as 'due to sundries' are taken as the only available indicator of hidden debt. Interest paid in 1860, if paid at a notional 5% rate, suggests bank lending of approximately £77,800. The lower level of hidden debt from 1861 reflects the improvement in the capital account balance.

(2): From 1863, the capital contributions to the Ross-shire and Perth lines impinge significantly on the company; the capital account deficit and hidden debt was passed to the Highland Railway on its formation in 1865.

(3): The gearing for 1865 is based on the twelve months of revenue earned between 31 July 1864 and 31 January 1865 and must therefore be treated with great caution, particularly as the figure of capital raised was artificially boosted by issue of Ross-shire shares as security for loans. The trend of annual gearing is reflected in the data for 1860-64 and the effect of increasing debt is indicated by the fall in the gearing ratio between 1863 and 1864.

(4): Account reporting dates were amended from February/August to January/July at the Ordinary General Meeting of 30 March 1864, although the Highland reverted to February/August accounting periods in 1865.

(5): As the accounting period was changed in 1864, the half-year revenue reported to 31 January 1864 represented only five months of trading. A figure of £32,396 is therefore imputed to represent six months revenue and included in the figure of gross revenue shown for 1864.

Table 13: Accounts of the Inverness and Nairn Railway

13(a): Capital account of the Inverness and Nairn Railway, 1856-61

CAPITAL	(£)	09.1856	09.1857	08.1858	08.1859	02.1860	08.1860	02.1861
Ordinary share capital		52895	56287	56787	57862	57867	59141	59242
Preference stock			10216	22193	30813	33446	34365	38346
Loans		26630	26630	34192	30792	28143	28143	28683
Total capital raised		79525	93133	113173	119467	119456	121649	126271
Balance		- 36543	- 26907	+ 5175	+ 5721	+ 4026	+ 1992	+ 1359
Total capital expenditure		116068	120041	107997	113745	115430	119657	124912
<i>Including:</i>								
Preliminary and Parliamentary costs		3853	4472	3769	3920	3920	3920	3920
Engineering (subsequent to act)		3600	3439	2630	2630	2630	2630	2630
Law (subsequent to act)				1420	2112	2350	2462	2696
Land and compensation		14576	14893	15371	16779	17057	19515	19709
Works and stations		79317	82251	82343	83550	83803	83803	83803
<i>Including: Works</i>		<i>69568</i>	<i>71606</i>					
<i>Including: Stations</i>		<i>9749</i>	<i>10645</i>					
Plant		11725	11730	11929	11930	11930	11930	11930
Inverness and Ross-shire Stock					-	-	1500	6000
<i>Comprising:</i>								
Capital expenditure on I&NR				121006	126755	128439	132667	137922
Less: value of plant to I&AJR				13009	13009	13009	13009	13009
Interest statement:								
Interest on debentures					584	567	578	570
Preference dividend					676	797	844	899
Interest on temporary loans					113	102	112	31
Total interest		1053	1393	1098	1373	1476	1534	1500
Sources: Minutes and accounts of the Inverness and Nairn Railway, 1855-61 (NAS/BR/INR/1/1-2) and <i>Herapath's Railway Journal</i> , 1856-58.								
(1): Shillings and pence have been rounded down; as a result some totals may not match precisely the sum of component items.								
(2): Authorised capital in 1854 was £80,000 with borrowing powers not to exceed a third of share capital.								
(3): Company minute books do not provide detailed data until 1859; data for 1856-58 are drawn from <i>Herapath's Railway Journal</i> (20 December 1856, p.1315, 31 October 1857, p.1133, 20 October 1858, p.1086).								
(3): The line opened in November 1855; by September 1856, capital expenditure was 45.1% above the parliamentary estimate. Land costs per mile by September 1856 were 12.6% of capital expenditure.								
(4): By September 1857, capital expenditure exceeded estimates by 50.1%; the capital cost per mile was £8,003. Land costs were 12.4% of capital expenditure. Construction costs per mile were £5,483.								

13(b): Revenue account of the Inverness and Nairn Railway, 1856-61

REVENUE (£)	1856	1857	1858	1859	1860	1861
½ year revenue to 28 February	2342	3965	3982	4821	6032	5509
½ year revenue to 31 August	4199	4999	4802	5650	8820	<i>Amalgamated</i>
Gross revenue from the line (4)	6541	8964	8784	10471	14852	14329 (4)
Working receipts from Inverness & Aberdeen Junction Railway (3)						
½ year revenue to 28 February	-	-	-	2362	2849	<i>Amalgamated</i>
½ year revenue to 31 August	-	-	-	2775	3126	
Total receipts				5137	5975	
½ year expenditure to 28 February	1860	3696	3088	3632		
½ year expenditure to 31 August	3030	4329	3848	4263		
Total expenditure	4890	8025	6936	7895		
Surplus (£)	1651	939	1848	2576		
½ year dividend to 28 February	2%	0%	-	3½%	5%	5%
½ year dividend to 31 August	2½%	4%	4%	4½%	5½%	<i>Amalgamated</i>
Sources: Minutes and accounts of the Inverness and Nairn Railway, 1855-61 (NAS/BR/INR/1/1-2), <i>Herapath's Railway Journal</i> , 1856-61, and <i>Bradshaw's Railway Almanack</i> , 1858.						
(1): Shillings and pence have been rounded down; as a result some totals may not match precisely the sum of component items.						
(2): Company records do not provide full details of revenue; the table incorporates some data from <i>Herapath's Railway Journal</i> (17 May 1856, p.527, 20 December 1856, p.1315, 1 May 1858, p.444, 30 October 1858, p.1086, 7 May 1859, p.466, 5 November 1859, p.1125, 5 May 1860, p.445, 3 November 1860, p.1102, 4 May 1861, p.455) and <i>Bradshaw's Railway Almanack</i> (1858, p.128).						
(3): The Inverness and Aberdeen Junction worked the Nairn line from 31 December 1857, returning 50% of receipts to the Inverness and Nairn Railway. The Inverness and Nairn Railway amalgamated with the Inverness and Aberdeen Junction Railway from 17 May 1861.						
(4): The rise in revenue in 1859 followed the opening of the Inverness and Aberdeen Junction Railway and its connection at Keith with the Great North of Scotland Railway in August 1858. The figure for annual revenue in 1861 before amalgamation is derived from the total of the half year revenue to 31 August 1860 and that to 28 February 1861.						
(5): Dividend data is taken from reports to shareholders at ordinary general meetings of the company.						

13(c): Financial indicators for the Inverness and Nairn Railway, 1856-61

(£)	31 August	1856	1857	1858	1859	1860	1861
Capital raised		79525	93133	113173	119467	121649	126271
Debenture loans		26630	26630	34192	30792	28143	28683
Temporary loans					2260	4280	2860
Estimated total debt		26630	26630	34192	33052	32423	31543
Gross annual revenue		6541	8964	8784	10471	14852	14329
Ratio of debentures to capital raised		33.5%	28.6%	30.2%	25.8%	23.1%	22.7%
Ratio of gross revenue to total debt		0.246	0.337	0.257	0.317	0.458	0.454
(1): A notional 5% interest rate is applied to interest paid on temporary loans shown in the capital account to derive an estimate of temporary debt.							
(2): The majority of Inverness and Nairn company debentures were issued at 4½%.							
(3): Data for 1861 refer to the first half year (February) before amalgamation with the Inverness and Aberdeen Junction Railway in May 1861.							

Table 14: Accounts of the Inverness and Perth Junction Railway

14(a): Capital account of the Inverness and Perth Junction Railway, 1862-65

CAPITAL	(£)	02.1862	08.1862	02.1863	08.1863	01.1864	07.1864	01.1865
Ordinary shares						344447	396508	389264
4 ½% preference stock						51902	103236	200080
6% Perth & Dunkeld pref.							76000	76000
Total of share capital						396349	575744	665345
Debenture loans						223000	243000	242700
Capital received		51182	212181	432534	507369	619349	818744	908045
Balance		5912	- 25587	20271	-173883	-173712	-144022	-144306
Capital expenditure	(5)	45270	237769	412263	681253	793062	962767	1052351
<i>Including:</i>	(3)							
Preliminary and Parliamentary					16361	17920	18857	18857
Engineering and Inspection					7950	9950	11500	12200
Construction					619756	717234	777677	840112
Land and compensation					13616	21133	28999	45023
Interest					19133	19423	19812	25349
Law and general expenses					4435	7400	9918	14339
Purchase of Perth and Dunkeld Railway	(7)						96000	96000
General balance sheet - including								
Amount due to sundries (6)					171441	183212	171480	171368

Source: Minutes and shareholders' reports of the Inverness and Perth Junction Railway, 1861-65 (NAS/BR/IPJ/1/1).

- (1): Shillings and pence have been rounded down; as a result some totals may not match precisely the sum of component items.
- (2): Authorised capital in 1861 was £654,000 with £218,000 in borrowing powers. On amalgamation with the Perth and Dunkeld Railway in 1863, capital powers were amended to £734,000 share capital and £243,000 borrowing powers.
- (3): The accounts presented to shareholders do not show details of capital expenditure until 1863. No data is given of the amount of stock held as security against loans until 1865 when reference is made to an unspecified sum.
- (4): The estimate for the line was £654,000, but this sum did not include the subsequent acquisition of the Perth and Dunkeld Railway. Therefore the estimate of capital cost per mile must be taken for the 103¼ miles between Dunkeld and Forres and 8¼ mile Aberfeldy branch (112½ miles), while the actual capital cost per mile including the £96,000 cost of the Perth and Dunkeld Railway must be taken for the full 120¼ miles from Stanley to Forres and the Aberfeldy branch. The estimated cost per mile based on authorised capital of £654,000 was **£5,813** for the Dunkeld-Forres line and the Aberfeldy branch. Mitchell gave the actual total cost per mile for the Forres-Dunkeld line as **£8,860** (J Mitchell, *The Construction and Works of the Highland Railway*, 1867, NAS/BR/HR/4/100, p.159; J Mitchell, *Reminiscences of My Life in the Highlands*, vol.II, p.196). Capital expenditure was 46.2% above estimate by January 1865, excluding the cost of the Perth and Dunkeld Railway. Land costs by 1865 comprised 4.3% of capital expenditure, although further claims were reported as expected.
- (5): In October 1865, Highland chairman Matheson gave the cost of the Inverness and Perth Junction Railway as £1,056,000 (*Railway Times*, 4 November 1865, p.1407), 61.5% above estimate, which produces a capital cost per mile of **£9,387** for the Forres-Dunkeld line and Aberfeldy branch of 112 ½ miles. However, if Matheson's estimate included the nominal cost of the Perth and Dunkeld, met by increasing the issued share and loan capital of the company, then the capital cost per mile of the Stanley-Forres and Aberfeldy lines of 120¼ miles falls to **£8,745**.
- (6): Data for 'amount due to sundries' provides an indication of the amount of floating debt held outside the main accounts. This figure as an estimate of debt may be low, as £45,000 was taken as a loan on 30 March 1864 and a further £50,000 on 2 October 1864, to add to the £100,000 taken for two years on 25 August 1863. These loans total £195,000, above the sundries figure quoted and, in addition, £100,000 of loans from three banks had been agreed on 23 April 1862 and it was unlikely that these would have been repaid in full by 1864.
- (7): Nominal expenditure on purchase of the Perth and Dunkeld Railway of £96,000 was balanced by the creation of £76,000 6% Perth and Dunkeld preference stock to replace the £76,000 of Dunkeld ordinary stock and an additional £20,000 of debentures were issued to replace the £20,000 of Dunkeld debentures.
- (8): Account reporting dates were amended from February/August to January/July at the Ordinary General Meeting of 30 March 1864, although the Highland reverted to February/August accounting periods in 1865.

14(b): Revenue account of the Inverness and Perth Junction Railway, 1863-65

Half year reports	08.1863	01.1864	07.1864	01.1865
Amalgamations	Perth & Dunkeld		Perth & Dunkeld	Highland Railway
	<i>Act: 08.06.1863</i>		<i>From:28.02.1864</i>	<i>Act: 29.06.1865</i>
Account period	3 months	5 months	6 months	6 months
Passenger numbers	68967	106564	121521	162120
Total Revenue (£)	9236	30006	42524	52030
Available Balance (£)	2006	5270	10755	13223
Total Expenditure (£)	7229	24736	31768	38807
<i>Including:</i>				
Working charges by I&AJR	4012	13920	21084	23302
Rents for use of stations (2)		455	646	592
Rent of Perth & Dunkeld Rly	1140	1900	380	(3)
Tolls to SNER and SCR (2)	1339	3413	3486	4988
Interest on debentures; loans	400	4199	4922	5154
Bank interest		729		
Interest on overdrafts and bills				3060
Interest to P&DR	200			
Interest as % total revenue	7.6%	16.4%	11.5%	15.8%
Dividend payments				
Perth and Dunkeld stock			1900	2280
4 ½% preference dividend		371	1746	2347
Proposed ordinary dividend		4734	7000	8000
Ordinary dividend (half-year)	-	3%	3 ½%	4%
Source: Minutes and shareholders' reports of the Inverness and Perth Junction Railway, 1861-65 (NAS/BR/IPJ/1/1).				
(1): Shillings and pence have been rounded down; as a result some totals may not match precisely the sum of component items.				
(2): Tolls were paid to the Scottish North-Eastern and Scottish Central Railways for use of tracks from Stanley to reach Perth General Station.				
(3): Rent of the use of the Perth and Dunkeld Railway ceased following implementation of the Inverness and Perth and Perth and Dunkeld Railways Amalgamation Act, 26&27 Vic.cap.58, 1863, on 28 February 1864.				

14(c): Financial indicators for the Inverness and Perth Junction Railway, 1864-65

Half-yearly data (£)	01.1864	07.1864	01.1865
Capital raised	619349	818744	908045
Debenture loans	223000	243000	242700
Estimated hidden debt (1) (2)	183212	171480	171368
Estimated total debt	406212	414480	414068
Half year revenue	36007 (3)	42524	52030
Gross annual revenue		78531	94554
Ratio of debentures to capital raised	36.0%	29.7%	26.7%
Ratio of gross revenue to total debt	-	0.189	0.228 (3)
(1): The data for estimated hidden debt are represented by the 'amount due to sundries' held outside the main accounts in the general balance sheet and shown in table 14(a). See note (2) below.			
(2): Records of the company (BR/IPJ/1/1) indicate agreements made to take temporary loans, but are not clear on when such loans were either renewed or repaid. Minutes show that £100,000 of loans for two years were sought from the Commercial, National and Caledonian Banks on 23 April 1862 (p.34), but, given the financial difficulties of the company, were unlikely to have been repaid in full by 1864. On 25 August 1863, the board accepted two £50K loans from each of the Commercial and National Banks for two years (p.149). A £50,000 loan from the National Bank was agreed on 2 January 1864 (p.181), and an 'occasional overdraft' of £45,000 agreed with the Commercial Bank on 30 March 1864 (p.195). The level of hidden debt suggested by the sole budget line of 'sundries' published in the company's accounts may therefore underestimate temporary debt and account for the apparent improvement in debt gearing for January 1865, which was not reflected in the debt gearing of the Highland Railway from 1865 shown in table 11(c).			
(3): £30,006 was reported as gross revenue for the five months to January 1864: An imputed figure of £36,007 for a six month period is therefore included in the figure of gross annual revenue for 1864.			

Table 15: Accounts of the Inverness and Ross-shire Railway

15(a): Capital data for the Inverness and Ross-shire Railway 1862-65

(£)	08.1862	02.1863	08.1863	01.1864	07.1864	01.1865
Inverness and Ross-shire Railway						
Capital expenditure (in year)						
Construction	37804	20669	11975	11872		
Engineering	1350	300				
Land	5322	7267				
Inverness and Ross-shire stock held by the Inverness and Aberdeen Junction Railway	25000	25000	25000	25000	25000	
Ross-shire extension						
Preliminary expenses			1588			
Works, engineering			16360	41742	42078	32131
Land and compensation			1500			
Share capital raised						
Ross-shire stock (4)	129751	130804	131219	136492	136671	209764
Ross-shire extension stock (5)			16459	30552	42743	144454

Sources: Accounts of the Inverness and Aberdeen Junction Railway, 1859-65 (NAS/BR/IAJ/2-3) and the Register of Dividends, 1864-65, Inverness and Aberdeen Junction Railway (NAS/BR/IAJ/2/1).

(1): Shillings and pence have been rounded down; as a result some totals may not match precisely the sum of component items.

(2): Capital for the Ross-shire authorised in 1860 was £215,000 with £71,600 in borrowing powers. Capital for the Ross-shire extension authorised in 1862 was £160,000 with £53,300 in borrowing powers. **No capital accounts for the Inverness and Ross-shire Railway survive; such data that exist are contained in the accounts of the Inverness and Aberdeen Junction Railway.**

(3): The Ross-shire was amalgamated with the Inverness and Aberdeen Junction Railway on 30 June 1862, two weeks after the first section of the line opened to Dingwall on 11 June 1862 and nine months before the full line was opened to Invergordon on 25 March 1863. Under amalgamation, Ross-shire stock was guaranteed 3% in the first year, rising by ½% per year until the dividend matched Inverness and Aberdeen Junction dividend (25&26 Vic. cap.113, 1862, The Inverness and Aberdeen Junction Railway Act). In July 1864 and January 1865, 3½% was paid on Ross-shire stock.

(4): The figures of capital raised on the **Ross-shire** included unspecified sums held in security for bank advances. The surviving dividend book of the Inverness and Aberdeen Junction Railway, 1864-65, NAS/BR/IAJ/2/1, records that, for the half-year to **31 July 1864**, £1,020.11s.5d was paid as 3½% dividend on Ross-shire stock, which suggests that **£58,318** of share capital had been paid up from subscriptions. However, Inverness and Aberdeen Junction accounts show that **£136,671** of Ross-shire share capital had been issued. The balance of **£78,353** must therefore represent the amount of Ross-shire stock issued by the Inverness and Aberdeen Junction Railway as security for loans (36.4% of the Ross-shire company's authorised share capital and 57.3% of its issued share capital). On **31 January 1865**, the half-year dividend paid on Ross-shire stock was £1022.12s.7d, which implies paid up capital of **£58,436**, but Inverness and Aberdeen Junction accounts show that **£209,764** Ross-shire stock had been issued by that date and so **£151,328** must have been issued as security for loans (70% of the authorised capital and 72.1% of the issued capital). **Not all of this significant level of lending, however, can be attributed solely to the capital requirements of the Ross-shire company.** Following amalgamation, Ross-shire stock was used for security by the Inverness and Aberdeen Junction Railway to raise loans for the wider Inverness web: for example, the Inverness and Aberdeen Junction negotiated a £25,000 loan for its own requirements and £50,000 for the Inverness and Perth Junction Railway with the National Bank of Scotland on 2 January 1864, which was backed by Inverness and Ross-shire stock and Inverness and Perth Junction preference stock (recorded in minutes of the Inverness and Aberdeen Junction Railway, NAS/BR/IAJ/1/2, p.521).

(5): On **31 January 1865**, **Ross-shire extension** stock was paid a guaranteed dividend of 3%. The dividend book of the Inverness and Aberdeen Junction Railway (NAS/BR/IAJ/2/1) records that £445.14s.7d was paid as dividend for the 4 months since the Ross-shire extension line opened to Bonar Bridge on 1 October 1864, which suggests that **£44,573** of Ross-shire extension stock had been paid up. Inverness and Aberdeen Junction Railway accounts show, however, that **£144,454** of Ross-shire extension share capital had been issued and so **£99,881** of Ross-shire extension share capital must have been held as security for loans (62.4% of the authorised capital for the Ross-shire extension and 69.1% of the issued capital). Highland Railway chairman Matheson announced in October 1865 that the Ross-shire extension had cost £160,000 (*Railway Times*, 4 November 1865, p.1407, reporting the first shareholders' meeting of the Highland Railway held on 27 October 1865) and so it can be assumed that this large amount of borrowing was applied to construction of the Ross-shire extension line. The **£44,573** of share capital subscribed by January 1865 comprised just 27.9% of the authorised share capital for the Ross-shire extension, of which £30,000 was provided by the Duke of Sutherland (67.3%) and £2,500 by Alexander Matheson £2,500 (5.6%).

Table 16: Accounts of the Keith and Dufftown Railway

16(a): Capital account of the Keith and Dufftown Railway, 1859-65

CAPITAL (£)	31 August	1859	1860	1861	1862	1863	1864	1865
Ordinary shares (4) (8)		2380	2462	26172	32765	32765	32933	48678
Miscellaneous receipts				1038				1125
Preference shares (<i>authorised under the Strathspey Railway Act 1861</i>)					2610	5820	5850	15850
Debenture loans (7)				16000	16598	16600	16600	11397
Capital raised		2380	2462	43211	51974	55186	55384	77051
Balance		- 29	- 2048	- 9414	8565	- 28329	- 28682	- 6966
Capital expenditure: including		2409	4510	52626	60540	83515	84066	84018
Prelim and Parliament		869	2381	3693	4234			
Construction: Keith and Dufftown (3)		1306	0	36744	56997			
<i>Construction: Keith and Dufftown in year</i>						85	48	372
Construction: Strathspey (2)				6519	above			
Land and compensation		0	120	3818	5342			
<i>Land and compensation in year</i>						346	442	81
Stock held in the Strathspey (SR) (6)					2610	25000	25000	25000
Less: Interest paid to GNoSR)								-211
Expenditure to 31.08. of previous year		-	2409	4510	52626	57930	58515	59066
Expenditure in year on K&DR and SR (2)		2410	2101	48115	23647	585	550	172
Less amount spent on Strathspey since remitted to Keith and Dufftown					-18343			
General balance sheet								
Due to sundries (5)		3742	5623	1724	25136	44881	30262	6822
Due to company's bankers (credit as +)		- 35	+ 24	- 7497	+16099	- 2226	- 1330	- 2184
Interest on GNSR advances								2124
Charge to K&DR for use of extension							1200	1129

Source: Minutes and accounts of the Keith and Dufftown Railway, 1856-66 (NAS/BR/KDR/1/1).

(1): Shillings and pence have been rounded down; as a result some totals may not match precisely the sum of component items.

(2): In 1861, the capital costs of the Balvenie extension from Dufftown to Craigellachie were charged to Keith and Dufftown Railway accounts, but identified as expenditure for the proposed Strathspey Railway. The 1862 accounts do not distinguish clearly the difference between Keith and Dufftown and Strathspey expenditure as the Great North had used the Keith and Dufftown accounts for Strathspey expenditure before the Strathspey was authorised in May 1861.

(3): No capital expenditure is shown in the accounts for the year to 31 July 1860; the previous year's accounts show that £1,306 was spent: this was preliminary work done by contractors Mitchell and Ireland before the railway company lay dormant until the new company Act of 1860.

(4): The large rise in share receipts of £23,710 in 1861 includes £12,110 shares issued as security to banks for loans.

(5): The amount due to sundries on account contains the sums owed to the Great North for advances and payments made on behalf of the Keith and Dufftown Company.

(6): The £25,000 stock held in the Strathspey was arranged by the Great North, which had a majority on the board of the Keith and Dufftown Railway, and this authorised subscription remained a long-standing issue of contention between the Keith and Dufftown shareholders and the Great North until amalgamation.

(7): A minute of 28 May 1861 (NAS/BR/KDR/1/1, p.76) records that £16,000 of debentures were issued to the North of Scotland and Aberdeen Town and County Banks as security for advances but later released when the Great North guaranteed Keith and Dufftown debentures from 1862.

(8): The fall in the level of debentures in 1865 is offset by a rise in share capital as a result of the Great North deciding to exercise its powers under the 1857 and 1860 Keith and Dufftown Acts to take up the balance of £16,870 of shares (NAS/BR/KDR/1/1, 24 February 1865, p.146).

(9): Authorised capital for the Keith and Dufftown Railway was £50,000 plus £16,600 in borrowing powers for the line. By 1862, capital costs were 21.1% above estimate, and land costs comprised 8.8% of capital expenditure. The capital cost per mile by 1862 was £5,632. The costs of the Balvenie extension from Dufftown to Craigellachie to connect with the Morayshire and Strathspey Railways as part of the Strathspey Railway were assigned to the accounts of that company after its incorporation in May 1861.

16(b): Revenue account of the Keith and Dufftown Railway, 1859-65

REVENUE	(£)	08.1862	08.1863	08.1864	08.1865	08.1866
		<i>6 months</i>				
Total annual revenue (2)		1755	3187	3123	3205	2777
Balance		286	29	- 1383	- 270	- 298
Total annual expenditure including:		1469	3158	4506	3475	3075
Total working expenses		911	1943	2409	2391	2267
Including GNSR working charges		461	896	1163	1106	1072
Including GNSR interest at 5% on plant		100	248	267	233	235
Interest paid		534	1035	1858	811	579
Including:						
Interest on debentures		28	595	665	578	486
Interest to banks and on temporary loans		501	440	1194	233	92
Interest as a proportion of gross revenue (4)		36.2%	40.3%	68.0%	32.6%	29.3%
Source: Minutes and accounts of the Keith and Dufftown Railway, 1856-66 (NAS/BR/KDR/1/1).						
(1): Shillings and pence have been rounded down; as a result some totals may not match precisely the sum of component items.						
(2): The line opened on 26 February 1862 and so the 1862 revenue account was for 6 months only.						
(3): The toll that was payable to the Strathspey for the use of the Balvenie Extension was not charged to the Keith and Dufftown revenue account, but appears in the general balance sheet in table 16(a). It was shown in Strathspey accounts as £1,200 to 31 August 1864 and £1,129 to 31 August 1865.						
(4): Interest paid as a proportion of gross revenue includes the Great North interest for use of plant.						

16(c): Financial indicators for the Keith and Dufftown Railway, 1862-65

(£)	31 August	1862	1863	1864	1865	
Capital raised		51974	55186	55384	77051	
Debenture loans		16600	16600	16600	11397	
Sundry debt (from general balance sheet) (3)		25136	44881	30262	6822	
Due to bankers (from general balance sheet) (3)		16099 (credit)	2226	1330	2184	
Due on Great North advances					2124	
Estimated total debt (2)		25637	63707	48192	22527	
Gross annual revenue		<i>Open 6 months</i>		3187	3123	3205
Ratio of debentures to total capital raised		31.9%	30.1%	30.0%	14.8%	
Ratio of gross revenue to total debt		n/a	0.050	0.065	0.142 (5)	
(1): Not all interest was paid at the due date and so estimated debt cannot be derived from data in the revenue account of interest paid.						
(2): Estimated debt is derived from the data for debentures, sundries, bank balances, and advances from the Great North shown in the capital account and the general balance sheet of the company.						
(3): The accounts do not detail the level of bank loans, but the company took £12,110 in loans from the Aberdeen Town and County and North of Scotland Banks on 12 February 1861 (NAS/BR/KDR/1/1, p.67), for which 1,211 shares were issued guaranteed by directors, and additionally £16,600 of debentures were issued as security on 28 May 1861 (NAS/BR/KDR/1/1, p.76). Such loans must be assumed within the amounts shown in the general balance sheet for sundries and in the capital account for debentures. The sums due to bankers on the general balance sheet 1863-65 comprise arrears of interest.						
(4): The temporary advances made by the Great North were not identified separately in the accounts and must be assumed to be included in the amount due to sundries. Such advances represented further debt on the company; for example, the auditor reported on 18 February 1865 that the Great North had advanced £12,894 plus interest by 31 August 1862 (NAS/BR/KDR/1/1, 18 February 1865, p.151-2). Great North policy was that interest due and unpaid was built in a suspense account, but only one such specific entry was made in Keith and Dufftown accounts, which is shown in the 1865 accounts.						
(5): The improvement in the 1865 ratio of debenture loans to capital raised was caused by the Great North taking up £16,870 of share capital to replace advances and other debt of the Keith and Dufftown, thereby releasing some debentures held as security (Minutes of the adjourned Ordinary General Meeting of the Keith and Dufftown Railway, 28 February 1865, pp.147-51; <i>Railway Times</i> , 11 March 1865, pp.302-307). The auditor's report in 1865 indicated that £13,320 had been received from debentures in 1864 and not the £16,600 shown in the accounts (NAS/BR/KDR/1/1, 18 February 1865, p.151-2 and page 19 of printed report).						

Table 17: Accounts of the Morayshire Railway

17(a): Authorised capital of the Morayshire Railway, September 1864

(£)	shares	loans	total
9 & 10 Vic. cap.178, 1846, but reduced by 1851 warrant (1)	29700	9900	39600
19 & 20 Vic. cap.86, 1856	25000	8333	33333
23 & 24 Vic. cap.116, 1860	40000	13300	53300
24 Vic. cap 30, 1861	20000	6600	26600
26 & 27 Vic cap 210, 1863	25000	8300	33300
Total	139700	46433	186133

Source: Minutes of the Morayshire Railway, 1846-67 (NAS/BR/MOR/1/1-3).

(1): Capital under 9&10 Vic. cap.178, 1846 was £75,000 with borrowing powers of £21,500 for a railway from Lossiemouth to Elgin, Rothes and Craigellachie, but reduced in 1851 to the Lossiemouth-Elgin section.

17(b): Capital account of the Morayshire Railway, 1852-1860

CAPITAL (£) 30 September	1852	1853	1854	1855	1856	1857	1858	1859	1860
Capital raised	39360	39676	40945	40162	40329	42273	57973	68735	71974
Balance	7673	3858	- 670	- 2626	- 2496	- 1768	- 198	- 1576	6466
Capital spent	31687	35818	41615	42788	42826	44041	58171	70330	78441

Sources: Minutes of the Morayshire Railway, 1846-61 (NAS/BR/MOR/1/1-2) and Bradshaw's *Railway Almanack*, 1854-61.

(2): Shillings and pence have been rounded down; as a result some totals may not match precisely the sum of component items. Company records do not provide data for 1854-61; the 1854-61 data above is derived from Bradshaw's *Railway Almanack*.

(3): In 1854, when the Morayshire operated the 5½ mile line between Elgin and Lossiemouth, capital costs per mile were £7,566.

(4): Authorised capital of the line before the 1860 Act for the Glen of Rothes extension to Elgin was £54,700 plus £18,233 in borrowing powers. Capital expenditure by 1860 was 43.4% above estimate and the capital cost per mile was £8,716 for the Lossiemouth-Elgin and Orton-Rothes lines of 9 miles. The estimated cost for the revised 9 mile line was £6,078 per mile.

(continued)

17(b): Capital account of the Morayshire Railway, 1861-1874

CAPITAL (£)	30 September	1861	1862	1863	1864	1865	1866	1867
Ordinary shares			46620	57104	57774	57874	57878	57887
Preference stock			39670	55000	55340	55340	55340	55340
Debentures			31100	40033	37133	39070	37960	38130
Forfeited deposits			576	576	576	576	576	576
Received on Junction railway (5)			10457					
Total capital raised		96581	128424	152714	150824	152862	151755	151934
Balance		- 20952	- 17238	- 3985	- 10622	- 9734	- 16113	- 15934
Total Capital expenditure		117533	145662	156699	161446	162596	167868	167868
Capital spent in previous year			116134	138320				
Less stock transferred to Great North of Scotland Railway				10477				
Capital spent in year			22186	9739				
Capital spent on Junction railway			7342	19716				
Sources: Minutes of the Morayshire Railway, 1861-81 (NAS/BR/MOR/1/3-4) and <i>Railway Times</i> , <i>Herapath's Railway Journal</i> and <i>Bradshaw's Railway Almanack</i> .								
(5): The Junction Railway was the short extension over the Spey to meet the Strathspey Railway at Craigellachie for which capital powers not exceeding £20,000 were obtained under 24 Vic. cap.30, 1861, The Morayshire Railway Act. (6): Company records provide little data other than totals for capital receipts and expenditure for 1862-67; further data has been compiled from volumes of <i>Railway Times</i> , <i>Herapath's Railway Journal</i> and <i>Bradshaw's Railway Almanack</i> .								

CAPITAL (£)	30 September	1868	1869	1870	1871	1872	1873	1874	1875
Capital raised									
Ordinary shares		52887	52887	57887					
Preference shares Account No.1		34820	34820						
Preference shares Account No.2		12620	12620						
Guaranteed shares		12900	12900						
1856 preference shares				13640					
1860 preference shares				31360					
1861 preference shares				10000					
1863 preference shares				340					
Total share capital		113227	113227	113227	113227	113227	113227	113227	113227
Loans (8)		38130	38130	38130	38130	38130	38130	37660	38003
Total capital raised		151357	151357	151357	151357	151357	151357	150887	151230
Capital spent to end of previous year		167868							
Capital spent in year		6191							
Total capital expenditure		174060	174060	174060	171899	171899	171899	171899	172014
Capital balance		- 22702	- 22702	- 22702	- 20541	- 20541	- 20541	-21011	-20784
<i>Balanced by:</i> (7)									
Floating debt (9)		16274	16274						
Debt on contracts and works		6428	6428						
(7): The 1868 and 1869 accounts are curiously presented in company minutes with floating debt and other debt included as capital receipts so that the capital balance appears as zero. The table above has reconfigured the data in a more conventional way to correspond with the 1861-67 and 1870-75 format of Morayshire accounts. (8): Loans for 1870-73 are shown in the accounts as £38,120, £10 less than previously, but the published total of share capital raised and the previous loan figures for 1868 and 1869 suggest that these figures may represent a typographical error in the printed report and so £38,130 has been used above to correspond with the published data for capital raised and the capital balance. (9): The £16,274 floating debt in 1868 included £12,211 at the Commercial Bank and a personal loan from chairman James Grant of £2,552. Furthermore, the interest paid from the revenue account (table 17(c) below) suggests the level of debt was slightly higher than the debt recorded in the capital account. (10): No data on capital expenditure is provided in the company's minute book from September 1869.									

17(c): Revenue account of the Morayshire Railway, 1853-74

REVENUE (£)	09.1853	09.1854	09.1855	09.1856	09.1857	09.1858	09.1859
Total annual revenue	3485	n/a	2529	2913	3342	n/a	6003
Balance	1716	750	396	393	524	n/a	2546
Total annual expenditure	1769	n/a	n/a	2520	2818	n/a	3457
Net Balance	231	133	- 98	- 100	30	n/a	n/a
Amount paid on dividend	1485		494	494	494		
Ordinary dividend (3)	5%	2 ½%	2%	2%	2%	2%	4%
Sources: Minutes of the Morayshire Railway, 1846-81 (NAS/BR/MOR/1/1-4) and <i>Railway Times</i> , <i>Herapath's Railway Journal</i> and Bradshaw's <i>Railway Almanack</i> .							
(1): Shillings and pence have been rounded down; as a result some totals may not match precisely the sum of component items.							
(2): Data in the company minute books is incomplete; some data is derived from Bradshaw's <i>Railway Almanack</i> , <i>Railway Times</i> and <i>Herapath's Railway Journal</i> .							
(3): Dividends paid in 1855 and 1856 were paid based on anticipated revenue from the following year's traffic.							
(4): The rise in revenue in 1859 was the result of the opening of the line to Craigellachie on 23 December 1858							

REVENUE (£)	09.1862	09.1863	09.1864	09.1865	09.1866	09.1867
Total annual revenue	8166	8595	6486	7602	8137	8225
Balance	1117	32	1100	1670	2076	1980
Total annual expenditure	7049	8562	5386	5931	6061	6245
<i>Including:</i>						
Working expenses	3961	3558	2872	3395	3628	3558
Total Interest	2306	4446				
Interest on debentures			1664	1583	1575	1740
Additional liabilities, including:			2278	2284	3014	2251
Interest on GNoSR advances			960	1002	1236	502
Bank interest			742	711	726	570
Interest due to contractor and other advances made to MR			576	571	620	668
<i>(total of floating debt interest)</i>			2278	2284	2582	1740
Overall balance			- 1178	- 614	- 937	- 270
% of gross revenue in interest			60.8	50.9	51.1	42.3
Ordinary dividend	2 ½%	0	0	0	0	0
(5): Accounts show an operational balance from 1864 but from which additional liabilities were deducted, including interest on floating debt, leaving the revenue account balance in deficit.						

REVENUE (£)	09.1868	09.1869	09.1870	09.1871	09.1872	09.1873	09.1874
Total annual revenue	8085	8010	8327	8567	8961	8982	9262
Working expenses	4379	4376	4641	4701	4818	5048	4934
Net revenue, from which:	3705	3633	3686	3866	4143	3933	4328
Debenture interest	1796	1870	1868	1832	1826	1808	1821
Interest on guaranteed and floating debt	1694	1749	1738	1857	2074	2067	2051
Surplus (including balances brought forward)	214	13	93	269	511	53	509
Contribution to repay debt	-	-	-	-	-	-	441
Net surplus	214	13	93	269	511	53	68
% of gross revenue in interest	43.2	45.2	43.3	43.1	43.5	43.1	41.8
Ordinary dividend	0	0	0	0	0	0	0

17(d): Financial Indicators for the Morayshire Railway, 1862-74

(£)	30 September	1862	1863	1864	1865	1866	1867
Capital raised		128424	152714	150824	152862	151755	151934
Debenture loans	(3)	31100	40033	37113	39070	37960	38130
Estimated floating debt		(2)	(2)	45560	45680	51640	34800
Estimated total debt	(1)	46120	88920	82673	84750	89600	72930
Gross annual revenue		8166	8595	6486	7602	8137	8225
Ratio of debentures to total capital raised		24.2%	26.2%	24.6%	25.6%	25.0%	25.1%
Ratio of gross revenue to total debt		0.177	0.097	0.078	0.090	0.091	0.113
<p>(1): Estimated debt is calculated from a notional 5% interest rate on total gross interest paid, which was the rate charged by the Great North for plant use.</p> <p>(2): For 1862 and 1863, the accounts do not identify the component items of interest paid. Gross interest at a notional 5% interest produces estimated total debt of £46,120 for 1862 and £88,920 for 1863. From 1864, the accounts separate the interest paid on debentures and floating debt.</p> <p>(3): Debenture data is not available from company accounts prior to 1862.</p>							

(£)	30 September	1868	1869	1870	1871	1872	1873	1874
Capital raised		151357	151357	151357	151357	151357	151357	150887
Debenture loans	(3)	38130	38130	38130	38130	38130	38130	37660
Estimated floating debt		33880	34980	34760	37140	41480	41340	41020
Estimated total debt	(1)	72010	73110	72890	75270	79610	79470	78680
Gross annual revenue		8085	8010	8327	8567	8961	8982	9262
Ratio of debentures to total capital raised		25.2%	25.2%	25.2%	25.2%	25.2%	25.2%	25.0%
Ratio of gross revenue to total debt		0.112	0.110	0.114	0.114	0.113	0.113	0.118

Table 18: Accounts of the Perth and Dunkeld Railway

18(a): Capital account of the Perth and Dunkeld Railway, 1855-63

CAPITAL	(£)	07.1855	07.1856	07.1857	07.1858	07.1859
Ordinary shares		14597	66778	60402	64012	64842
Debenture loans				13600	19700	20000
Miscellaneous				353		
Total capital raised		14597	66778	74355	83712	84842
Balance		- 13747	- 3571	+3381	+7780	- 3428
Total capital spent		28345	63207	70974	75932	88270
<i>Including:</i>						
Preliminary & Parliamentary		1018	1653	1653	1653	1653
Construction works		26096	52968	57294	66514	66987
Land settlements		838	1099	2508	4545	15786
Stations		0	4415	5908		
Commission/stamps on loans		0	37	85		
Interest paid to bank					1230	
Less interest on arrears of calls					729	
Not shown in published accounts						
Temporary loan (3)						4000
Source: Minutes and accounts of the Perth and Dunkeld Railway, 1853-64 (NAS/BR/PDR/1/1-2).						
(1): Shillings and pence have been rounded down; as a result some totals may not match precisely the sum of component items.						
(2): Authorised capital of the company was £80,000 with £20,000 borrowing powers (17&18 Vic.cap.148, 1854, The Perth and Dunkeld Railway Act). The estimated capital cost per mile for the 8½ mile branch was £9,697. The line opened in 1856: by 1859, when land settlements were well advanced, capital cost per mile was £10,699 and capital expenditure 10.3% above estimate. Land costs in 1859 formed 17.9% of capital expenditure, but after long legal arguments, land costs rose to 20.3% of capital expenditure by the time the line was leased in August 1863 by the Inverness and Perth Junction Railway. The Perth and Dunkeld was amalgamated with the Inverness and Perth Junction Railway from 28 February 1864.						
(3): A temporary loan of £4,000 was agreed on 12 November 1858 from the Central Bank of Scotland, backed by 250 shares and director guarantees. The loan was repaid in a minute of 7 May 1862 (NAS/BR/PDR/1/2). A separate 'assignment' with the Central Bank for £3,000 was made on 14 March 1860 to settle claims with the contractor, which took the company above its authorised loan limit (Chairman's notes, Perth and Dunkeld Railway, 14 March 1860, minute 4, NAS/BR/PDR/1/5). This £3,000 loan was not shown in the main capital account.						

(£)	07.1860	07.1861	07.1862	07.1863
From calls and deposits	65777	66175	72900	76000
Debenture loans	20000	20000	20000	20000
Central Bank loan	3000	3000	3000	
Total capital received	(4) 88777	89175	95900	96000
Balance of account	- 3285	- 4754	+ 508	+ 91
Total capital spent	92062	93929	95392	95909
<i>Including:</i>				
Preliminary & Parliamentary expenses	1653	1653	1653	1653
Construction works	70525	70720	70729	70845
Land settlements	16032	17591	19047	19445
Interest paid	500	500	500	500
Not shown in published accounts				
Temporary loan	4000	4000	repaid	
(4): The £96,000 capital of the Perth and Dunkeld Railway was replaced on amalgamation with the Inverness and Perth Junction Railway by £76,000 of 6% Perth and Dunkeld preference stock to replace Dunkeld ordinary stock and £20,000 of Inverness and Perth Junction debentures to replace the £20,000 of Dunkeld debentures.				

18(b): Revenue account of the Perth and Dunkeld Railway, 1858-63

REVENUE	(£)	07.1858	07.1859	07.1860	07.1861	07.1862	07.1863
½ year revenue to 31 January		n/a	3325	3291	3582	3987	4709
½ year revenue to 31 July		3099	3119	3355	3392	4358	3787
Total annual revenue			6444	6646	6974	8345	8496
Balance			1896	2005	1948	2754	3456
Total annual expenditure			4548	4641	5026	5591	5040
½ year expenditure to 31 January			2274	2322	2519	2762	3043
½ year expenditure to 31 July		2067	2274	2318	2507	2829	1997
Including:			1498	1585	1732	1925	2250
Working expenses:		1354	1434	1527	1609	2042	1271
50% of receipts to the SNER							
Line maintenance		133	133	145	145	140	103
Debenture interest		301	450	400	400	400	400
Temporary loan interest				2	75	75	0
Ordinary dividend to 31 January		3%	2%	2%	2½%	3%	4%
Ordinary dividend to 31 July		2%	2%	2½%	2%	4%	4½%
General balance sheet:							
Amount owing to bankers		8406	2550	2295	4166	1876 (cr)	1835 (cr)
Source: Minutes and accounts of the Perth and Dunkeld Railway, 1853-64 (NAS/BR/PDR/1/1-2).							
(1): Shillings and pence have been rounded down; as a result some totals may not match precisely the sum of component items.							
(2): Data for 1857 and the first half year of 1858 are incomplete in the company records.							
(3): Dividend of 4% was declared for the half years to 31 January 1857 and 31 July 1857.							

18(c): Financial indicators for the Perth and Dunkeld Railway, 1859-63

(£)	31 July	1859	1860	1861	1862	1863
Capital raised		84842	88777	89175	95900	96000
Debenture loans		20000	20000	20000	20000	20000
Central Bank loan			3000	3000	3000	
Temporary loans (not shown in main accounts)		4000	4000	4000		
Total debt		24000	27000	27000	23000	20000
Gross annual revenue		6444	6646	6974	8345	8496
Ratio of debentures to capital raised		23.6%	22.5%	22.4%	20.9%	20.8%
Ratio of gross revenue to total debt		0.269	0.246	0.258	0.363	0.425

Table 19: Accounts of the Scottish Central Railway

19(a): Capital account of the Scottish Central Railway, 1845-51

CAPITAL	(£)	06.1845	07.1846	01.1847	07.1847	01.1848
Capital raised		72115	431257	573127	906463	1096117
Balance		54995	155894	43146	161591	104785
Capital spent		17120	275363	529981	744871	991331
<i>Including:</i>						
Land			42220	57753	81934	92332
Rails and chairs			38110	92356	104723	130067
Construction			151000	312000	445000	574000
Tay Ferries				11010	11010	11010

CAPITAL	(£)	07.1848	07.1849	01.1850	07.1850	07.1851
Capital raised		1268242	1400363	1446848	(2)	1470561
Balance		+ 22746	- 48606	- 37100		- 58426
Capital spent		1245495	1448969	1483949		1528987
<i>Including:</i>						
Land	(5) (6) (7)	104360	131030	134528		166211
Rails and chairs		133012	133259	133259		133259
Construction		642900	714245	714738		714847
Tay Ferries		37926	39060	39060		39060

Sources: Reports and accounts of the Scottish Central Railway, 1841-50 (NAS/BR/RAC(S)/1/35) and minutes of directors and committees of the Scottish Central Railway, 1848-52 (NAS/BR/SCC/1/2).

(1): Shillings and pence have been rounded down; as a result some totals may not match precisely the sum of component items.

(2): Surviving company records are not complete: the minute books of the Scottish Central give no capital data for the second half year of 1850 and omit any capital and revenue data thereafter until 1853.

(3): The mileage of the Scottish Central Railway is given as 47 miles by PF Marshall, *The Scottish Central Railway* (Whitney, 1998), p.27. This figure, used within the analysis below, is slightly greater than the authorised mileage of 45, given by HG Lewin, *The Railway Mania and its Aftermath, 1845-52*, pp.388-391, but will reflect some small amendments to its system. Bradshaw's *Railway Almanack*, 1849, p.51, gives a figure of 45 miles (table 16, chapter 3).

(4): Authorised capital in 1845 was £850,000 with £283,333 in borrowing powers. The estimated cost per mile was £18,085. Capital powers were increased in 1851 by £250,000 but increased borrowing powers were limited to an additional £16,000.

(5): By July 1849, one year after opening, capital expenditure was 70.5% above estimate. The capital cost per mile was £30,829; the construction cost per mile (excluding track) was £15,196 and £17,985 including land. Land costs comprised 9.0% of capital expenditure

(6): By January 1850, the capital cost per mile reached £31,573 with land costs comprising 9.1% of capital expenditure. Capital expenditure was 74.6% above estimate. Data from the committee of inquiry in 1850 suggested a capital cost per mile of £31,803 based on a total capital expenditure of £1,494,745 (NAS/BR/SCC/1/2).

(7): The Investigation Committee of the Shareholders in 1850 (19 April 1850, NAS/BR/RAC(S)/1/35 and NAS/BR/SCC/1/2, page 4 of printed report) reported estimated land costs and claims to total £236,232 within a capital expenditure of £1,494,745 (15.8%). However, data published in the accounts for expenditure on land by January 1850 represented 9.1% of capital expenditure and 10.9% by July 1851, suggesting that some land costs identified by the committee of inquiry may have remained outstanding.

(8): The capital account for July 1851 suggests the capital cost had risen to £32,532 per mile, 79.9% above estimate.

19(b): Revenue account of the Scottish Central Railway, 1849-51

REVENUE	(£)	07.1849	01.1850	07.1850	01.1851
Total revenue		50348	45006	35675	42492
<i>including</i>					
Passengers, carriages		15297	18584	16105	21103
Goods		11009	13441	13085	17059
Mails		4718	1563	1427	<i>included above</i>
Total Expenditure	(1)	26352	26165	33552	43324
<i>including</i>					
Working expenses		18664	16980	18182	18484
Interest		7386	8685	12405	11808
Balance	(3)	23995	18840	2122	- 831
<i>Ordinary dividend</i>		<i>7% guaranteed</i>	<i>0%</i>	<i>0%</i>	<i>1%</i>
Sources: Accounts of the Scottish Central Railway 1841-50 (NAS/BR/RAC(S)/1/35) and minutes of directors and committees of the Scottish Central Railway, 1848-52 (NAS/BR/SCC/1/2).					
(1): Expenditure in 1851 rose sharply as a result of special payments of £14,000 due to the Edinburgh and Glasgow and Edinburgh, Perth and Dundee Railways for outstanding law accounts.					
(2): Shillings and pence rounded down: totals may not match precisely the sum of component items					
(3): Company data is incomplete between 1851 and 1853.					
(4): The company began operating its own and Scottish Midland Junction services again from December 1849, and a tri-partite working agreement with the Scottish Midland Junction and Aberdeen Railways commenced in February 1851.					
(5): Annual ordinary dividend rose to 3% by July 1852. Thereafter, 4% was paid in 1853 and 1854, 5% in 1855 and 1856 and 5½ % in 1857 and 1858.					

19(c): Financial indicators for the Scottish Central Railway, 1853-1854

Data for half years (3)	(£)	01.1853	07.1853	01.1854
Half yearly gross revenue		54510	51955	58507
Gross annual revenue		-	106465	110462
Capital received		1646915	1656831	1682488
Capital spent		1667905	1678627	1700773
Capital balance		- 10495	- 21796	- 18285
Debenture loans	(2)	418613	418613	417680
Credit at bank		1081	12544	360
Ratio of loans to capital raised		25.4%	25.3%	24.8%
Ratio of gross revenue to total debt		-	0.254	0.264
Source: Minutes of directors and committees of the Scottish Central Railway, 1852-57 (NAS/BR/SCC/1/4).				
(1): Shillings and pence have been rounded down; as a result some totals may not match precisely the sum of component items.				
(2): The accounts show that all interest paid was on debenture loans and preference stock. No temporary debt was taken in 1853-54.				
(3): Company records in the National Archives of Scotland are incomplete between 1851 and 1853.				

Table 20: Accounts of the Scottish Midland Junction Railway

20(a): Capital account of the Scottish Midland Junction Railway, 1849-56

CAPITAL	(£)	01.1849	01.1850	01.1851	07.1851	01.1852	07.1852
Miscellaneous receipts		19738	2283	3268	-	-	-
Shares		560997	561072	561072	577848	596124	594904
Loans		34373	37373	50273	77473	71133	66483
Capital received		615108	600728	614613	655321	667257	661387
Balance		36354	11740	3319	12939	6553	9158
Capital spent		578754	588988	611294	642382	660704	652229
<i>Including:</i>							
Purchase: Newtyle & Coupar Angus Railway				13965	13965	13965	
Purchase: Newtyle & Glamis Railway				20563	20563	20563	
Land and compensation				69915	76054	77578	
Construction works under the contract				224050	224050	224050	
Additional construction works				29093	29211	30842	
Rails				87784	87784	87784	
Chairs				12514	12514	12514	
Plant					30389	31485	
Stations				17126	17226	17268	
Dunkeld branch expenditure (backed by a debenture)				16091	16096	16096	

CAPITAL	(£)	01.1853	07.1853	01.1854	07.1854	01.1855	07.1855	01.1856
Miscellaneous receipts		-	7937	8518	9906	10228	10668	10974
Shares		595154	587700	587700	587700	587700	585632	585775
Loans		66483	69483	88983	113623	129379	136628	149102
Capital received		661637	665120	685201	711229	727307	732928	745851
Balance		8080	4294	8125	10368	7130	3407	7980
Capital spent		653557	660826	677076	700861	720177	729521	737870

Sources: Accounts of the Scottish Midland Junction Railway, 1846-56 (NAS/BR/RAC(S)/1/37) and minutes of shareholders, directors and joint committees, 1850-56 (NAS/BR/SCM/1/1 and 1/3).

(1): Shillings and pence have been rounded down; as a result some totals may not match precisely the sum of component items.

(2): Authorised capital in 1846 comprised £600,000 in shares and £200,000 in borrowing powers, provided to build its original proposed line under 8&9 Vic. cap.170, 1845 and an enlarged system under 9&10 Vic. cap.75, 1846. The company's capital powers were relatively generous, given that its Blairgowrie and Kirriemuir branches proposed in 1846 were not finally authorised under new legislation until 1853 and its projected Dunkeld branch was constructed in 1854-56 by the independent Perth and Dunkeld Railway.

(3): Had the original capital powers (granted under 8&9, Vic. cap.170, 1845) for share capital of £300,000 and borrowing powers of £100,000 not been amended in 1846, capital expenditure by July 1851 would have been 114.1% above the original estimate.

(4): The authorised mileage of the Scottish Midland Junction Railway was 30¼ miles, as quoted by HG Lewin, *The Railway Mania and its Aftermath*, 1845-52, pp.57-58.

(5): With authorised capital of £600,000 from 1846, capital expenditure by July 1851 was just 7.1% above estimate, which included the purchase costs of plant required after the collapse of the working agreement with the Caledonian Railway. The capital cost per mile in July 1851 was £20,890. Land costs comprised 11.8% of capital expenditure, but these costs do not include the land element of the purchase costs of the two small independent Newtyle lines to Coupar Angus and Glamis.

(6): By January 1852, capital costs were £21,486 per mile, 10.1% above estimate, with land costs comprising 11.7% of capital expenditure.

(7): Capital expenditure by amalgamation in 1856 was 23.0% above the revised 1846 estimate, but still within the authorised limits of share and loan capital set by the state in 1846.

20(b): Revenue account of the Scottish Midland Junction Railway 1849-56

REVENUE (£)	01.1851	07.1851	01.1852	07.1852	01.1853	07.1853
Half year revenue	12821	14190	19901	18191	20066	21323
Total annual revenue	-	27011	34091	38092	38257	41389
Balance	- 815	2518	5915	6799	8714	9543
Expenditure	13636	11672	13986	11392	11352	11780
Including:						
Working expenses	5249	3600	3841	4902	4069	4685
Line maintenance	2056	2099	2080	2070	2060	2051
Interest	1810	1042	1351	1179	995	1031
Ordinary dividend	0	0	1½%	1¾%	2¼%	2¼%

REVENUE (£)	01.1854	07.1854	01.1855	07.1855	01.1856
Half year revenue	24032	24320	27582	29415	30586
Total annual revenue	45355	48352	51902	56997	60001
Balance	11442	11959	13036	16232	15397
Expenditure	12590	12361	14546	13183	15189
Including:					
Working expenses	4116	4166	6129	574	6901
Line maintenance	2041	2031	2061	2443	1487
Interest	1097	981	1193	2163	2567
Ordinary dividend	2½%	2¾%	3%	3½%	3½%
Sources: Accounts of the Scottish Midland Junction Railway, 1846-56 (NAS/BR/RAC(S)/1/37) and minutes of shareholders, directors and joint committees, 1850-56 (NAS/BR/SCM/1/1 and 1/3).					
(1): Shillings and pence have been rounded down; as a result some totals may not match precisely the sum of component items.					

20(c): Financial indicators for the Scottish Midland Junction Railway, 1851-56

Data for half years (£)	01.51	07.51	01.52	07.52	01.53	07.53
Capital raised	614613	655321	667257	661387	661637	665120
Debenture loans	50273	77473	71133	66483	66483	69483
Temporary debt	0	0	0	0	0	0
Estimated total debt	50273	77473	71133	66483	66483	69483
Gross annual revenue	-	27011	34091	38092	38257	41389
Ratio of debentures to total capital raised	8.2%	11.8%	10.7%	10.1%	10.0%	10.4%
Ratio of gross revenue to total debt	-	0.349	0.478	0.573	0.575	0.596

Data for half years (£)	01.54	07.54	01.55	07.55	01.56
Capital raised	685201	711229	727307	732928	745851
Debenture loans	88983	113623	129379	136628	149102
Temporary debt	0	0	0	0	0
Estimated total debt	88983	113623	129379	136628	149102
Gross annual revenue	45355	48352	51902	56997	60001
Ratio of debentures to total capital raised	13.0%	16.0%	17.8%	18.6%	20.0%
Ratio of gross revenue to total debt	0.510	0.426	0.401	0.417	0.402
(1): As a result of its amended capital powers in 1846, the company completed its line close to estimate. It did not need to exercise its full borrowing powers and the accounts do not show any evidence of temporary hidden debt. As a result, the company's debt gearing was consistently strong.					

Table 21: Accounts of the Scottish North-Eastern Railway, 1856-62

21(a): Summary data and financial indicators for the Scottish North-Eastern Railway, 1856-62.

REVENUE (£)	07.1856	07.1857	07.1858	07.1859	07.1860	07.1861	07.1862
Half year revenue - to 31 January (4)	91601	89883	93738	98157	104307	100253	109681
Half year revenue - to 31 July	86334	89788	89158	91946	96642	97205	104461
Total annual revenue	177935	179671	182896	190103	200949	197458	214142
Balance	64345	91907	91683	97586	108558	106240	119313
Half year expenditure - to 31 January (5)	69453	43568	45337	47474	47122	43438	48425
Half year expenditure - to 31 July	44137	44196	45876	45043	45269	47780	46404
Total annual expenditure	113590	87764	91213	92517	92391	91218	94829
Net revenue paid to:	Half year						
70% to Aberdeen	29537	64334	64178	68310	75989	74367	83519
30% to Scottish Midland	12659	27571	27504	29275	32566	31871	35794
Ordinary dividends (7)	<i>The Aberdeen and Scottish Midland Junction Railways were amalgamated as the Scottish North-Eastern Railway in July 1856, but with separate provision for dividends.</i>						
Aberdeen Railway							
- to 31 January	-	0	0	0	0	½ %	1½ %
- to 31 July	0	0	0	0	0	½ %	1¼ %
Scottish Midland Railway							
- to 31 January	3½ %	3¼ %	4 %	4 %	4 %	4¼ %	5¼ %
- to 31 July	3½ %	3¼ %	4 %	4 %	4¼ %	4¼ %	5 %
CAPITAL (£)	07.1856	07.1857	07.1858	07.1859	07.1860	07.1861	07.1862
Total loan capital (6)	648755	699011	728835	742836	742645	741083	742909
Total capital raised (6)	2558449	2608745	2702285	2722100	2721909	2732797	2735823
Capital account balance	- 78578	- 45317	- 30515	- 18736	- 73421	- 74039	- 97973
Ratio of loan capital to total capital raised	25.4%	26.8%	27.0%	27.3%	27.3%	27.1%	27.2%
Ratio of gross annual revenue to total debt (2)							
Aberdeen Railway To 31 January 1856	0.088						
Scottish Midland Junction To 31 January 1856	0.402						
Scottish North-Eastern	0.274	0.257	0.251	0.256	0.271	0.266	0.288

Source: Accounts of the Scottish North-Eastern Railway, 1856-66 (NAS/BR/RAC(S)/1/36).

(1): Shillings and pence have been rounded down; as a result some totals may not match precisely the sum of component items.

(2): Debt gearing for the Aberdeen and Scottish Midland Junction Railways in January 1856 is drawn from Appendix, tables 1(c) and 20(c).

(3): The Scottish North-Eastern Railway was formed in July 1856 from amalgamation of the Aberdeen Railway and Scottish Midland Junction Railway. In 1863, the Scottish North-Eastern amalgamated with the Dundee and Arbroath Railway.

(4): The figure of gross revenue to 31 January 1856 is drawn from the data of gross revenue for the Aberdeen and Scottish Midland Junction Railways prior to amalgamation, given in tables 1(c) and 20(b).

(5): Data for annual expenditure to 31 January 1856 (£69,453) combines half yearly expenditure data for the Aberdeen Railway (£54,264) and the Scottish Midland Junction Railway (£15,189)

(6): Earlier debt of the two constituent companies was confined to the accounts of those companies by the act of incorporation and serviced from their respective revenue shares (70% to the Aberdeen Railway and 30% to the Scottish Midland Junction Railway). Thus the Scottish North-Eastern debt on formation comprised only its loan capital. Without the burden of past debt, the Scottish North-Eastern was able to operate using authorised loan capital only and its debt gearing was further strengthened by rising revenue.

(7): The effect of confining past debt burdens to the revenue share of the constituent companies is illustrated by the dividends paid: it was 1861 before the Aberdeen Railway, formed in 1845, paid its first dividend on ordinary stock.

Table 22: Accounts of the Strathspey Railway

22(a): Capital account of the Strathspey Railway, 1862-65

CAPITAL	(£)	08.1862	08.1863	08.1864	08.1865
Ordinary shares	(4)	27205	77523	77625	140200
Amount in advance of calls	(2)	90000	62550	62555	0
Debenture loans			89999	89992	89992
Capital raised	(5)	117205	230072	230172	230193
Balance		1217	- 22339	- 59815	- 68406
Capital expenditure		115988	252411	289988	298599
<i>Including:</i>					
Prelim and Parliament		6153	6153	6153	6476
Construction		98393	121731	155081	60428
Land and compensation		194	6057	6451	8641
Land consignments		4850	38		
Interest account		3379	5399	144	246
Interest on calls in advance			1560	3125	0
Expenditure to 31 August of the previous year		-	115988	252411	289988
Expenditure in year		115988	136423	37577	8610
General balance sheet					
Due on sundries	(3)	51059	41779	60000	68791
Due to banks	(cr) 1217		416	5220	
Amount due to contractors, others and bills					13431
Source: Minutes of the Strathspey Railway, 1861-66 (NAS/BR/STY/1/1).					
(1): Shillings and pence have been rounded down; as a result some totals may not match precisely the sum of component items.					
(2): The Great North provided a cash account to the Strathspey in return for its authorised £100,000 shares.					
(3): The amounts due on sundries largely comprised advances made by Great North to the Strathspey.					
(4): By 1865, the Great North accounts show that it had invested £173,841 in the Strathspey of which £100,000 was in ordinary shares, shown in table 10(c).					
(5): At an extra-ordinary general meeting of the Great North on 23 June 1866 (NAS/BR/GNS/1/6, pp.39-40), the Great North reported it had invested £192,700 in the Strathspey and other parties had invested only £12,360, of which £11,000 had been subscribed by the Keith and Dufftown Railway. Therefore, only £1,360 had come from individual shareholders.					
(6): Authorised capital for the Strathspey was £270,000 with borrowing powers of £90,000, giving an estimated cost per mile of £9,474. By 1864, when the line had been open for one year, capital expenditure was 7.4% above estimate. Land costs were 2.2% of capital, reflecting the widespread use of land feus. The capital cost per mile by 1864 was £10,175 for the 28½ miles to Nethy Bridge.					
(7): Authorised capital was increased by £25,000 in shares and £8,000 in loans under 28&29 Vic. cap.345, 1865, the Strathspey Railway (Extension) Act. The Act also permitted the Great North to raise an additional £40,000 in share capital and subscribe this sum to the Strathspey. The Great North's authorised subscription to the Strathspey therefore rose from £150,000 to £190,000. The 4¼ mile extension of the Strathspey from Nethy Bridge to meet the Highland Railway at Boat of Garten was opened on 1 August 1866, the day that the Strathspey Railway amalgamated with the Great North of Scotland Railway.					

22(b): Revenue account of the Strathspey Railway, 1863-65

REVENUE	(£)	08.1863	08.1864	08.1865
<i>Period of account</i>		<i>2 months</i>	<i>Full year</i>	<i>Full year</i>
Total revenue		1650	5930	5839
Balance		- 83	- 3584	- 835
Total expenditure		1733	9514	6674
<i>Including:</i>				
Total working expenses		585		
Working expenses to the GNSR			1890	1875
Interest account	(3)	1138	7449	4351
<i>Including:</i>				
Interest on debentures		559	3592	3600
Interest on bank accounts and temporary loans		71	3726	
Interest on advances		508		
Interest on contractors' bills			116	737
Source: Minutes of the Strathspey Railway, 1861-66 (NAS/BR/STY/1/1).				
(1): Shillings and pence have been rounded down; as a result some totals may not match precisely the sum of component items.				
(2): From 1864, very little detail of expenditure was provided to shareholders.				
(3): The company's interest account represented 125.6% of gross revenue in 1864 and 74.5% in 1865.				
(4): Gross revenue for the 11 months from 1 September 1865 until amalgamation on 1 August 1866 was £4,223, indicating a falling trend.				

22(c): Financial indicators for the Strathspey Railway, 1863-66

(£)	31 August	1863	1864	1865	1866 (note 2)
Capital raised	(4)	230072	230172	230193	292975
Debenture loans		89999	89992	89992	88272
Temporary debt	(3)	42195	65220	82222	14184
Estimated total debt		132194	155212	172214	102456
Gross annual revenue		<i>Open for 2 months only</i>	5930	5839	4607
Ratio of debentures to capital raised		39.1%	39.1%	39.1%	30.1%
Ratio of gross revenue to total debt		-	0.038	0.034	0.045
(1): Not all interest was paid when due; interest on advances was accumulated in the suspense account within the general balance sheet under the Great North's policy for branches.					
(2): The 1866 accounts publish a figure of £4,223 for gross revenue for the 11 months from 1 September 1865 until amalgamation with the Great North on 1 August 1866. The figure of £4,607 included above is therefore imputed for a full period of 12 months.					
(3): An estimate of temporary debt is drawn from sundries and bills due on the general balance sheet, Appendix, table 22(a). For the 11 months from 31 August 1865, the general balance sheet contained £9,118 due on sundry debts and £3,884 due to contractors and banks and for bills.					
(4): The accounts do not show the level of bank loans, but the Strathspey issued £50,000 of debentures as security for an unspecified loan from the National and North of Scotland Banks on 27 January 1863 (NAS/BR/STY/1/1, p.83).					
(5): Share capital raised rose from £140,200 in 1865 to £204,703 in 1866 as a result of the powers acquired under 28&29, Vic. cap.345, 1865, the Strathspey Railway (Extension) Act, to extend the Strathspey to join the Highland Railway at Boat of Garten. The Act authorised the Strathspey to raise an additional £25,000 of share capital and £8,000 in loans, but also authorised the Great North to raise an additional £40,000 of share capital and subscribe this sum to the Strathspey. As a result, the ratio of debentures to total capital for the Strathspey Railway is reduced because share capital then formed a larger proportion of capital raised.					

Table 23: Accounts of the Sutherland Railway and the Duke of Sutherland's Railway

23(a): Capital account of the Sutherland Railway, 1868-75

CAPITAL	(£)	08.1868	08.1869	08.1870	08.1871
Shares			90664	126890	126920
Loans			59911	59911	59901
Capital raised		150491	150576	186801	186821
Balance		- 9699	- 23481	8542	8423
Capital expenditure		160191	174058	178259	178398
<i>Including:</i>					
Capital spent in year			13866	4201	138
Land			659	1026	173
Construction			10504	3259	-
Rails, sleepers			-	1386	-
Stations			3899	256	54
Law, Parliamentary and general costs			144	1225	20
CAPITAL	(£)	08.1872	08.1873	08.1874	08.1875
Shares		126920	126920	126930	134930
Loans		59901	59980	60000	60000
Capital raised		186821	186900	186930	194930
Balance		4123	3651	2037	10047
Capital expenditure		182698	183248	184892	184882
<i>Including:</i>					
Capital spent in year		4300	550	164	10 (Cr)
Land		221	89	303	37
Construction		3600	138	901	-
Rails, sleepers		-	-	-	-
Stations		-	-	-	-
Law, Parliamentary and general costs		275	66	204	-
Source: Minutes of the Sutherland Railway, 1864-84 (NAS/BR/SLD/1/1).					
(1): Shillings and pence have been rounded down; as a result some totals may not match precisely the sum of component items.					
(2): Authorised capital in 1865 (28&29 Vic.cap.169, 1865) was £180,000 with £60,000 borrowing powers, but increased in 1866 (29&30 Vic.cap.130, 1866) by £30,000 with £10,000 borrowing powers. The original estimate of capital costs per mile for the Bonar Bridge-Brora line of 32½ miles in the 1865 incorporation therefore was £5,496; the capital changes of the 1866 Act consequently amended this figure to £6,412 per mile.					
(3): The line failed to progress beyond Golspie (26½ miles), and the Duke of Sutherland constructed the line from Golspie to Helmsdale (17½ miles) under 33&34 Vic. cap.31, 1870, The Duke of Sutherland's Railway Act.					
(4): By 1870, only 81% of the route (26½ miles) had been constructed to Golspie at a capital cost of £6,727 per mile. While the capital cost per mile was 22.4% above the original estimate of £5,496 per mile for the full line to Brora, however, the total capital expenditure in 1870 of £178,259 was 1.0% below the original 1865 share capital limit of £180,000. Land costs by 1870 (£1,685) were only 0.9% of capital expenditure, principally because the Duke of Sutherland owned the majority of land required.					

23(b): Revenue account of the Sutherland Railway, 1868-75

REVENUE (£)	08.1869	08.1870	08.1871	08.1872	08.1873	08.1874	08.1875
Total annual revenue	5096	5089	5833	7092	7281	8034	9892
Balance	576	633	1290	2115	2381	2313	3953
Total annual expenses and working charges	4520	4456	4543	4977	4899	5720	5938
<i>Including:</i>							
Debenture interest	2715	2700	2594	2429	2600	2589	2520
Other interest	733	1189	30	108	313	654	61
Ordinary dividend (3)	-	-	-	-	-	-	1%
Working expenses charged by the Highland Railway	Max 75%	Max 75%	(1)				
Highland Railway working charges (£)			4077	4419	4439	4543	5217
Traffic expenses as % of receipts (4)			72.16	66.00	63.17	59.52	54.17
Interest as % of total revenue	67.7%	76.4%	45.0%	35.8%	40.0%	40.4%	26.1%
Other data contained in annual reports							
Mileage owned	26 ½	26 ½	26 ½	26 ½	26 ½	26 ½	26 ½
Mileage run (all mixed trains)	37996	38010½	39231½	45003	45264	46324	53196½
Source: Minutes of the Sutherland Railway, 1864-84 (NAS/BR/SLD/1/1).							
(1): The Highland made a new working agreement, brought into operation from 19 June 1871, by which it charged for trains run. Under the previous agreement, the Highland could take up to a maximum of 75% of gross receipts to cover costs. From 1871, two trains each way daily were charged at £2s per mile with additional trains charged at 1s.10d per mile (Minutes of the Ordinary General Meeting of the Highland Railway, 28 April 1871, NAS/BR/HR/1/2, pp.73-74 and page 2 of inserted printed report).							
(2): Accounts from 1872 include a debit of £100 as rent to the Highland Railway for the use of Bonar Bridge Station and a credit of £100 as rent from Duke of Sutherland's Railway for the use of Golspie Station.							
(3): The first dividend on ordinary shares was declared in 1875 following the opening of the full far north route in 1874. Small annual dividends ranging between ¼% and 2% were declared each year thereafter until the company was amalgamated with the Highland Railway in 1884.							
(4): Traffic expenses included the Highland Railway's working charge and other costs, including rent for the use of Bonar Bridge station, taxes, feu duties, salary of the secretary, and auditors' fees.							

23(c): Financial indicators for the Sutherland Railway, 1869-75

(£)	31 August	1869	1870	1871	1872	1873	1874	1875
Capital raised		150576	186801	186821	186821	186900	186930	194930
Debenture loans		59911	59911	59901	59901	59980	60000	60000
Estimated debt from other interest (1)		14660	23780	600	2160	6260	13080	1220
Estimated total debt (2)		74571	83691	60501	62061	66240	73080	61220
Gross annual revenue		5096	5089	5833	7092	7281	8034	9892
Ratio of debentures to capital raised		39.8%	32.1%	32.1%	32.1%	32.1%	32.1%	30.8%
Ratio of gross revenue to total debt (2)		0.068	0.061	0.096	0.114	0.110	0.110	0.162
(1): Debt other than authorised loan capital is calculated by applying a notional 5% interest rate to the sums of 'other interest' paid from the revenue account.								
(2): The adjusted working charges from 1871, by which the Highland Railway charged for the cost of trains run, assisted the slow improvement of debt gearing, which was further assisted by the increase in revenue following the opening of the far north line to Helmsdale in 1871 and to Thurso and Wick in 1874.								

23(d): Capital account for the Duke of Sutherland's Railway, 1871-75

CAPITAL	(£)	08.1871	08.1872	08.1873	08.1874	08.1875
Capital received from Duke of Sutherland		61869	62862	62351	64723	64653
Total capital expenditure		61869	62862	62351	64723	64653
Capital spending within the year		-	993	511 (cr)	2371	69 (cr)
<i>Including:</i>						
Land compensation and houses		16	1	1	602	295 (cr)
Construction		56926	110	36	135	229
Stations		2135	590	297	1367	
Engineering		1480	192	19	154	4 (cr)
Law, parliamentary, general		1310	1310	3	86	
Miscellaneous		-	98	3	25	
Proceeds from sale of old plant				872 (cr)	-	
Estimate of further capital spending required		3400	3000	3500	3000	500
Source: Minutes and statement of accounts of the Duke of Sutherland's Railway, 1871-1884 (NAS/BR/DKS/1/1).						
(1): Shillings and pence have been rounded down; as a result some totals may not match precisely the sum of component items. Credit items for capital expenditure, land and engineering are indicated by (cr).						
(2): The line from Golspie to Helmsdale (17¼ miles) was authorised in 1870 as the Duke of Sutherland's Railway without specific capital powers as the Duke was to finance the line. The line opened in 1871 and by 1872, the capital cost per mile was £3,644; land costs were zero as the Duke owned the property required.						

23(e): Revenue account for the Duke of Sutherland's Railway, 1871-75

REVENUE	(£)	08.1871	08.1872	08.1873	08.1874	08.1875
Total annual revenue		1549	3668	3955	4430	5124
Balance to carry forward		304	597	833	958	1337
Total annual expenditure		1244	3071	3121	3472	3787
<i>Including:</i>						
Traffic expenses prior to opening in June 1871		609 (3)				
HR working charges after 19 June.1871		601	2815	2815	2886	3330
Traffic agent's salary and expenses		-	94	69	84	23
Rent for Golspie station		20	100	100	100	100
Less rent for Helmsdale station						- 100
Other data contained in annual reports						
Train miles run (by mixed trains)		17137	28614	28665 ½	29413 ½	33944 ½
Traffic expenses as % of receipts	(2)			75.39	69.89	66.11
Expenditure as % of receipts				78.78	78.83	74.36
Source: Minutes and statement of accounts of the Duke of Sutherland's Railway, 1871-1884 (NAS/BR/DKS/1/1).						
(1): Shillings and pence have been rounded down; as a result some totals may not match precisely the sum of component items.						
(2): Traffic expenses included the Highland Railway's working charge and other costs, including rent for the use of Golspie station paid to the Sutherland Railway, but offset by rent paid by the Sutherland and Caithness Railway for the use of Helmsdale station from 1874-75, taxes, feu duties, salary of the secretary, and auditors' fees.						
(3): The section of line between Dunrobin and West Helmsdale was used from November 1870, prior to the full line opening on 19 June 1871.						

23(f): Financial indicators for the Duke of Sutherland's Railway, 1871-75

(£)	31 August	1871	1872	1873	1874	1875
Capital raised		61869	62862	62351	64723	64653
Debenture loans		0	0	0	0	0
Total debt		0	0	0	0	0
Gross annual revenue		1549	3668	3955	4430	5124
Ratio of debentures to capital raised		No loans				
Ratio of gross revenue to total debt		No debt				
(1): The Duke of Sutherland financed the line through the purchase of ordinary stock. There was therefore no debenture debt or other forms of fixed interest debt.						

Table 24: Accounts of the Sutherland and Caithness Railway

24(a): Capital account of the Sutherland and Caithness Railway, 1871-79

CAPITAL	(£)	08.1872	08.1873	08.1874	08.1875
Shares		77198	202424 (3)	204254 (3)	204418 (3)
Debentures		-	-	119960	119960
Total capital raised		77198	202424	324214	324378
Balance		6169	- 619	- 4113	- 25086
Capital expenditure <i>Including:</i>		71028	203043	328327	349464
Capital spent during the year <i>including:</i>			132014	125283	21137
Land:		2635	-	19709	1217
Construction		27044	67344	113657	18776
Rails, sleepers etc.		33749	61404	-	-
Engineering and surveying		4378	1447	-	-
Law, parliamentary, general charges		2864	1509	3394	1143
Interest		356	308	6261	
Temporary debt					
Stock issued as security on loans			72000 (3)	72000 (3)	72000 (3)
Temporary loans			72000	72000	72000
Source: Minutes of the Sutherland and Caithness Railway, 1871-84 (NAS/BR/SUC/1/1).					
(1): Shillings and pence have been rounded down; as a result some totals may not match precisely the sum of component items.					
(2): The authorised capital of the company was £360,000 with £120,000 in borrowing powers under 34&35 Vic.cap.99,1871, The Sutherland and Caithness Railway Act, giving an estimated cost of £5,393 per mile.					
(3) £72,000 of stock was issued in 1873 as security against a temporary loan from the Aberdeen Town and County Bank, which was consolidated within a £112,000 loan for a further three years on 15 April 1876 (NAS/BR/SCR/1/1). The Special General Meeting of 31 October 1873 (NAS/BR/SUC/1/1, p.123) authorised the use of borrowing powers, but the issue of £72,000 stock in security indicates that only £130,424 of stock had been issued and paid up, less than half the authorised capital. This £130,424 comprised £50,000 from the Highland and £60,000 from the Duke, with the remainder of £20,424 therefore subscribed by local shareholders.					
(4): By 1875, one year after opening, capital expenditure was 2.9% below estimate, and only reached the authorised capital level by 1877. The line ran from Helmsdale to Wick and Thurso, a distance of 66¼ miles (comprising 60 miles from Helmsdale to Wick and 6¼ miles from Georgemas Junction to Thurso). The capital cost per mile by 1875 was £5,235. Land costs in 1874 and 1875 formed 6.0% of capital expenditure.					

CAPITAL	(£)	Authorised	08.76	08.77	08.78	08.79
Stocks and shares	360000		244928	245963	271849	294849
Debentures	120000		119960	119993	119993	119853
Total capital authorised	480000					
Total capital raised			364888	365956	391842	414702
Balance			11147	6413	27986	50112
Capital spent			353740	359542	363855	364589
Stock issued as security on loans			112000	112000	137000	160000
Temporary loans			112000 (5)	112000	137000	160000 (6)
Interest on debentures			5398	5846	5346	5526
Interest on temporary loans			5539	5784	6284	6869
(5): On 15 April 1876, the temporary loan of £72,000 with the Aberdeen Town and County Bank was consolidated within a new £112,000 loan for three years at 4½ % (15 April, 1976, NAS/BR/SUC/1/1).						
(6): In 1879, the Duke of Sutherland agreed to borrow £100,000 for ten years and to provide these funds to the company (22 February and 2 May 1879, NAS/BR/SUC/1/1). This loan was secured on his land and estates; interest charges were to be refunded to the Duke by the company. The Duke's loan allowed repayment of £100,000 of bank debt and, on the same day (2 May 1879), guarantees of £60,000 were signed by the Duke and Directors to the Aberdeen Town and County Bank for a reduced loan for that amount. Temporary loans, however, remained at £160,000 (£100,000 owed to the Duke and £60,000 to the Aberdeen Town and County Bank) until the company was amalgamated with the Highland Railway in 1884. The Duke's loan did not reduce temporary debt, but gave the company longer term security of temporary funding.						

24(b): Revenue account of the Sutherland and Caithness Railway, 1874-79

REVENUE (£)	08.1874	08.1875	08.1876	08.1877	08.1878	08.1879
Line opened in July 1874	<i>Data for one month</i>	<i>Full year</i>	<i>Full year</i>	<i>Full year</i>	<i>Full year</i>	<i>Full year</i>
Total annual revenue	1823	15389	16367	17865	17989	17483
Balance before interest	263	- 1421	2439	4301	4449	4262
Total annual expenditure	1559	16811	13928	13563	13529	13221
<i>Including:</i>						
Highland Railway working charge	1479	15809	12838	12598	12568	12344
Ordinary dividend	-	-				
Debenture interest	503	5383	5398	5846	5346	5526
Other interest	262	4559	5539	5784	6284	6869
Total interest paid	765	9942	10937	11630	11630	12395
Net balance	- 502	- 11363	- 8498	- 7329	- 7181	- 8133
<i>Interest as % of total revenue (2)</i>	<i>42.0%</i>	<i>64.6%</i>	<i>66.8%</i>	<i>65.1%</i>	<i>64.7%</i>	<i>70.9%</i>
Data contained in annual reports						
Working charges as % receipts	81.97%	104.50%	80.16	72.06	67.20	72.27
Mileage owned	66	66	66	66	66	66
Mileage run (all mixed trains)	15417	163043	130480	127878	127557	125104
Source: Minutes of the Sutherland and Caithness Railway, 1871-84 (NAS/BR/SUC/1/1).						
(1): Shillings and pence have been rounded down; as a result some totals may not match precisely the sum of component items.						
(2): Net revenue in 1874-79 was insufficient to meet interest payments; interest represented approximately two-thirds of gross revenue. Company accounts for 1880-84 (NAS/BR/SUC/1/1) show that balances before interest remained insufficient to meet interest costs until the Sutherland and Caithness Railway was amalgamated into the Highland Railway in 1884. The balances before interest were £5,212 in 1880 (but with £11,902 interest due), £4,421 in 1881 (with £12,526 interest due), £5,939 in 1882 (with £12,937 interest due), £8,710 in 1883 (with £13,245 interest due), and £9,377 in 1884 (with £13,160 interest due).						
(3): Receipts from mail traffic accounted for 21.2% of total revenue in 1875.						

24(c): Financial indicators for the Sutherland and Caithness Railway, 1875-79

(£)	31 August	1875	1876	1877	1878	1879
Capital raised		324378	364888	365956	391842	414702
Debenture loans		119960	119960	119993	119993	119853
Temporary loans		72000	112000	112000	137000	160000
Total debt		191960	231960	231993	256993	279853
Gross annual revenue		15389	16367	17865	19089	17483
Ratio of debentures to capital raised		37.0%	32.9%	32.8%	30.6%	28.9%
Ratio of gross revenue to total debt		0.080	0.071	0.077	0.074	0.062
(1): The Sutherland and Caithness Railway, together with the Sutherland and Duke of Sutherland's Railways, were amalgamated with the Highland Railway in 1884.						

Table 25: Comparative financial data for the Highland and Great North of Scotland Railway companies, 1866-74

Data for half years (£)						
HIGHLAND	02.1866	08.1866	02.1867	08.1867	02.1868	08.1868
Temporary loans	465000	485000	505000	535000	535000	565000
Total debt (loans and debentures)	1134128	1178172	1199122	1232872	1235237	1265634
Half year revenue	82668	99744	96362	103766	100169	107164
Annual gross revenue		182412	196106	200128	203935	207333
<i>Ratio of revenue to temporary debt</i>		0.376	0.388	0.374	0.381	0.367
<i>Ratio of revenue to total debt</i>		0.155	0.164	0.162	0.165	0.164
GREAT NORTH	01.1866	07.1866	01.1867	07.1867	01.1868	07.1868
Temporary loans	245156	274527	345972	303171	350348	181549
Total debt (loans and debentures)	652977	733833	1101018	1059750	1148047	1015408
Revenue (½ year)	52112	51673	79112	86466	90112	90658
Annual gross revenue		103785	130785	165578	176578	180770
<i>Ratio of revenue to temporary debt</i>		0.378	0.378	0.546	0.504	0.996
<i>Ratio of revenue to total debt</i>		0.141	0.119	0.156	0.154	0.178
Sources: Appendix, tables 10(c), 10(d) and 10(e), and tables 11(a), 11(b), 11(c) and 11(e).						

Data for half years (£)						
HIGHLAND	02.1869	08.1869	02.1870	08.1870	02.1871	08.1871
Temporary loans	625000	625000	625000	605000	520000	450000
Total debt (loans and debentures)	1325569	1325699	1325709	1305759	1220877	1150723
Half year revenue	102563	110964	101251	113645	107967	118799
Annual gross revenue	209727	213527	212215	214896	221612	226766
<i>Ratio of revenue to temporary debt</i>	0.336	0.342	0.340	0.355	0.426	0.504
<i>Ratio of revenue to total debt</i>	0.158	0.161	0.160	0.165	0.182	0.197
GREAT NORTH	01.1869	07.1869	01.1870	07.1870	01.1871	07.1871
Temporary loans	94331	91963	39099	32674	32695	10300
Total debt (loans and debentures)	949192	944228	899173	893537	893490	870254
Half year revenue	90209	90700	89394	95214	97228	99690
Annual gross revenue	180867	180909	180094	184608	192442	196918
<i>Ratio of revenue to temporary debt</i>	1.917	1.967	4.606	5.650	5.886	19.118
<i>Ratio of revenue to total debt</i>	0.191	0.192	0.200	0.207	0.215	0.226
(1): Comparative data is not shown for 1866 (1) as the Great North accounts do not reflect the amalgamated company until 1866 (2). Debt gearing for the companies in 1865 and 1866 are shown in tables 10 (e) and 11(c).						

Data for half years (£)						
HIGHLAND	02.1872	08.1872	02.1873	08.1873	02.1874	08.1874
Temporary loans	0	0	0	0	0	0
Total debt (loans and debentures)	697874	700636	700502	700788	700807	700822
Half year revenue	123117	131140	124792	133872	134288	146322
Annual gross revenue	241916	254257	255932	258664	268160	280610
<i>Ratio of revenue to temporary debt</i>	-	-	-	-	-	-
<i>Ratio of revenue to total debt</i>	0.347	0.363	0.365	0.369	0.383	0.400
GREAT NORTH	01.1872	07.1872	01.1873	07.1873	01.1874	07.1874
Temporary loans	0	0	0	0	0	0
Total debt (loans and debentures)	864384	863250	863715	863504	858420	864316
Half year revenue	103621	105548	107745	112176	119613	121151
Annual gross revenue	203311	209169	213293	219921	231789	240764
<i>Ratio of revenue to temporary debt</i>	-	-	-	-	-	-
<i>Ratio of revenue to total debt</i>	0.235	0.242	0.247	0.255	0.270	0.279

(continued)

Table 25 (continued):

Share and debenture capital raised by the Great North and Highland Railways, 1870

(a) Great North of Scotland Railway, July 1870

GNSR (£)	1870 (July)	Gearred	% of capital raised
GNoSR Preference Stock 5% (1859)	291090	291090	
GNoSR New Preference Stock A 4 ½ % (1859)	482050	482050	
GNoSR New Preference Stock B 4 ½ % (1862)	218030	218030	
GNoSR (Old Meldrum) Preference Stock 4 ½ % (1866)	13810	13810	
GNoSR (Aberdeen & Turriff) Preference 5% (1866)	25400	25400	
GNoSR (Formartine & Buchan) Preference 5% (1866)	172598	172598	
GNoSR (Formartine and Buchan) Ordinary Stock (1866)	106466		
Banffshire Preference Stock 5% (1867)	46010	46010	
GNoSR Ordinary Stock	862655		
Subtotal	2218109	1248988	40.56%
Debenture loans	848948		
Debenture stock	11915		
Subtotal	860863	860863	27.96%
Total of capital requiring fixed interest payments		2109851	68.52%
Capital raised	3078972		
Total share and loan capital authorised, comprising:	3419362		
Share capital	2554443		
Loan capital	864919		

Source: Accounts of the Great North of Scotland Railway, 31 July 1870 (NAS/BR/RAC(S)/1/14).

(b) Highland Railway, August 1870

HR (£)	1870 (August)	Gearred	% of capital raised
Dunkeld 6% Preference	76000	76000	
Nairn 5% Preference	44960	44960	
Nairn 6% Preference	59080	59080	
Class A 4½% Preference	505245	505245	
Class B 5 % Preference	384362	384362	
Ordinary shares	1034043		
Subtotal	2103690	1069647	38.14%
Debenture loans	700049		
Debenture stock	710		
Total loans and debentures raised	700759	700759	24.99%
Total of capital requiring fixed interest payments		1770406	63.13%
Total share and loan capital raised	2804449		
Total share and loan capital authorised, comprising:	3029880		
Share capital, authorised under:	2329000		
- Highland Railway Act, 1865	2249000		
- Sutherland Railway Act, 1865	30000		
- Dingwall and Skye Railway Act, 1865	50000		
Loan capital	700880		

Source: Accounts of the Highland Railway, 31 August 1870, reported to the Ordinary General Meeting, 28 October 1870 (NAS/BR/HR/1/2, pp.25-26).

Table 26: Comparative costs of Scottish Railways, 1842-65

Key to railway companies in table 26	
A&B:	Aboyne and Braemar
A&F:	Arbroath and Forfar
AV:	Alford Valley
AR:	Aberdeen
A&T:	Aberdeen and Turriff, formerly the Banff, Macduff and Turriff Junction
BM&TE:	Banff, Macduff and Turriff Extension
BP&S:	Banff, Portsoy and Strathisla, later Banffshire
D&A:	Dundee and Arbroath
DR:	Deeside
DER:	Deeside Extension
D&S:	Dingwall and Skye
DoS:	Duke of Sutherland's
E&G:	Edinburgh and Glasgow
EL&G:	Edinburgh, Leith and Granton
F&B:	Formartine and Buchan
GP&G:	Glasgow, Paisley and Greenock
GPK&A:	Glasgow, Paisley, Kilmarnock and Ayr
GNS:	Great North of Scotland
I&AJ:	Inverness and Aberdeen Junction
I&N:	Inverness and Nairn
I&PJ:	Inverness and Perth Junction
K&D:	Keith and Dufftown
MR:	Morayshire
P&D:	Perth and Dunkeld
SC:	Scottish Central
SCR:	Sutherland and Caithness
SMJ:	Scottish Midland Junction
SR:	Strathspey
SuthR:	Sutherland
SCR:	Sutherland and Caithness
Sources: Data drawn from the minutes and accounts of the following railway companies:-	
<ul style="list-style-type: none"> - Aberdeen Railway (NAS/BR/RAC(S)/1/36); - Aberdeen and Turriff Railway (NAS/BR/ABT/1/1); - Aboyne and Braemar Railway (NAS/BR/ABR/1/1-2); - Alford Valley Railway (NAS/BR/ALF/1/1); - Banff, Macduff and Turriff Extension Railway (NAS/BR/BMEX/1/1); - Banffshire Railway (NAS/BR/BAN/1/1-2); - Deeside and Deeside Extension Railways (NAS/BR/DEE/1/1-3); - Dingwall and Skye Railway (NAS/DSK/1/1); - Formartine and Buchan Railway (NAS/BR/FBR/1/1); - Great North of Scotland (NAS/BR/RAC(S)/1/14); - Inverness and Aberdeen Junction Railway (NAS/BR/IAJ/1/1-3); - Inverness and Nairn Railway (NAS/BR/INR/1/1-2); - Inverness and Perth Junction Railway (NAS/BR/IPJ/1/1); - Keith and Dufftown Railway (NAS/BR/KDR/1/1); - Morayshire Railway (NAS/BR/MOR/1/1-4); - Perth and Dunkeld Railway (NAS/PDR/1/1-2); - Scottish Central Railway (NAS/BR/RAC(S)/1/35); - Scottish Midland Junction Railway (NAS/BR/SCM/1/1-3 and NAS/BR/RAC(S)/1/37); - Strathspey Railway (NAS/BR/STY/1/1); - Sutherland and Duke of Sutherland's Railways (NAS/BR/SLD/1/1 and NAS/BR/DKS/1/1); - Sutherland and Caithness Railway (NAS/BR/SUC/1/1); 	
<p>and from:- CJA Robertson, <i>The Origins of the Scottish Railway System 1722-1844</i> (Edinburgh, 1983), table 25, pp.101-102, and tables 36-39, pp.170-73.</p>	

Table 26: Comparative costs of Scottish Railways, 1842-75

Company	Date	Length (miles)	Estimate (£/mile)	Cost (£/mile) (with plant)	Cost (£/mile) (no plant)	% over estimate	Land as % capital
Inter-urban lines authorised before 1845							
A&F	1842	15 ¼	4115	8964	-	117.9	12.5
D&A	1842	16 ¾	5241	9140	-	74.7	n/a
EL&G	1847	5	20000	61024	-	205.1	n/a
GP&G	1844	22 ½	17022	41068	-	141.3	18.1
GPK&A	1843	55	11562	21908	-	89.5	12.4
E&G	1845	47	18994	36548	-	92.4	13.0
Companies on the route to Aberdeen							
SC	1850	47	18085	31573	-	74.6	9.1 (10)
SMJ	1851	30 ¾	9756 (3)	20890	-	114.1/ 7.1	11.8
AR	1851	72 ¼	11487	22983	21571	100.1	9.3
Great North and allied branch companies							
GNS	1857	54	8704 (4)	15672	13868	80.1	11.8
A&T	1859	18	6667	W agreement	8241	23.6	9.1
BM&TE	1860	11 ¾	6894	W agreement	6816	- 1.1	3.4
AV	1859	16	5313	W agreement	6310	18.8	3.4
F&B	1865	54	7407	W agreement	11544	55.8	n/a (5)
K&D	1862	10 ¾	4651	W agreement	5632	21.1	8.8
SR (8)	1864	28 ½	9474	W agreement	10175	7.4	2.2
Northern independent companies							
BP&S	1861	18 ¾	4800	W agreement	5465	13.9	7.5
DR	1855	16	6640	8011	-	20.6	13.8
DER	1860	15 ½	5161	W agreement	6529	26.5	8.2
A&B	1869	11	6000	W agreement	6437	7.3	9.4 (6)
P&D	1859	8 ¾	9697	W agreement	10699	10.3	17.9
MR	1860	9	6078	8716	-	43.4	n/a
Inverness web companies							
I&N	1857	15	5333	8003	7221	50.1	12.4
I&AJ	1860	39 ¾	8176	13395	11704	63.8	7.2
I&PJ	1865	112½	5813	W agreement	9387 (8745) (9)	61.5	4.3 (9)
SuthR	1870	26 ½	5496	W agreement	6727	- 1.0	0.9
DoS	1872	17 ¼	n/a	W agreement	3644	n/a	0.0
SCR	1875	66 ¾	5393	W agreement	5235	- 2.9	6.0
D&S	1872	63½/53	7087 (7)	W agreement	5557 (7)	n/a	n/a

(1): Mileages are derived from CJA Robertson, *The Origins of the Scottish Railway System 1722-1844*

(Edinburgh, 1983), HA Vallance, *The Great North of Scotland Railway* (Newton Abbot, 1965), HA Vallance, *The Highland Railway* (4th edition, Newton Abbot, 1985), PF Marshall, *The Scottish Central Railway* (Whitney, 1998), HG Lewin, *The Railway Mania and its aftermath, 1845-52* (London 1936, republished Newton Abbot, 1968).

(2): Where companies are shown with working agreements, the cost of the agreements was charged to revenue, which therefore produces a relatively lower capital cost per mile for these railways than for those companies which purchased their own plant.

(3): The estimate per mile for the Scottish Midland Junction is based on its original 1845 capital powers, but these were doubled in 1846 for a revised scheme. Therefore a potential excess of expenditure over estimate by July 1851 of 114.1%, based on original capital powers, was only 7.1% by that date.

(4): The estimated cost of the Great North line is given from the estimate of £470,000 for the Aberdeen-Keith section (28 November 1849, NAS/BR/GNS/1/1, p.220 and NAS/BR/RAC(S)/1/14).

(5): Land costs for the Formartine and Buchan Railway were 4.64% of capital spent by 1862, but only 29 miles of the planned 54 miles had been completed by that date.

(6): Land costs for the Aboyne and Braemar Railway are only available up to 1867.

(7): The estimated cost of the Skye line is given for the original scheme of 63½ miles to Kyle of Lochalsh. The line was built to Strome Ferry (53 miles) on which the capital cost is calculated. Land cost details are incomplete in company records but, as several large landowners gave land for shares, costs would have been relatively low.

(8): The Strathspey Railway was lengthened by 4¾ miles in 1866 when an extension was opened between Nethy Bridge and Boat of Garten to connect to the Highland Railway route between Inverness, Forres and Perth, giving a revised route mileage of 33¾.

(9): See also table 14(a), notes (5) and (6), for derivation of capital costs per mile for the Inverness and Perth Junction Railway. Significant land costs on the Inverness and Perth Junction remained outstanding when the 1865 accounts were published.

(10): The land costs for the Scottish Central are given from company accounts for January 1850; by July 1851, following the 1850 Committee of Inquiry, land costs had risen to 10.9% of capital expenditure.

Definitions

The abbreviations for northern railway companies listed below are drawn from the classifications in the National Archives of Scotland and are used within the footnotes and tables of the thesis (shown as *NAS/BR/reference/file number*).

Reference	Company
ABN	The Aberdeen Railway
ATR	The Aberdeen and Turriff Railway (previously the Banff, Macduff and Turriff Railway)
ABR	The Aboyne and Braemar Railway
ALF	The Alford Valley Railway
BAN	The Banffshire Railway
BMEX	The Banff, Macduff and Turriff Extension Railway
CAL	The Caledonian Railway
COB	The Callander and Oban Railway
DEE	The Deeside Railway
DEX	The Deeside Extension Railway
DKS	The Duke of Sutherland's Railway
DSK	The Dingwall and Skye Railway
EDP	The Edinburgh, Perth and Dundee Railway
FBR	The Formartine and Buchan Railway
GNS	The Great North of Scotland Railway
HR	The Highland Railway
IAJ	The Inverness and Aberdeen Junction Railway
INR	The Inverness and Nairn Railway
IPJ	The Inverness and Perth Junction Railway
IRR	The Inverness and Ross-shire Railway
KDR	The Keith and Dufftown Railway
MOR	The Morayshire Railway

PDR	The Perth and Dunkeld Railway
SCC	The Scottish Central Railway
SMJ	The Scottish Midland Junction Railway
SNE	The Scottish North-Eastern Railway
SLD	The Sutherland Railway
STY	The Strathspey Railway
SUC	The Sutherland and Caithness Railway

Glossary of terms

- Assessment:** A tax set at a Scottish county meeting that was levied per acre on landowners, primarily to raise funds for the county's share of the cost of parliamentary roads.¹
- Bill of exchange:** A written commitment to pay a sum due to a creditor by a fixed date, used widely in the nineteenth century by commercial enterprises to finance trade when funds were short. The bill provided short-term credit which, in the case of the nineteenth century railway companies, almost universally required payment of interest on the debt due until discharged. If the creditor required funds, the bill could be sold to a financial institution which would buy it at a discount, taking the difference between the discounted price and the eventual redemption price as its profit. The amount of discount charged, however, would be determined by the degree of risk of default and the time remaining before the bill was due to be redeemed.
- Cheap railways:** With the high capital costs per mile for railways (£38,258 in England and £32,113 in Scotland in 1851²), economies in the costs of engineering, construction, land, and parliamentary and legal administration were sought to assist the extension of railways into less economically prosperous areas. Features might include a less direct route following natural topography, lighter construction designed to match expected traffic, replacement of bridges by level crossings, land obtained on lease terms and single track operation. Railway promotions in

¹ JAR Smith, 'From Isolation to Integration: the development of roads in the northern highlands of Scotland, 1800-1850' (unpublished PhD thesis, Aberdeen University, 2001), p. (vii).

² CJA Robertson, 'The Cheap Railway Movement in Scotland: the St Andrews Railway Company', *Transport History*, 7, No.1 (March 1974), p.2.

America and Canada using similar principles were identified as contemporary examples.³ *Herapath's Railway Journal* was a strong advocate: 'The success of the cheap principle is known to a few ... It will soon be a fact beyond dispute that most branch and extension railways can be constructed for £8,000 and £10,000 per mile, and though serving districts possessing only thin traffics, may return highly remunerative dividends'.⁴ The Peebles Railway, the St Andrew's Railway, the Morayshire Railway and the Deeside Railway provide early examples of railway lines built in Scotland on 'cheap' principles.⁵

Currency units: British currency units reported in company accounts in 1844-74 comprised pounds sterling, shillings (twenty to the pound), pence (twelve pennies to the shilling), half-pence (two to the penny) and farthings (four to the penny). One shilling is represented by 10 pence of current (2007) currency, although the relative values have altered significantly (see entry on 'price base' in this Glossary). Throughout the thesis, units of less than one pound sterling have been rounded down to the nearest pound.

Feu duty: Feu duties were annual sums, usually of a constant amount, payable in respect of grants of land in Scotland.

³ *Railway Journal*, 23 April 1853, in 'Miscellaneous memoranda on the history of the Highland Railway', NAS/BR/HR/4/3/11; *Inverness Courier and Inverness Advertiser*, 14 April 1853, in Prospectus of the Perth and Inverness and Inverness and Elgin Railways, 1852-53, NAS/BR/PROS(S)/1/15.

⁴ *Herapath's Railway Journal*, 9 February 1856, pp.143-44.

⁵ PF Marshall, *Peebles Railways* (Usk, 2005), pp.23-32; CJA Robertson, 'The cheap railway movement in Scotland - the St Andrews Railway', *Transport History*, 7, No.1 (March 1974), 1-40; MC Reed, *Investment in Railways in Britain, 1820-1844* (London, 1975), p.13. The Morayshire and Deeside Railways are examined in chapters 6 and 7 of this thesis.

Gearing: Gearing is a measure of the debt held by a company and indicates the proportion of capital employed in a company that is financed by lenders rather than shareholders.⁶

Heritors: Heritors were landowners with land valued at over £100 Scots annual valued rent that were able to vote at a Scottish county meeting at which administrative matters in the county were decided.⁷ Heritors were also the designated road trustees for the county.

Joint Stock

Companies:

The 1844 Joint Stock Companies Act (7&8 Vic. cap.110, 1844) gave the protection of limited liability to investors, but only after three years had elapsed from the sale of their shares. The 1855 Limited Liability Act (18&19 Vic. cap.133, 1855) removed this anomaly and extended limited liability back to the date of registration of the company. Both acts were not applicable in Scotland, however, because Scots law had always regarded a formal business partnership as a corporate body, able to sue and be sued in its own name rather than the names of individual members, and it also allowed the transfer of shares. Scots law thus gave some elements of limited liability protection to shareholders. This degree of legal recognition and protection within Scottish business partnerships was only available to English businesses by a Royal Charter or an act of incorporation prior to the above legislation.⁸ Consolidation of the 1845 and 1855 acts was

⁶ W McKenzie, *The Financial Times Guide to Using and Interpreting Company Accounts* (3rd edition, London, 2003), p.153; M Pendlebury and R Groves, *Company Accounts: analysis, interpretation and understanding* (1994, 6th edition, London 2004), p.288.

⁷ JAR Smith, 'From Isolation to Integration: the development of roads in the northern highlands of Scotland, 1800-1850' (unpublished PhD thesis, Aberdeen University, 2001), p.(vi).

⁸ RH Campbell, 'The Law and the Joint Stock Company in Scotland', in PL Payne (ed.), *Studies in Scottish Business History* (London, 1967), pp.140-41 and p.143; B Lenman, *An Economic History of Modern Scotland 1660-1976* (London, 1977), p.168.

encompassed in the 1856 Joint Stock Companies Act (19&20 Vic.cap.47, 1856), which was also applied to Scotland.

Price base: Identification of a price base allows a comparison of the relative value of money between two specified periods. In this thesis, an indicative multiplier of 50 is applied to the historical sums of money quoted in the text for dates between 1844 and 1874 to derive an approximate equivalent value that is applicable to the middle of the first decade of the twenty-first century.⁹

⁹ TR Gourvish in J Simmons and G Biddle (eds.), *The Oxford Companion to British Railway History* (Oxford, 1997, re-issued 1999), appendix 3, p.579, gives a multiplier for 1995 values of 55.300 from 1845 values, 50.692 from 1866 values and 47.523 from 1872 values; D Ross, *The Highland Railway* (Stroud, 2005), p.76, uses a multiplier of 50 for 2005 values when considering investment in the Dingwall and Skye Railway in 1865; J Roake in *The Great North Review*, 38, No.151 (November 2001), pp.366-74, uses a multiplier of 50 for 2001 values when examining the accounts of the Deeside Railway for 1854-64; D Stirling in *Highland Railway Journal*, 4 (early 2001), p.6, uses a multiplier of 48 for 2001 when reviewing the estate expenditure of the 2nd and 3rd Dukes of Sutherland in the period 1833-79.

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