Mobilising Finance and Sustaining Performance: Elite Directors in the British Economy, c.1891–1914

by

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Intellectual Property Statement

The candidate confirms that the work submitted is her own and that appropriate credit has been given where reference has been made to the work of others.

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Abstract

In the economic history literature, the listing of elite directors, including aristocratic 'nominees', on the front sheet of new share issue prospectus, has been explained as a device lending credibility to the underlying value of the issuing firm. This thesis offers new perspectives on the literature by examining the role of aristocrats as controllers of essential resources. These resources were of crucial importance to firms operating in mining and transportation, and other industries. Using a dataset of new share issues promoted on the London Stock Exchange (LSE) during the period 1891 to 1914, this thesis examines the determinants of aristocratic representation on the boards of firms and their influence on subsequent performance.

The main findings are as follows. First, the representation of aristocratic elites on boards of directors was influenced by land-related resources that were essential to the firms involved. Second, the agency and resource roles of aristocratic directors enhanced the long-term performance of new share issues. Moreover, it is found that aristocratic directors played a lesser role in influencing performance during periods of tightened regulations. Third, directors' interlocks and busy boards negatively influenced the subsequent performance of new share issues while the presence of political director on board reduced the negative effect of interlocks on performance. These results suggest that aristocratic elites were not ornamental directors; their presence on boards represented a medium for securing access to essential resources.

The examination of aristocratic directors provided an avenue to test the resource dependence hypothesis during the emergence of new industries when the operations of individual industries were largely separate, with particular demands on certain resources controlled by elites. This allowed a unique and robust examination of the exact effect of resources on performance. The thesis suggests that directors' resources were of paramount importance to the success of new issues.

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List of Abbreviations

2SPS	Two-stage Predictor Substitution
2SRI	Two-stage Residual Inclusion
FMS	Federated Malay States
JP	Justice of the Peace
LSE	London Stock Exchange
MP	Member of Parliament
SIC	Standard Industrial Classification
UK	United Kingdom
US	United States

1 Introduction

1.1 Introduction

The role played by individuals appointed to board of directors in increasing the likelihood of new issue survival in the short and long term has been examined empirically by scholars in various contexts. First, directors are expected to align the interests of owners and managers by monitoring and advising the latter (Jensen and Meckling, 1976). This role has been shown to improve the valuation of an issuing firm and its operating performance, and to enhance its chances of survival (Chancharat et al., 2012; Mutlu et al., 2018).

Secondly, directors have a resource provision role, according to the resource dependence hypothesis, which should influence firm's performance positively, particularly during periods of environmental uncertainty associated with going public (Pfeffer and Salancik, 1978). The managerial and related industry experience of directors has also been shown to enhance issue performance and growth (Chen et al., 2017a; Kor and Sundaramurthy, 2009). Some studies have focused on the influence of elite directors' political resources on the likelihood of a new issue's survival (Bao et al., 2016; Liu et al., 2013).

Other researchers have used a historical perspective, rather than the theoretical lens of the resource dependence hypothesis, to focus on the roles played by elite directors in enhancing firms' outcomes. British elites became prevalent on boards of directors at the turn of the twentieth century. Their appointments have been associated with raising external finance (Braggion and Moore, 2013), parliamentary lobbying (Rutterford, 2011), obtaining market listings (Amini and Toms, 2018) and securing the informal trust of investors (Franks et al., 2009; Rutterford et al., 2017).

However, despite the range of research and evidence, there is no agreement among business historians on the influence of elite directors on the performance of public firms (Acheson et al., 2016b; Fjesme et al., 2018; Grossman and Imai, 2016). Resource dependence theory offers a new perspective here, by examining the roles played by elites in developing the British economy that would be difficult to carry out in another way. In particular, it would be interesting to understand the roles played by elite directors in enhancing the survival and growth of new issues in relation to the particular resources they could offer the firms in question.

Among the elite directors attracting the interest of business historians is the category of aristocratic elites. Until 1914, these were mostly landowners with social and political influence (Cain and Hopkins, 1987). During the last decades of the nineteenth century, land the main asset and source of income associated with aristocrats, became less attractive to own and maintain owing to depression in the

agricultural industry, decreasing income and increasing tax burdens (Beckett and Turner, 2007).[1] At the same time, land became more attractive to firms operating in the new industries in UK, alongside promotion booms in the capital market (Cain and Hopkins, 1987). Securing access to land and its related resources was of paramount importance to these new share issues.

Previous studies seem to lack a detailed examination of the resources of the British aristocracy as they influenced firms' performance. Empirical evidence related to this would be of interest for three reasons. First, it would improve our understanding of the role played by British aristocrats in the development of the UK economy. Second, it would contribute to the vast range of contemporary studies on the elite-director performance relationship. Third, it would contribute to historical studies by providing a new way of understanding the elite-director performance relationship.

This thesis examines the determinants of aristocratic elites' representation on boards of directors from a resource dependence theory perspective. It further examines the relationship between the presence of aristocratic elites on boards and firm performance, drawing on agency theory and resource dependence theory. Lastly, it examines the effects of directors' external connections through multiple board positions on firm performance. The focus of this thesis is on the long-term performance of share price. Analyses were based on a hand-collected historical dataset of firms promoted on the LSE.

1.2 Overview and Contributions of the Thesis

This thesis begins with a general literature review relating to elite directors and the role of boards of directors in Chapter 2. After discussing the operations and regulations of the LSE, the chapter concludes by highlighting gaps in the study of the elite-director performance relationship in a historical context and sets out research questions. Chapter 3 consists of three sections. The first gives a detailed account of the initial sample collection and presents the yearly distribution of the sample. The second section presents the distribution of aristocratic elites on the boards of new share issues in the dataset, along with some characteristics of new issues (board size and firm age). The last section discusses the research methodology used in this thesis. There are three empirical chapters (4–6), followed by chapter 7, which summarises the results and describes the motivations and contributions of the three empirical chapters.

[1] Agricultural depression was more severe for arable farmers in counties in the East and South of England (See Turner M., 'Agriculture, 1860–1914', in The Cambridge economic history of modern Britain, ed. by Floud, R. and Johnson, P (Cambridge: Cambridge University Press, 2004), pp.133-160 (p.152).

1.2.1 First Study

The significance of external resources on firms' operations, coupled with interest groups' judgment and control over their use and allocation, or the availability of accessible alternative choices, determines the linkage between a firm and its external environment (Pfeffer and Salancik, 1978). In the absence of alternative choices, a firm could use its board of directors as the medium for securing access to a required resource. Aristocratic elites had resources that were essential to the operations of new issues emerging from new industries. Their resources included but were not limited to, land, land-related managerial experience, finance and legitimacy (Beckett, 1988; Rubinstein, 1977; Rutterford et al., 2017). Boards issuing new shares could strategically appoint aristocrats to secure access to the required resources that would enhance their survival. This is the focus of Chapter 4, the first empirical chapter of the thesis.

The first research hypothesis states: 'Land-related new issues were more likely to strategically appoint aristocratic elites to boards of directors to secure access to land resource in the UK'.[2] The operations of some firms in industries such as transportation, construction and communication relied on access to land for survival. It would therefore be expected that aristocrats would associate more with firms where land was an important resource than with counterpart non-land firms. The uniqueness of this thesis lies in the fact that it classifies firms into 'land' and 'non-land'. Chapter 4 contributes to the literature on the determinants of board composition during share issue. Although the presence of aristocratic elites on the boards of new issues has been associated with the co-optation of various resources (Amini and Toms, 2018), to the best of my knowledge, no study has considered land resource.

The second research hypothesis states: 'Land-related new issues operating overseas were more likely to recruit aristocratic elites on their boards of directors to secure access to managerial expertise resource'. Based on the managerial experience of aristocratic elites through the management of their personal estates and/or their location experience gained from direct dealings outside the UK through military deployment, colonial administration or business activities, it is expected that aristocrats would associate more with land-related overseas new share issues. Most previous studies have focused on the networks and investments of aristocratic elites in overseas firms (Brayshay et al., 2007; Cain and Hopkins, 1987). However, little is known about the factors that influence their representation on the boards of overseas share issues. Chapter 4 covers this gap.

The third research hypothesis states: 'New issues adopting new production processes or producing new product entirely strategically appointed aristocratic elites to boards of directors to secure access

[2] New issue is classified as land if it operated in any of the following industries; agriculture and horticulture, mining and quarrying, and transportation, communication, and construction, otherwise, it is classified as non-land.

to legitimacy resource'. Based on the legitimacy resources of aristocratic elites, a positive association is expected. There are few research studies that examine the boards of new technology share issues and the focus of such studies has been on external financing (Amini and Toms, 2018; Braggion and Moore, 2013). Chapter 4 contributes to this literature by suggesting that aristocratic elites may have provided the legitimacy resource required by these new issues for gaining market acceptance.

All hypotheses were supported by empirical results. Aristocratic elites were more likely to sit on the boards of UK land-related firms, overseas land-related firms and firms adopting new technology or producing an entirely new product. These associations were all statistically significant. Illustrative case study evidence was examined to corroborate the empirical results. The findings of all cases studies consistently support the empirical results.

Chapter 4 suggests that aristocratic elites were not just ceremonial directors in the late nineteenth and early twentieth century; they constituted a key medium for securing the external resources required for survival. In Chapters 5 and 6, the aristocratic-director performance relationship and the interlock performance relationship are examined respectively to determine the influence of access to the external resources provided by aristocrats on the subsequent performance of new issues.

1.2.2 Second Study

The influence of the presence of aristocratic elites on the long-term performance of new issues is examined in Chapter 5, the second empirical chapter. The first research hypothesis states: 'The appointment of aristocratic elites to boards of directors positively influenced the long-term performance of new issues during the late nineteenth and early twentieth century'. This hypothesis relies on the argument of agency theory, which posits that outside directors are effective monitors and advisers to managers. It is expected that aristocratic elites would have effectively performed these roles, resulting in better performance. Despite the extant literature on the outside-director performance relationship (Chancharat et al., 2012; Mutlu et al., 2018), there has been little study of the effect of this relationship on the subsequent performance of new issues from a historical perspective. This chapter therefore contributes to an understanding of the effect of outside directors' monitoring and advisory roles on long-term performance in a historical context. It also contributes to contemporary debates on the outside-director performance relationship.

The second research hypothesis states: 'The managerial experience of aristocratic elites positively influenced the long-term performance of land-related new issues during the late nineteenth and early twentieth century'. This research question relies on the integration of agency theory and resource dependence theory to examine the director performance relationship. As previously suggested, this gives more robust results and a better understanding of the relationships involved (Hillman and Dalziel, 2003). Although the effect of the agency and resource roles of outside directors on

performance has been widely researched in contemporary studies (Chen et al., 2017b; Kor and Sundaramurthy, 2009), the historical context is rarely found in such studies. Chapter 5 covers this gap.

The third research hypothesis states: 'Improvements made to the legal protection of shareholders under UK corporate law and improved disclosure regulations positively enhanced the effect of the managerial experience and agency role of aristocratic elites on the long-term performance of land-related new issues'. The moderating effect that institutional settings have on the relationship between director and performance (Oehmichen et al., 2017; Uribe-Bohorquez et al., 2018) has yet to be considered by business historians. This is despite improvements made to UK corporate law, previously considered weak in protecting investors' interests, and changes made to information disclosure at the turn of the century (Foreman-Peck and Hannah, 2016; Franks et al., 2009). This chapter contributes to historical studies on the elite-director performance relationship by suggesting that institutional change moderates the elite-director performance relationship.

Consistent with the first hypothesis, the empirical results show a positive relationship between aristocratic elites and long-term performance. This suggests that aristocratic elites were effective gatekeepers and that their presence on the boards of new issues is associated with positive performance. The empirical results also give support to the second hypothesis, implying that the managerial and location experience of aristocratic elites played a significant role in influencing their ability to be effective monitors and advisers, hence enhancing firms' long-term performance. Illustrative case study examples were used to provide corroborative evidence for the effects of aristocratic elites' managerial experience on long-term performance. Contrary to expectation, the results show that institutional change negatively moderated the positive effects of the managerial and agency roles of aristocratic elites on long-term performance. This result suggests that firms relied less on aristocratic elites' resource and agency roles in enhancing performance when institutional frameworks were improved.

Following Chapter 4, Chapter 5 provides further evidence that aristocratic elites were not ornamental directors. Their presence on boards of directors provided access to scarce external resources that positively influenced performance in the long-term. However, their influence on firm performance was negatively moderated by institutional change.

1.2.3 Third Study

The effects of directors' external connections on long-term performance is the focus of Chapter 6, the third empirical chapter. The first research hypothesis states: 'The long-term performance of new issues promoted in the UK at the turn of the twentieth century was positively related to the presence of directors with interlocks'. This hypothesis is based on the resource needs of new issues and the

ability of directors with interlocks to secure access to diverse resources such as legitimacy, experience, finance and information, which are expected to positively impact performance. It appears that little or no attention has been paid to the influence of interlocking directorships on firm performance by business historians. Yet such an examination could provide a greater understanding of the board performance relationship.

The second hypothesis states: 'The presence of busy directors on the boards of new issues promoted in the UK at the turn of the twentieth century was negatively associated with long-term performance'. This hypothesis relies on the argument that busy directors are time-constrained, hence they cannot effectively monitor managers (Fich and Shivdasani, 2006). The effect of a busy board on firm performance has recently been the focus of contemporary studies on the board performance relationship (Falato et al., 2014; Hauser, 2018; Masulis and Zhang, 2019). This chapter contributes to these studies by examining the effect of a busy board on performance in a historical setting.

The third hypothesis states: 'Firms recruiting both elite directors and directors with interlocks were likely to have access to more resources, which would enhance performance in the long-term'. This research question seeks to examine the moderating role of elite directors – aristocratic elites or members of parliament (MPs) – on the interlocking-directorship performance relationship. The presence of elite directors and interlocked directors could give firms access to more resources, which should positively influence performance in the long-term.

The fourth hypothesis states: 'The presence of elite directors on a busy board had a negative effect on the long-term performance of new issues promoted in the UK at the turn of the twentieth century'. This research question assumes that elite directors had other roles, such as parliamentary duties, that kept them busy. This, combined with the limited time that directors with numerous interlocks had, would negatively influence performance. The third and fourth hypotheses contribute to studies on interlocking directorships, busy boards and elite directors.

The results show no significant support for the first and second research questions in the overall sample. However, interlocks and busy boards significantly influenced the performance of share issues promoted during the rubber boom of 1910. Contrary to expectations, the results of 1910 subsample show a negative relationship between long-term performance and interlocks. Consistent with the second hypothesis, the results show that a busy board negatively influenced the long-term performance of firms promoted during the 1910 boom. These results were supplemented with illustrative case studies. In partial support for the third hypothesis, the results show that the presence of at least one MP on a board positively moderated the negative influence that either the MP or the interlocks of directors had on long-term performance. The results show no significant evidence for the moderating role of elite directors on the busy board performance relationship; hence, the fourth hypothesis is not statistically supported. Overall, Chapter 6 suggests that interlocks and busy boards negatively influenced the performance of share issues in the UK at the turn of the twentieth century.

In relation to the results given in Chapters 4 and 5, the results of Chapter 6 highlight that the interlocks of aristocratic elites and the access to more resources that could be expected from the presence of interlocked directors and aristocratic directors on a board did not relate to the long-term performance of new issues. However, Chapter 5 shows that the managerial resources of aristocrats positively influenced the performance of new issues operating in their area of expertise. Hence, what matters for new issues is the particular resources of directors, which should be carefully considered when appointing directors.

2 Elite Directors and the Nineteenth Century London Stock Market

The separation of owners' and managers' interests in public firms requires control measures to be put in place through corporate governance to enhance performance in the short and long-term. Such controls could also serve as mechanisms for minimising information gaps and conflicts of interest between investors and managers. One of the key governance control mechanisms is the setting up of boards of directors charged with the responsibility of providing resources to meet the needs of firms, and advising and monitoring managers in the interests of shareholders (Jensen and Meckling, 1976; Pfeffer and Salancik, 1978). Boards are sometimes structured to include elite directors who are controllers of resources that are essential to the operations of the firm (Maclean et al., 2017). The influence of elite directors on firm outcomes has been the focus of several researchers (Liu et al., 2013; Pollock et al., 2010). However, despite the considerable body of evidence in this area of research, much remains unknown about the elite-director performance relationship, particularly from a historical perspective.

This chapter examines the roles of boards as proposed by resource dependence and agency theory. It presents arguments on the need to examine the elite-director performance relationship in a context where the resources required for the operation of an industry are in scarce supply and controlled mostly by elites who are socially, politically and economically relevant. The LSE during the late nineteenth century provides a unique historical context for the examination of elite directors. The activities of individual firms emerging from new industries were distinct across industries, and the essential resources required for the operations of these firms were mostly controlled by certain elites. This study is important because it sheds more light on the representation of elites on boards and offers a greater understanding of the board performance relationship.

The chapter proceeds as follows: section 2.1 reviews the literature on elite director and board roles; section 2.2 discusses the nineteenth century LSE; and section 2.3 summarises the chapter and sets out the research questions of this thesis.

2.1 Elite Director and Board Roles

Elites have been described as individuals who hold and wield domination over others in a society or a given area of a society (Scott, 2008). They possess capital that could influence outcomes, as they serve as bridging agents that determine the flow of resources (Maclean et al., 2017). Apart from their control of capital, elites have the ability to invent institutions that govern business activities, particularly when regulations are weak (Nakpodia and Adegbite, 2018). In more developed countries

such as Britain and France, elites who possess influence – that is, the 'dominant dominants' – could further the goals of organisations and negotiate changes to institutions (Maclean et al., 2010).

Given the influence elites have on others in society, much of the literature has focused on the impact of their association with firms' outcomes. In particular, their associations with new issues through board appointments has been extensively discussed. For example, Certo (2003) studied board structure as a signal for firm value at time of issue and found that investors' perception of value could be influenced by having elite outside directors on the board. Specifically, the study shows that the difference between the first-day return and offer price, commonly known as underpricing, was negatively related to the presence of elite directors. Certo (2003) suggests that a board structured to include elite directors could be advantageous to managers because it reduces money left on the table on the first day of trading.

Similarly, Pollock et al. (2010), using samples obtained from the computer software industry, show that the number of elite outside directors is positively related to a new issue's market valuation at the end of the first trading day. They suggest that every elite addition to the board of a new issue gives additive value; this aligns with the expectation that reputable elite directors would be committed to enhancing the future firm value. Hence, the presence of elite directors conveys prospective information about the value of a new issue to investors (Pollock et al., 2010). Using firms listed on the LSE for the period 1992 to 1996, Reber et al. (2005) consistently showed that the market value of new issues at the end of the first day of trading was significantly and positively influenced by the presence of elite directors. In conclusion, Reber et al. (2005) suggest that individuals appointed to boards of directors are more important in signalling firm value.

Also, Liu et al. (2013) demonstrate that the political connections of executives such as the chief executive officer (CEO) or chairman facilitated market listing of private firms in China. Their study suggests that political association positively influences investors' perception of firm value, to the extent that they report a significant positive relationship between market performance post-issue and the political connections of executives. Similarly, Bao et al. (2016) show that directors or CEOs with political connections are prevalent on the boards of private firms seeking market listing in China, and that the percentage of politically connected directors is negatively associated with the cost of listing. However, they find no significant relationship between underpricing and political directors.

Amini and Toms (2018) empirically show that the presence of elite directors such as aristocrats facilitated the listing of regional new issues to the LSE and enhanced access to securing external finance between 1892 and 1897. Furthermore, Franks et al. (2009) report that the reputation of elite directors contributed to the separation of ownership from control in the UK at the turn of the twentieth century, when minority shareholders were not legally protected under UK corporate law. Lastly, Braggion and Moore (2013) find that new technology firms with political directors raised more

external finance than unconnected new technology firms in the late nineteenth century.[3] These studies consistently show that the presence of elite directors sends information to the market about the potential future value of the firms on whose board they sit, and that they positively influence the outcomes of new issues.

Apart from communicating information about the value of firms, elite directors have other board roles to perform that could enhance the wealth of shareholders in the long-term. Sitting at the apex of organisational decision-making and key governance control mechanisms, directors are responsible for monitoring and advising managers, hiring, firing, assessing top managers and setting the firm's strategy from an agency perspective (Adams et al., 2010; Jensen and Meckling, 1976). In recent decades, emphasis has been placed on the optimal composition of boards of directors that can effectively monitor managers and enhance shareholder wealth.

By modelling boards as monitors of, and advisers to, management, the theoretical study by Harris and Raviv (2006) finds that the dominance of outside directors may reduce a firm's value if inside directors possess superior information. They suggest that where outside directors would incur higher costs for obtaining important decision-making information, boards should comprise more inside directors. However, they argue that the scale of agency cost should influence board composition and that firms with considerable agency costs would be better off with outside directors dominating the board, irrespective of the cost of information. Agency cost arises when managers seek self-interest as a result of the separation of ownership from control, which is the norm in most public firms (Jensen and Meckling, 1976).

Raheja (2005) also examines the composition of boards. This theoretical study suggests that the costs incurred by outside directors monitoring management set against the potential private benefits that could potentially accrue to inside directors due to inferior decision-making determines the ideal composition of a board. Firms with high monitoring costs should appoint more inside directors, who will be better informed about decisions where incentives for private benefits are low, but firms with low monitoring costs should appoint more outside directors. More importantly, Raheja (2005) notes that ideal board composition is not static and should change from time to time as a firm moves through different stages in its life cycle.

Similarly, Duchin et al. (2010) empirically show that outside directors positively influence firm performance when the cost of obtaining information is low and negatively influence performance when the information cost is high. They also find that firms structure their boards in ways that show their awareness of the moderating role of the cost of information on the outside-director performance relationship. Using a sample of unregulated US firms, Linck et al. (2008) also show that,

[3] 'Political director' refers to an MP and/or peer. 'New technology firm' is defined as a firm operating in the chemical, electricity supply and generation, or bicycle and motorcar industries.

when structuring boards, firms consider the costs and benefits of the monitoring and advisory roles of outside directors. Based on their findings – that having fewer outside directors is associated with high levels of ownership by managers – they suggest that monitoring by outside directors could be substituted with managerial ownership.

Using a sample of new issues promoted in the US from 1988 to 1992, aimed at empirically testing a board-monitoring hypothesis by tracking changes in board structure over a ten-year period from issue date, Boone et al. (2007) found a negative relationship between having outside directors on the board and managerial ownership. More importantly, they report that the size and composition of a board mirrors the complexity and breadth of the operation and the competitive environment of any given firm. However, they found no support for the argument of a trade-off between the cost of monitoring by outside directors and the private benefits that could accrue to managers.

In more recent studies, the debate on board composition has drifted towards the effectiveness of outside directors as it relates to firm performance. For example, Guo (2015) examined CEO turnover sensitivity in relation to compliance with the US market listing rule that requires the majority of a board to be outside directors, and found that firms complying with this rule had a higher probability of involuntary CEO turnover if they performed poorly in the post-listing rule periods. The study concludes that outside directors are more effective monitors, hence regulation that enforces a majority of outside directors on a board could be of benefit to shareholders, particularly where the cost of obtaining information is low. Similarly, Lamoreaux et al. (2019) found that CEO involuntary turnover following a fall in performance was more likely when firms adopted the lead independent director board role.

The importance of the monitoring and advisory role of outside directors is further demonstrated in the experimental study of Masulis and Zhang (2019). Using the external distractions, private or professional, faced by outside directors to examine their influence on firm performance, Masulis and Zhang (2019) found a negative association between the presence of a distracted outside director on a board and firm performance. Performance was proxied with return on asset and Tobin's Q. This negative effect was more pronounced when outside directors were engaged in key roles such as serving on an audit committee. Hence, they conclude that shareholder wealth could be enhanced by outside directors.

To control for the endogeneity problem associated with the outside-director performance relationship, so the contribution of outside directors to performance could be exogenously identified, Nguyen and Nielsen (2010) examined the shock effect of the sudden death of an outside director on the stock performance of firms. They found that the sudden death of an outside director was associated with about 0.85% fall in the share price of a firm, particularly when the outside director served on the audit committee or performed an important board role. Their study suggests that the value of the contribution of an outside director is related to the extent of their independence.

Similarly, Dahya et al. (2019), examining the importance of outside directors on performance during merger and acquisition, which often creates considerable agency conflict between managers and owners, found that acquirer stock value in the UK was positively related to the proportion of outside directors on a board, particularly when a publicly traded firm was the target. They corroborate this result by repeating their analysis with samples obtained from the US takeover market, with results similar to those reported for the UK market (Dahya et al., 2019). Based on the strong effect observed during the Cadbury 1992 reform, compared to the Higgs 2003 reform in the UK, they suggest that an optimal structure exists for board composition.

In relation to an emerging economy, Liu et al. (2015) show a positive and significant relationship between operating performance and the presence of outside directors on boards in China. This relationship is more pronounced when the cost of acquiring information is low and when there are high agency costs. They partially ascribe their results to the ability of outside directors to ensure that firms invest in optimal projects and prevent insider directors from accruing private benefits through self-dealing. Their study suggests that outside directors play an important governance role in an emerging economy.

Additionally, Liang et al. (2013), using a sample from the largest banks in China from 2003 to 2010, found a positive relationship between the proportion of outside directors and bank performance proxied with return on asset, and a negative relationship between board size and performance. To the extent that the attendance of outside directors at board meetings could signal the effective supervision of managers and enhance the ability of outside directors to monitor and advise managers, Liang et al. (2013) show a positive relationship between attendance at board meetings and bank performance.

Despite the wide range of empirical evidence suggesting that the role of outside directors in monitoring and advising positively influences firm performance, there is some evidence to suggest otherwise. For example, Volonté (2015), examining the relationship between outside directors and firm performance in Switzerland, where the market for directorship is illiquid, found no significant association between the market performance of Swiss firms and the proportion of outside directors. They conclude that the proportion of outside directors on boards does not influence firm value. Similarly, Adams and Jiang (2016) find no relationship between the percentage of outside directors on a board and the financial performance of insurance firms in the UK. In their investigation of the corporate boards of firms in four countries in East Asia, Ramdani and Witteloostuijn (2010) also find no significant relationship between the proportion of outside directors and the operating performance of small and large firms.

Some studies report that the monitoring and advisory roles of outside directors negatively influence firm performance. For example, Bhagat and Bolton (2008) report a negative association between the operating performance of firms and the proportion of outside directors on boards. They also report

a positive relationship between the turnover of managers arising from disciplinary actions in firms that perform poorly and the proportion of outside directors. Using these findings, they conclude that the reasons for having more outside directors on boards should be carefully considered by those advocating for such boards. In a corporate environment with a more diversified board composition such as in France, Cavaco et al. (2017), controlling for unobservable director heterogeneity, also found a significant and negative relationship between the proportion of independent directors and firm performance. According to the authors, the information deficiency problem of outside directors who are not affiliated to a firm reduces their ability to be effective monitors and advisers.

Although the controversy regarding the outside-director performance relationship using agency theory remains unsettled, a growing stream of research seeks to investigate the resource role of the corporate board in providing answers to the board performance relationship. These studies are based on the argument that directors are able to offer both human and social capital resources to the firms on whose boards they sit (Pfeffer, 1972; Pfeffer and Salancik, 1978). More importantly, the integration of these resources with the monitoring and advisory roles of directors when examining the board performance relationship provides robust and reliable results (Hillman and Dalziel, 2003). These arguments have been widely supported empirically (Hillman et al., 2009).

Minton et al. (2014), for example, found that banks with more outside directors possessing financial expertise during 'normal periods' between 2003 and 2006 had a better stock performance than counterparts with less financial expertise on their boards. In addition, the financial expertise of outside directors increased the risk profiles of these banks and was associated with poor performance in periods of economic crisis. Observing the market reaction to the appointment of outside directors with financial expertise who also served on audit committees, Defond et al. (2005) also show that the accounting expertise of outside directors is positively associated with stock performance, given that a firm has a strong governance structure in place, and allowing for the effective use of that expertise; non-accounting financial expertise has no effect. Additionally, Adams and Jiang (2016) show that the financial expertise of outside directors positively influenced the performance of insurance firms in the UK. Hence, the financial expertise of outside directors could increase the wealth of shareholders because such directors could monitor and advise managers more effectively.

The relationship between the professional and technical expertise of outside directors and the success of a firm, particularly the relationship between industry expertise and firm performance, has also been examined in various contexts. Using samples obtained from S&P 500 index, Wang et al. (2015) found that the proportion of outside directors with industry expertise on an audit committee was negatively related to the likelihood of earnings manipulation and reporting misleading financial statements. According to the authors, industry expertise is obtained from previous engagements at managerial level in related industries. The ability of outside directors to effectively monitor managers is enhanced by the knowledge and expertise they have gained from previous engagements. Similarly,

Vandenbroucke et al. (2016) examined the effect of the expertise of outside directors on the technological and market performance of early-stage high-technology firms in Belgium.[4] Their results show that outside directors' market and sales expertise positively influenced market performance, while the research and development experience of outside directors had no effect on technological performance.

The effect of the relational resources of outside directors, particularly their connections with other boards, has also been examined, though with mixed findings. For example, a study by Devos et al. (2009) indicates that the presence of directors with connections to other firms weakens the ability to effectively monitor managers and hence results in weak governance. In particular, they show that directors with connections to other firms influence operating performance negatively, and lower the probability of CEO turnover when firms' perform poorly.

By contrast, Horton et al. (2012) show that a firm's connectedness with other firms through outside directors is associated with better future performance.[5] More importantly, they show that outside directors are rewarded for their social relationships to the extent that those with high numbers of connections receive greater remuneration. Horton et al. (2012) conclude that connections are not used by outside directors to secure economic rents rather it enhances performance.

The studies reviewed mostly show that the resources of outside directors enhance their ability to be effective monitors and advisers, with an associated positive influence on the wealth of shareholders. Contemporary firms have been the main focus of these studies. However, an examination of the relationship between the role of elite directors as controllers of resources and firm outcome from a historical perspective could provide robust insights and a significant contribution to research on board structure and its influence on firm performance. Elite directors are controllers of essential resources that have the potential to positively influence firm outcomes. Their reputation and resources put them in a position where they are able to effectively monitor and advise managers.

Few studies have examined the role played by elite directors in influencing firm performance in the UK during the late nineteenth and early twentieth centuries, and their conclusions are mixed. For example, Fjesme et al. (2018) report that elite directors negatively influenced the performance of share issues promoted on the LSE in the period 1891–1911. In contrast, Acheson et al. (2016b) find that elite directors influenced the performance of brewery firms positively in the period 1880–1913. Other studies show that the appointment of elites to boards of directors had no effect on firm performance (Burhop et al., 2014; Grossman and Imai, 2016).

[4] The authors defined technological performance as the amount of time it takes to file the first patent and the number of patents filed, while market performance is defined as the amount of time it takes to launch the first product to the market and the number of products.

[5] Connectedness was proxied with closeness and brokerage position.

It appears that little attention has been given to the resources of elite directors, who could range from aristocrats to political or business elites. For example, aristocratic elites had financial resources, land and land-related managerial resources (Amini and Toms, 2018; Braggion and Moore, 2013; Rubinstein, 1977), while political elites had regulatory lobbying resources (Rutterford, 2011) and business elites had financial resources (Cain and Hopkins, 1987). This gap suggests the need for an empirical study into the specific resources controlled by UK elites when examining the relationship between board structure and firm performance.

2.2 London Stock Market

The stock market in the UK during the nineteenth century can be broadly classified as the London Stock Exchange (LSE) and the Provincial Stock Exchanges (PSEs), also known as regional markets. Prior to the invention of the telegraph and telephone in the mid-nineteenth century, these markets traded in isolation, with the PSEs relying on receipts of closing prices from the LSE (Michie, 1986). Technological advances in communication and the flotation of firms on two or more markets hastened the integration of the LSE and the PSEs (Chambers and Dimson, 2009; Michie, 1986). According to business historians, the LSE attracted more foreign and British Empire new issues during the nineteenth century and was the largest stock market in the world at the turn of the twentieth century (Hannah, 2007b), while the PSEs provided major finance for regional firms (Campbell et al., 2016; Fjesme et al., 2016).

Floatation on PSEs was not regulated, with the exception of the Manchester and Liverpool exchanges, which imposed modest regulations towards the end of the nineteenth century by adopting LSE listing requirements (Thomas, 1973). On the other hand, the LSE, which is the focus of this study, regulated firms based on the market segment on which admission was sought (Burhop et al., 2014). Firms seeking floatation on the LSE could either trade as 'official quotation' or as 'special settlement'. The official quotation segment of the market was slightly regulated, while the special settlement segment was unregulated.

Firms seeking official quotation were required by the LSE to have their articles of association approved by the Stock Exchange Committee and had to comply with the provisions of the exchange (Cheffins, 2008). Exchange provisions prohibited firms from buying back their own shares, required the disclosure of directors' interests in any contract and prohibited such directors from voting in respect of the contract (Gore-Browne and Jordan, 1908). Disclosure by firms was also enhanced, including the commitment of firms to prepare and distribute balance sheets and profit and loss statements to shareholders (Cheffins, 2008). It required directors to own shares in the issuing firm, limited the borrowing powers of directors and empowered directors to appoint qualified individuals

as directors to fill vacancies or to increase numbers on the board, provided the maximum number of directors was not exceeded (Gore-Browne and Jordan, 1908).

The face content of the share and stock certificates of firms seeking official quotation were also specified in the listing rules. First, the authorised share capital plus the authority that constituted the firm must be stated. Secondly, if shares in different classes were of the same denomination, the specific number of shares in any class of capital must be stated. Lastly, a footnote indicating that the transfer of shares would be accompanied by the production of certificate was required (Gore-Browne and Jordan, 1908).

Furthermore, it was a condition of the LSE that the prospectus of any firm seeking quotation should be publicly advertised, the content of the prospectus must be consistent with the articles of association or the Act of Parliament, the terms of redeeming debenture were stated where applicable, and the prospectus provided for the offer of at least half of the authorised capital, with a minimum payment of 10% on subscription (Gore-Browne and Jordan, 1908).

Another form of regulation was the 'two-third rule', established in the mid-nineteenth century, which applied to the class of shares offered to the public by firms seeking official quotation. The two-third rule implied that directors/insiders of any officially listed firm could not have a shareholding that was more than one-third in any class of shares offered to the public (Cheffins et al., 2013). Before the application for official quotation was granted, two-thirds of any class of shares issued to the public should have been applied for and unconditionally allotted to the public (Gore-Browne and Jordan, 1908).

The findings of the existing literature on the effectiveness of the two-third rule is inconsistent. According to Hannah and Foreman-Peck (2014), large firms that were officially listed on the LSE complied with the rule. Cheffins et al. (2013) found that ownership and control by directors and other insiders in officially quoted firms exceeded one-third, while firms that traded by way of the special settlement complied with the rule, even though it did not apply to them.

The LSE Committee only granted an official quotation when an issuing firm had complied with the company formation rules and exchange listing rules (Gore-Browne and Jordan, 1908). It was conventional for issuing firms seeking official quotation to initially apply for a day when trades in shares would be settled, known as the 'special settling day'. This is important because all prior transactions were only deemed completed on the settling day (Gore-Browne and Jordan, 1908). It was also common practice for the Share and Loan Department to make enquiries about the names of special securities that were traded frequently and required the quotation of such securities (Gore-Browne and Jordan, 1908). The benefits that accrued to officially listed firms included transparency, liquidity and a high share price (Cheffins, 2008; Hannah and Foreman-Peck, 2014). To some extent, LSE regulations for firms seeking official quotation offered protection to shareholders.

Unlike official quotation, LSE regulations on special settlement only required a firm to provide a sample of its share certificate, its call letter and its certificate of incorporation to the secretary of the Share and Loan Department, and to file its prospectus (Gore-Browne and Jordan, 1908). In addition to the above, the firm had to show that its share certificates were ready for issue, state the specific number of shares allotted to the public and vendors, disclose the particulars of its capital, and state whether unissued shares were to be held for future issue or for vendors (Gore-Browne and Jordan, 1908).

The efficiency of LSE regulations in improving firm performance has been empirically examined. For example, Burhop et al. (2014) studied the impact of LSE regulations on the survival of new issues in the first decade of the twentieth century, showing that 13% of new issues failed in the first five years of going public. Interestingly, 12.6% of the 13% were from the special settlement arm of the London market. Similarly, Burhop and Chambers (2010) compared the performance of firms promoted on the LSE and the Berlin stock market, given the strict regulation of the latter. Their study shows that 100% of firms promoted on the Berlin market survived, 97% of officially quoted firms survived and 81% of special settlement firms survived on the LSE. Burhop and Chambers (2010) conclude that investment in the Berlin stock market and the official quotation segment of the LSE generated positive returns, while special settlement firms underperformed in the market.

In summary, firms could trade on the special settlement segment or the official list of the LSE, depending on their application and compliance with regulations, particularly those firms seeking official listing. This flexibility gave investors a wide range of investment opportunities but came with associated risks given that high-quality and low-quality firms coexisted in the market.

Hence, there was a need to put in place other control mechanisms for the benefit of investors to complement the regulations of the LSE and to reduce the risk of failure. Since UK corporate law failed to provide protection for investments in public firms, the appointment of elites to boards of directors was one of the major ways firms gained the trust of investors in the UK during the nineteenth century (Franks et al., 2009). To the extent that investors trusted the reputation of elite directors, these individuals were obliged to enhance firm value by performing their board roles to avoid reputation damage.

2.3 Summary

Previous studies consistently show that the value of new issues was positively influenced through the appointment of elites to boards of directors and that these directors facilitated access to capital markets. As controllers of resources that were essential to the operations of firms, elite directors had a duty to actively engage with firms using their resources, and to monitor and advise managers in the interests of shareholders. Despite the extensive contemporary evidence on the resource role of elite

directors and its relationship to firm performance, this type of study has attracted little attention from business historians.

The activities of firms promoted on the LSE at the turn of the twentieth century presents a unique opportunity to examine the resource role of elite directors in more detail. First, new firms emerged from new industries with associated resource demands and promotions on the LSE. Second, the activities of firms promoted on the LSE were mostly distinct and separate across industries, which offers further opportunity to examine the specific resource needs of firms by industry. Lastly, British elites, particularly the aristocratic elites, were socially, economically and politically important until 1914. And they were controllers of the resources required specifically for the operations and subsequent performance of certain firms.

An examination of the resource role of the British elites in enhancing the operation and performance of firms would, therefore, contribute significantly to research on board structure, corporate governance and resource dependence theory by providing insights from a historical perspective. In particular, how do the resources of the British elites influence their appointment to the boards of new issues? Do the resources of the British elites influence the long-term performance of new issues? Do resources from interlocks play any role in influencing long-term performance? This thesis provides an empirical examination of these research questions.

3 Sample and Data

This chapter has three sections. The process of obtaining the main dataset of new issues used to examine the specific research questions in all empirical chapters is discussed in the first section. The second section addresses the definition of 'British aristocracy' in the context of this study and some of the characteristics of new issues. The last section discusses the methodology used to address the research questions.

3.1 Sample

The primary dataset used by this thesis comprises all firms promoted on the LSE from 1891 to 1914. New issues must fulfil two conditions to be included. First, the application made to the LSE for admission must be accepted; this information was hand-collected from the *LSE Listing Application Report Book*, photographed in the archives of the Guildhall Library, London. Second, firms with an accepted application must have an advertised prospectus. The prospectuses of new issues were photographed from the *Times Book of Prospectuses*, made available by the Guildhall Library, London, and viewed online through the *Financial Times* and *The Economist* historical archives, available on gale.com. Following Braggion and Moore (2013), firms in the financial, gas and water industries were excluded due to their strict regulations. Firms offering debt finance, such as debenture, were also excluded. The dataset consists of 920 firms with total issue proceed of £135.3 million.

Table 3-1 shows the distribution of the dataset by year and proceed. The number of new issues fluctuated from time to time, with some particularly cold and hot periods. Promotion of new issues was cold from 1891 to 1894, but market excitement over cycles and related industries resulted in increase in promotions from 1895, which peaked between 1897 and 1898. This was followed by the start of another cold period of issue that lasted for almost a decade, though activities slightly picked up in 1906. Activities started to pick up notably from 1909, with a peak in 1910 due to speculations in rubber share issues. The average capital raised from share issues also fluctuated from time to time.

Table 3-1: New issues descriptive by year, 1891–1914

Year	Observations	Proceed (Average, £)
1891	5	151,000
1892	7	99,643
1893	5	190,190
1894	8	273,000
1895	28	190,000
1896	41	315,000
1897	63	163,000
1898	63	181,000
1899	46	149,000
1900	29	152,000
1901	26	124,000
1902	19	245,000
1903	22	162,000
1904	6	146,000
1905	19	158,000
1906	41	111,000
1907	33	157,000
1908	29	121,000
1909	53	99,619
1910	208	105,000
1911	78	112,000
1912	41	149,000
1913	33	207,000
1914	17	129,000
Total	920	3,889,452

Note: Proceed is a continuous variable representing the amount of proceed made from issue.

3.2 Presence of Aristocrats on Board

The appointment of elites to the boards of public firms became prevalent in the UK at the turn of the twentieth century. According to Grossman and Imai (2016), the use of elite directors on the boards of banks increased by 30% between 1879 and 1909. Similarly, Braggion and Moore (2013), show that the appointment of elite directors increased by 11% between 1895 and 1900. The aristocratic category of British elites were landowners whose experience largely came from managing their private estates and /or their engagements in the British Empire, which could be valuable to the survival and growth of new issues.

To capture the presence of aristocratic elites on boards, this thesis defined aristocratic titles as any of the following, relying on the study of Amini and Toms (2018): Duke, Marquess, Earl, Count, Viscount, Baron, Lord, Sir and Hon. The titles of individuals on boards were observed from the Board of Directors sections of the prospectuses. Specifically, aristocrat is a dummy variable that is assigned the value of 1 if at least one director has an aristocratic title, and 0 otherwise.

The yearly distribution of aristocrat, along with other characteristics of new issues, such as firm age at issue (age) and the number of individuals on the board (boardsize), is reported in table 3-2. The proportion of new issues that recruited aristocrat varies from time to time. The presence of aristocrat was most prevalent in 1906, which could be attributed to an increase in the promotion of share issues in the motor and omnibus cab system, and was at its lowest in 1910, indicating a reduced need for their reputation due to speculation. The average age of a new issue ranges from 0 to 1.60 years, and the average boardsize varies from 4.14 to 6.60 directors. Interestingly, the boards of firms promoted during the boom in 1910 were smaller than in other periods and these firms were also younger.

Table 3-2: Yearly distribution of aristocrat, firm age and boardsize, 1891–1914

Year	Observations	Aristocrat	Age	Boardsize
1891	5	0.60	0.00	6.40
1892	7	0.43	0.57	5.43
1893	5	0.40	1.60	6.60
1894	8	0.25	1.00	5.63
1895	28	0.39	0.39	5.14
1896	41	0.42	0.27	5.29
1897	63	0.38	0.70	5.16
1898	63	0.37	0.60	4.97
1899	46	0.39	0.63	5.20
1900	29	0.24	0.72	5.24
1901	26	0.23	1.54	4.65
1902	19	0.21	1.32	5.11
1903	22	0.23	0.64	4.86
1904	6	0.17	1.00	6.00
1905	19	0.42	0.53	5.32
1906	41	0.61	0.37	5.10
1907	33	0.49	0.27	5.03
1908	29	0.31	0.66	5.07
1909	53	0.38	0.87	4.76
1910	208	0.38	0.12	4.14
1911	78	0.44	0.99	4.72
1912	41	0.39	1.42	4.46
1913	33	0.49	1.09	4.82
1914	17	0.47	0.88	4.47

Note: Aristocrat is a binary variable, taking the value of 1 for the presence of at least one aristocrat on the board of a new issue firm, and 0 otherwise. Age is a continuous variable, representing the difference between date of admission to the LSE and date of incorporation. Boardsize is a count variable, representing the total number of individuals on the board of directors.

3.2 Methodology

To address the research questions of this thesis, a quantitative approach supplemented with qualitative analysis was used to support a triangulated approach. In the first empirical chapter, logistic regression analysis in multivariate models was used to address research questions on the determinants of aristocratic representation on the boards of new issues. The use of a logistic regression approach is consistent with contemporary studies in resource dependence theory that seek to determine reasons for appointing certain individuals to boards of directors (Lester et al., 2006; Simmons, 2012). The robustness of the results obtained from the models was tested with two-stage residual inclusion regression (2SRI), with instrumental variables relying on the study of Goktan et al. (2018). The approach was shown to produce results that are consistent when certain variables are endogenous in nonlinear models (Terza et al., 2008).

The results obtained from logistic regression models were supplemented with case study evidence. The focus of each case studies was to examine the characteristics of aristocratic elites in more detail to determine the reasons for their appointment to the boards of new issues classified as 'land' and 'new technology'. To do this, the study relied on information sources such as *Who Was Who*, the *Financial Times*, *The Times* and the *Dictionary of National Biography*. In particular, information was obtained on land assets, areas of interest and the previous and current engagements of aristocrats to determine the reasons for their representation on boards.

The second empirical chapter applies quantile regression analysis to examine the influence of the agency and resource roles of aristocratic elites on the long-term performance of new issues. Quantile regression is a non-parametric approach that is not sensitive to outliers and makes no assumptions about normality or the distribution of error term (Lin et al., 2016; Suhail et al., 2019). The estimates of quantile regression are based on the conditional quartile of the dependent variable, unlike ordinary least squares estimates that are conditional on the mean of the dependent variable (Lin et al., 2016). Quantile regression analysis is more suitable for this study than ordinary least squares because most of the independent variables are binary and the dependent variable is affected by outliers.

The results from the quantile regression estimates were supplemented with case study evidence. The focus of the case study was to examine the impact of the international knowledge and connections of aristocratic elites in overseas locations on the performance of firms in the agriculture and horticulture industry. They also examine in more detail the characteristics of military directors. Information on aristocratic elites and military directors was mainly obtained from *Who Was Who*, the *Financial Times*, *The Times*, and *NewspaperSG*. *NewspaperSG* is a Singapore newspaper online archive that provides access to *The Malaya Tribune, The Straits Times,* and the *Singapore Free Press and Mercantile Advertiser*.

The third empirical chapter also applies quantile regression analysis in examining the board interlock performance relationship and the busy board performance relationship. Evidence obtained from the estimates was supplemented with case study evidence. The first focus of the case studies was to examine the experience of directors with interlocks, and the performance of new issues in those interlocks. The second focus was to examine the characteristics of directors on busy boards in poorly performing new issues. To do this, cases were randomly selected from a subsample of rubber firms promoted in 1910, based on the availability of director information. Information was obtained from *Who Was Who*, the *Financial Times*, *NewspaperSG* and the *Dictionary of Welsh Biography*.

4 Old Dogs and New Tricks: The British Aristocracy and the New Share Issues, 1891–1914

4.1 Introduction

The employment of elite directors in the UK gained popularity towards the end of the nineteenth century. The reasons for appointing these directors has been well documented: access to the capital market (Amini and Toms, 2018); access to external finance (Braggion and Moore, 2013); access to regulatory lobbying in parliament (Rutterford, 2011); and gaining the trust of investors (Franks et al., 2009; Rutterford et al., 2017).

The British aristocratic elites, who were among the most recruited elite directors, have attracted much attention from business historians. These were mostly landowners, whose landed assets became an important resource for some firms in the new industries in UK (Cain and Hopkins, 1987). The increasing demand for land resource by firms in these emerging industries coincided with a critical period for the British aristocracy, who were finding the disposal of land more attractive and its acquisition less attractive owing to agricultural depression, a reduction in income and the increasing demands of newly introduced death duties (Beckett and Turner, 2007). Hence, it could be argued that the British aristocracy accepted directorship appointments so they could continue to be relevant in the new economy, while firms in the emerging industries sought to appoint them to boards in order to secure resources that were valuable to them.

The study of the British aristocracy therefore presents a unique historic setting for examining board selection as the medium for acquiring external resources through the theoretical lens of the resource dependence theory proposed by Pfeffer and Salancik in 1978, which has been empirically supported by various studies since its introduction (e.g Boyd, 1990; Hillman et al., 2009; Howard et al., 2017; Reguera-Alvarado and Bravo, 2018; Zona et al., 2018). The theory posits that firms need to establish linkages with their external environment for the supply of the scarce resources they require for operation and survival. According to resource dependence theory, one way of establishing environmental linkage is through the strategic selection of board members who reflect external resource needs (Pfeffer and Salancik, 1978). However, the appointment of directors to reflect every resource need could result in an overly large, inefficient board. Hence, Boyd (1990) suggests that board selection should be based on resource-rich directors.

The British aristocracy serves as good case study for examining the appointment of resource-rich directors by firms to satisfy resource needs. In addition to land resource, the British aristocracy possessed the valuable resource of managerial expertise derived from their experience in land estate management (Beckett, 1988), and they had political and social influence (Cain and Hopkins, 1987; Cannadine, 1977), which provided the resource of legitimacy. Legitimacy resource in the context of

this study refers to the management of investors' impressions about the desirability and validity of a new issue (Überbacher, 2014). Firms in the UK could therefore strategically appoint aristocratic elites to boards of directors to secure access to land, managerial expertise and legitimacy.

This study aims to examine the contributions of aristocratic elites towards industrialisation in the UK by analysing a dataset of 920 new issues admitted to trade on the LSE from 1891 to 1914. In particular, the study examines the interdependence of aristocratic elites and new issues in securing access to resources required for survival and growth. The results show that new issues whose operations and survival primarily relied on the use of land resources were more likely to appoint aristocratic directors. Hence, this chapter suggests that aristocratic directors were recruited to gain access to land resources, which is consistent with the arguments of resource dependence theory. Interestingly, this study also finds that new issues operating overseas whose operations and survival relied on the use of land resource also strategically recruited aristocratic elites to secure access to managerial expertise. This evidence is supplemented by illustrative case study evidence.

In line with the Braggion and Moore (2013) study, which found that the appointment of aristocratic elites to boards of directors positively influenced the performance of new technology firms, the results of this study also show that firms adopting new production processes or producing brand new products strategically recruited aristocratic elites to secure access to legitimacy resource.

This chapter contributes to the existing body of literature on the role played by aristocratic elites during the emergence of new industries. Although aristocrats have been accused of distancing themselves from industrialisation in the UK, evidence from this study shows otherwise. In contrast, it shows that aristocrats, through their land ownership, managerial expertise and legitimacy resource, potentially contributed to the survival and growth of many firms. Hence, the appointment of aristocratic elites by new issues in the UK was not just symbolic, but also represents access to securing the scarce external resources required for survival and growth in the long term.

The chapter proceeds as follows: section 4.2 reviews the relevant literature and develops research hypothesis; section 4.3 describes data, variables, descriptive statistics and estimation models; model results and case study evidence are the focus of section 4.4; and the chapter concludes with section 4.5.

4.2 Literature Review and Hypothesis Development

This section reviews the relevant literature and develops research hypothesis. Subsection 4.2.1 reviews literature on the resource needs of firms and how the appointment of individuals to boards of directors could be used to access resources. Subsection 4.2.2 reviews the literature on the resources of the aristocratic elites and sets out research hypothesis.

4.2.1 Firms' Resource Needs

The general operations of firms require them to interact with and depend on the external environment; no firm is self-sufficient. However, studies have shown that firms may be able to rely on their corporate boards of directors to manage and react to external environment dependencies. The theoretical basis for these studies is the resource dependence theory proposed by Pfeffer and Salancik (1978). The central argument of the theory is that firms are constrained by their external environment, which results in interdependence for the supply of resources (Pfeffer and Salancik, 1978). In the context of resource dependence theory and this study, the environment refers to events that have a direct impact on a firm's activities, while constraint refers to the non-random response of a firm to a given event (Pfeffer and Salancik, 1978).

One of the main assumptions of resource dependence theory is that resources are scarce, hence firms depend on the external environment for supplies (Ulrich and Barney, 1984). The interdependence between a firm and its external environment is determined by the importance of resources to a firm's operations, the discretion of the interest group over the allocation and use of resources, and the control of the interest group over resources or the availability of alternatives (Pfeffer and Salancik, 1978). The theory posits that a firm would have the expectation that the primary concern of any director appointed to its board would be for its success and that such directors would continually show support by providing scarce resources (Pfeffer and Salancik, 1978). Hence, a board of directors is a major medium for managing environmental dependencies.

The linkage to the external environment gives firms access to tangible and intangible resources such as finance, legitimacy, commitment and support from key players outside the firm, and the provision of a communication channel between the firm and its external organisation (Hillman et al., 2000; Pfeffer and Salancik, 1978). In relation to resource dependence theory, and using the benefits identified by Pfeffer and Salancik (1978), along with the observable characteristics of directors in large firms, Hillman et al. (2000) propose a resource dependence taxonomy. This taxonomy categorises directors as insiders, business experts, support specialists and community influential. Each category satisfies different areas of need.

According to Hillman et al. (2000), insiders are directors who are currently serving or have previously served as staff or owners of a firm, who can provide it with information on both the internal and the

competitive environment. Business experts, on the other hand, are directors who are currently serving or have previously served on boards of large profit-oriented firms. These directors bring their market and competitive expertise, and their knowledge and experience of crucial decision-making. Another category of the taxonomy is the support specialist who supplies specialised expertise on matters relating to finance, business regulations and public relations. Directors in this category are lawyers, representatives from insurance firms, bankers and public relations experts. Lastly, community influential supply expertise in dealing with powerful groups in the society to avoid conflict. According to Hillman et al. (2000), these directors are similar to 'symbolic directors', referred to in Baysinger and Zardkoohi (1986), such as politicians, clergymen, social and community leaders, and institutional representatives. All categories of the taxonomy provide firms with legitimacy resource, except insiders (Hillman et al., 2000).

Resource dependence theory has been widely supported empirically in studies of board composition (Gales and Kesner, 1994; Hillman et al., 2009). A study by Pfeffer (1972) hypothesised that firms' external finance needs, accessibility to the capital market and regulatory environment have the potential to influence the ratio of outside to inside directors. Thus, board composition is not just a random selection, but a systematic action that reflects external environmental needs, with the aim of reducing uncertainty and securing access to sufficient resources (Pfeffer, 1972). The external resource needs of firms are therefore major factors in determining board composition (Daily and Schwenk, 1996; Singh and Delios, 2017). However, the ability of a given director to supply resources is dependent on the resource controlled by that director, which, according to Hillman and Dalziel (2003), is determined by their human and social capital.

A study by Boyd (1990) found that board composition responds to changes in a firm's external environment. Boyd empirically shows that the number of director interlocks increases when a firm is faced with competitive uncertainty and scarce resources. But contrary to the prediction of resource dependence theory that board size should increase as a firm's external resource needs increase, Boyd shows that board size provides limited linkage under the condition of uncertainty and scarce resources. According to the study, firms need to make an optimal decision between having a small board that may not be able to supply the adequate resources required and a large board that could supply resources but may not be efficient. In conclusion, Boyd suggests that the boards of firms facing environmental uncertainty or scarcity of resources should be compact and selected from resource-rich individuals outside the firm who have access to crucial linkages in the environment.

Boeker and Goodstein (1991) also report that boards of directors are key to establishing environmental linkages. Their study empirically examined changes in the composition of hospital boards of directors operating in California from 1980 to 1986 in response to environmental changes. They found that hospitals responded to changes in revenue, competitive environment and critical resource needs by changing the composition of their boards. Boeker and Goodstein (1991) suggest

that board composition should not be examined as a static relationship between a firm and its environment; rather, it should be in a continuous process of responding to environmental changes.

Observing an emerging market where more emphasis is placed on the resource role of directors due to governance structure and underdevelopment, Singh and Delios (2017) show that the growth strategies of firms, both domestic and foreign, can be enhanced through the appointment of directors with interlocks. Such directors could be considered as resource-rich directors whose resources are derived from connections with other firms. Zona et al. (2018) suggest that firms could overcome the problem of scarce resources through the formation of board interlocks with resource-rich firms. Hence, the magnitude of the resources that an individual possesses and the value of such a resource to the operation and survival of a firm should be the major determinant of the likelihood that they would be appointed as an outside director.

In a further study, Lester et al. (2008) empirically examine the attractiveness of former top US government officials leaving office between 1988 and 2003 for board appointments, classifying the human and social capital of former government officials as tenure in government service (depth) and the responsibilities associated with their official position (breadth). Their study borrows insight from the resource dependence theory by suggesting that the ability of a former official to meet the external resource needs of a firm should be related to the breadth and depth of their human and social capital. The findings of Lester et al. (2008) predict that the likelihood of an individual being appointed as a director is positively related to the breadth and depth of their human and social capital, but the chances of their being appointed deteriorates over time. Although Lester et al. (2008) could not directly observe the specific resources that former government officials brought to their boards, the study shows that, as the resources of a potential director reduce, their chances of getting a board appointment also reduce.

In a political environment where government plays an important role in the survival of firms, either through direct resource control or regulations, firms may rely on the appointment of political directors to secure survival in the short and long term. Agrawal and Knoeber (2001) demonstrate that large manufacturing firms in the US that were more likely to attract government oversight increasingly appointed political directors as a strategic response to the political environment. In an environment such as China, where resources are mostly controlled by the government, listed firms not generally owned by the government appointed independent political directors to gain access to preferential treatment through external debt financing and subsidy (Wang, 2015).

As a firm's environment changes from regulated to unregulated, Hillman et al. (2000) empirically show that board composition changes to reflect variations in resource need. Hence, the composition of boards is adjusted to reflect changes in the political environment. In a further study, Hillman (2005) empirically shows that firms in highly regulated US industries recruited more politicians on their boards than firms in a less regulated environment. Similarly, Shi et al. (2018) found that firms

operating in the regulated industries in China benefited from the appointment of political directors. These findings are consistent with the logic of resource dependence theory, which suggests that a firm's external environment should influence the composition of its board of directors.

Firms also respond to environmental uncertainty and resource scarcity arising from knowledge dependence. In the new technology industry, where knowledge is key to the operation and survival of firms, Howard et al. (2017) found that new technology firms established board interlocks with other firms that could be considered to be resource-rich in terms of technology advancement. According to their study, connections to resource-rich directors resulted in increased research and development collaborations and the avoidance of future patent litigation.

Using a longitudinal study of 17 large publicly traded media firms in the US, Simmons (2012) found that the composition of boards of directors in the media industry was altered to reflect changes in financial need and knowledge dependence owing to the emergence of new technologies (the introduction of internet and digital technologies). The study demonstrates that more 'new media' directors were appointed to the boards of large media firms during changes in the technological environment.

Reinforcing the need for firms to select their board members from resource-rich directors who can provide external resource needs including knowledge resource, Reguera-Alvarado and Bravo (2018) found that the appointment of directors from high-technology firms was associated with gaining access to expertise resource by low-technology firms. Such expertise is derived from the connections and knowledge of the high-technology director, which are both important to strategic decision-making (Reguera-Alvarado and Bravo, 2018).

In a similar study of a sample of S&P 1500, though not from a resource dependence perspective, Faleye et al. (2018) report that the growth strategies and the intensity of a firm's research and development investments strategically influenced the appointment of directors with industry expertise to boards. More importantly, Faleye et al. (2018) found that increase in research and development spending and the number of patents received were positively associated with the appointment of directors with industry expertise. The contemporary studies reviewed show that firms strategically select their board members from resource-rich individuals to overcome the environmental uncertainties arising from competition, regulation and the political environment, and scarce resource needs – financial, information and expertise.

However, the appointment of directors as the medium for gaining access to the external environment is not simply a modern response by firms during periods of uncertainty or resource scarcity. In the UK, during the last decade of the nineteenth century, firms recruited elite directors in the form of aristocrats, MPs and bankers to secure access to scarce resources. For example, the study of Amini and Toms (2018) empirically shows that regional firms in the cycle and related industries seeking listing by the LSE were more likely to recruit aristocratic directors than firms seeking regional listing.

The study further shows that new issues with aristocratic directors raised more external finance than firms without them.

Similarly, Braggion and Moore (2013) demonstrate the use of board composition as a way of gaining access to external finance with their sample of 467 British firms that traded on the LSE between 1895 and 1904. They found that new technology firms which appointed political directors to their boards raised more equity and debt finance than new technology firms without political directors. Consistent with the findings of Hillman (2005), Rutterford (2011), using a historical perspective, reports that UK firms with parliamentary dealings found the enlisting of MPs to boards of directors more beneficial in terms of regulatory lobbying, while aristocrat directors were used to legitimise activities.

Similarly, Franks et al. (2009) report that the reputation of elite directors contributed to the separation of ownership from control, given that, prior to 1950, the legal system in the UK was weak in protecting the interests of outside investors. In examining the factors that contributed to the geographical dispersion of investors in the UK during the late nineteenth and early twentieth century, Rutterford et al. (2017) show that the appointment of titled directors broke investor preference for local investments because titled directors were trusted.[6] Hence, titled directors provided firms with their legitimacy resource needs, which is consistent with the taxonomy of Hillman et al. (2000) and the resource dependence theory argument which posits that firms could gain access to capital markets and external finance through their board composition.

In summary, resource dependence theory argues that firms need to establish linkages with their environment to meet their external resource needs, and that this can be achieved through the strategic appointment of resource-rich board members. This argument has been supported empirically by studies carried out in both contemporary and historical settings. However, historical research in the UK to date has focused more on the use of elite directors for securing access to external finance, the capital market, lobbing parliament and investors' trust.

4.2.2 Resources of the British Aristocracy

The recruitment of aristocratic directors during the late nineteenth and early twentieth century by new issues is of interest because they are commonly referred to as 'ornamental directors', who have little or no business knowledge. According to the argument of Hannah (2007), the appointment of aristocratic directors attracted negative comments from investors. However, despite this negativity associated with their appointment, Hannah (2007) briefly argues that the appointment of Lord

[6] Titled directors are individuals with at least one of the following titles: MP, peer, knight, justice of the peace (JP), or a military title.

Salisbury to the board of the Great Eastern Railway and the Duke of Marlborough to the board of Land Securities were beneficial to these firms.

It would therefore be inappropriate to generalise about the usefulness or otherwise of the presence of aristocratic directors from the body of existing literature, which has inconsistent findings to date. More importantly, there is a need to examine the appointment of aristocrats to boards of directors from the resource dependence perspective, based on the resources they controlled. This would enable this study to identify the contribution of aristocratic directors to infrastructural development during the emergence of new industries.

Aristocrats in the nineteenth century demonstrated great interest and expertise in land resources, through which they contributed immensely to the development of the UK economy. Beckett (1988) posits that aristocrats contributed to the development of the UK economy through their participation in agricultural activities, leasing of estate, urban and road development, and engagement in parliament. Aristocrats assumed managerial roles in activities, such as the exploitation of mining resources and urban developments because of their interest in land estates. They also demonstrated legal expertise in drafting lease covenants with colliery tenants (Beckett, 1988). Although aristocrats initially demanded outrageous sums from railway firms as compensation for land, they later embraced railway development and contributed about 28% in nominal capital to railway firms between 1820 and 1844 (Beckett, 1988). It is worth noting that the interest of aristocrats in the railway was particularly related to the provision of transportation for agricultural produce and access to the collieries (Beckett, 1988), which demonstrates the passion aristocrats had for their land estate.

Raybould (1984) asserts that, although aristocrats failed to directly engage in industrialisation during the late eighteenth and early nineteenth century, their activities created an enabling environment for the promotion of industrialisation. Their investment in mining, participation in urban development through the leasing of land to developers and road improvement, and lobbying of parliament for land-related regulations on canals and railways all contributed to the development of the UK economy. Raybould notes the need to examine the contribution of aristocrats to economic development in terms of social and political factors, not just capital investment and expenditure, in a society that was dominated by landed assets. Raybould's study focuses on the activities of aristocrats as they related to land enclosure, the renting of land estate for industrial and mining activities, and investment and lobbying in the transportation industry.

The active engagement of aristocrats in land is not surprising. Rubinstein (1977) reports that most of the wealthiest men in the UK prior to the last two decades of the nineteenth century were landowners who earned most of their income from land-related activities. Consistent with this, Cannadine (1977) argues that some aristocrats were able to offset their debt burden with burgeoning income earned from non-agricultural ventures on their estates. Aristocrats were more likely to keep a non-profitable

venture running because of their status and paternalism, and by so doing they invested funds in activities that enabled the promotion of the industrial sector (Cannadine, 1977).

From the 1880s, there was a continuous depression in the UK agriculture industry, a decrease in estate rental income and a decrease in the capital value of land, while the introduction of death duties on estates in 1894 made the accumulation of land estate less attractive to aristocrats (Beckett and Turner, 2007; Cannadine, 1990). The implication of these social and political factors affecting the attractiveness of investment in land was an increase in land estate disposal by aristocrats, either in part or in full, until the 1920s, to settle debt burdens (Beckett and Turner, 2007; Cannadine, 1990). The proceeds from sales of estates by wealthy aristocrats after debt settlement was re-invested in the capital market (Cannadine, 1990). Regardless of this change, aristocrats continued to remain landed, mentally and culturally (Cannadine, 1990). Their influence in the UK persisted both socially and politically until 1914 (Cain and Hopkins, 1987).

The period of increased land disposal in the UK by aristocrats, as reported by Beckett and Turner (2007) and Cannadine (1990), coincides with the emergence of new industries and its attendant promotion boom on the LSE. During this period, land became an important resource for some industries. It therefore follows from Raybould's and other studies of the land interests of aristocrats that there would be ongoing demand for aristocratic directors on boards of new issues that were aiming to develop infrastructure in order to secure access to the land resources essential for the operation and survival of these firms. Hence, firms operating in industries that relied on access to land for their primary operations and survival, including agriculture and mining amongst others, could appoint aristocratic directors as a means of securing access to land resource from the personal estates of those aristocrats themselves or through their networks with other landowners. It is therefore hypothesised that:

H_1: Land-related new issues were more likely to strategically appoint aristocratic elites to boards of directors to secure access to land resource in the UK.

Following the introduction of death duties, and the fall in land value, wealthy aristocrats preferred to acquire land overseas (Cannadine, 1990). Despite the decreasing income from land estates in the UK, these new investments sustained them as prominent individuals in society and the political arena at the turn of the twentieth century (Cannadine, 1977). However, although aristocrats did acquire overseas land, such acquisitions did not necessarily result in their control of land resources in those countries. Consequently, the appointment of aristocratic elites to the boards of overseas new issues whose activities relied on the use of land could not be explained simply as means of securing access to land resource. Hence, it is argued, the appointment of aristocratic elites by overseas new issues was for the purpose of securing access to the resource of land-related managerial experience.

In addition, a new class of aristocrats emerged in the UK towards the end of the nineteenth century. These were, in the main, not landowners but had been awarded aristocratic titles because they were

successful businessmen or industrialists, or had made a significant contribution to administration in the colonies (see Daunton, 1989; Pumphrey, 1959; Rubinstein, 1981). According to Perkin (1989), the acquisition of land estate was the main prerequisite for gaining an aristocratic title before the 1880s. However, this pattern changed after the 1880s, as a new set of wealth-holders awarded aristocratic titles acquired land estate as a matter of style and choice rather than as a ticket to the world of the aristocracy (Perkin, 1989). The implication of this is that individuals who were now being made aristocrats were unlikely to own the land resources that were a feature of the aristocracy in previous periods, and therefore may not necessarily have managerial experience directly derived from land estates. However, such individuals did possess expertise derived from the management of business or experience in the Empire, which was also very important to the operation and survival of new issues.

In describing the integration of the new aristocrats with the old ones, Lady Dorothy Nevil in Perkin (1989) writes that the old aristocrats 'sell their ancient houses to new aristocrats, and entreat the new ones for their sons who are seeking a career in the city'. Channon (1999) suggests that the focus of the sons of the old aristocrats was redirected from the management of land estates to business and professional work. This illustrates the importance of old aristocrats acquiring business expertise, which could then sustain them in a changing environment.

In addition to expertise obtained locally, first-hand knowledge and personal dealings outside the UK were increasing required for appointment to the boards of overseas firms (Brayshay et al., 2007). The implication of this is that there was an increased need for the expertise of aristocrats with business dealings abroad or military duties outside the UK, or those with expertise in the management of the affairs of Empire by new issues operating overseas. This study therefore argues that aristocrats were appointed by overseas land-related new issues as a means of securing the managerial expertise resource required for its operation and survival. It is therefore hypothesised that:

H_2: Land-related new issues operating overseas were more likely to recruit aristocratic elites to boards of directors to secure access to managerial expertise resource.

The emergence of new industries brought about the introduction of industries adopting new processes of production and, in some cases, the production of an entirely new product. Firms operating in these industries faced financial difficulties (Amini and Toms, 2018; Braggion and Moore, 2013; Quinn, 2019) because the average British investor preferred to invest in safe havens such as well-known local investments or government bonds (Harrison, 1981). British investors at this time were unable to fully understand the operations of these new firms, which resulted in an information gap between investors and the new technology firms (Braggion and Moore, 2013; Quinn, 2019). The consequence of this information gap was to increase the barriers to securing access to the financial resources required for these new firms' operation and survival.

However, studies have shown that firms adopting new production processes or producing new products overcame these barriers to financial resourcing by appointing aristocratic elites and other titled individuals to their boards of directors (Amini and Toms, 2018; Braggion and Moore, 2013). These findings are not surprising since aristocratic elites were trusted by British investors (Franks et al., 2009; Rutterford et al., 2017). For example, Harrison (1981) argues that, in order to attract the interest of investors, firms adopting new production processes or producing new products sprinkled glitter on their prospectuses with the names of the aristocratic elites who had agreed to serve on their boards of directors. The appointment of aristocratic elites to boards of directors signalled their endorsement of the activities of these firms and sent a message to potential investors that the firm's activities had been validated by prominent individuals on the board of directors (Fisher et al., 2017), which may not necessarily have been the case.

Firms producing new products or adopting new production processes therefore provide a good setting for empirically examining the legitimacy resource of aristocrats. More importantly, the operation of these firms did not heavily rely on land resource, so the land-related expertise of aristocrats was also of minimal benefit to them. However, these firms could rely on the legitimacy resource of aristocratic elites to certify their operations. In accordance with previous studies and the resource dependence theory, this study argues that firms operating in the new technology industries validated their activities to British investors by appointing aristocratic elites to their boards of directors. It is therefore hypothesised that:

H_3: New issues adopting new production processes or producing new product entirely strategically appointed aristocratic elites to boards of directors to secure access to legitimacy resource.

4.3 Data, Measures, and Estimation Models

This section discusses the data used for this chapter in subsection 4.3.1; subsection 4.3.2 discusses variables; subsection 4.3.3 discusses descriptive statistics; and, finally, subsection 4.3.4 discusses estimation models.

4.3.1 Data

The dataset used in this study was hand-collected from the *LSE Listing Application Report Book* and the *Times Book of Prospectuses* for the period 1891–1914. New issues whose information could not be identified in both sources were excluded from the database, and both sources are available for viewing and photography in the archive section of the Guildhall Library, London. The data collection period starts from 1891 because the end of the nineteenth century in the UK marked the period when aristocrats increasingly took up directorship positions, and the study period ends in 1914 because the influence of aristocrats became weaker in politics and society as a whole after this period (see Cain and Hopkins, 1987; Grossman and Imai, 2016; Perkin, 1989).

Only firms issuing equity or preference shares were included in the dataset. Following Braggion and Moore (2013), firms operating in the finance, gas and water industries were excluded from the dataset. The dataset includes firms operating outside the UK. A dataset consisting of a total of 920 new issues was constructed. Information on the amount of external capital raised from the public, date of incorporation, date of admission to the LSE, primary place of operation, description of primary activity and type of share issued to the public was collected from the *LSE Application Report Book*. Information on the composition of corporate boards and titles of directors was collected from the Board of Directors section of the *Times Book of Prospectuses*.

Figure 4-1 shows the yearly distribution of firms in the dataset, which fluctuates from year to year, indicating years of promotion boom and cold issues. The volume of new issues at the start of the period was very low, with five issues in 1891, which increased significantly to 28 issues in 1895; by 1897, the volume of new issues had increased to 63 issues. This is not surprising as the year 1897 coincided with the promotion boom in the cycle and related industries in the UK, which built from 1895 (see Amini and Toms, 2018). The boom was sustained until 1898, as shown by the dataset, and started to decline in 1899 with 46 issues. By 1900, the volume of new issues had fallen to 29 issues, though this was about a 480% increase from the start of the period in 1891.

In 1901, the volume of new issues decreased to 27 issues, which reflects a gradual decrease from the boom in 1897, and by 1904 it had reduced to six issues. However, the volume of new issues started to increase from 1905 to 1906, with another gradual decrease in volume from 1907 to 1908. The year 1910 had the highest volume of new issues in the entire period of study, representing 22% of the dataset. This year shows the second promotion boom that occurred on the LSE during the period of

study, which was about a 230% increase from the promotion boom in 1897 to 1898. The boom in 1910 reduced to 78 issues in 1911 and to 17 issues in 1914. The promotion boom shown by the dataset was largely influenced by some industries.

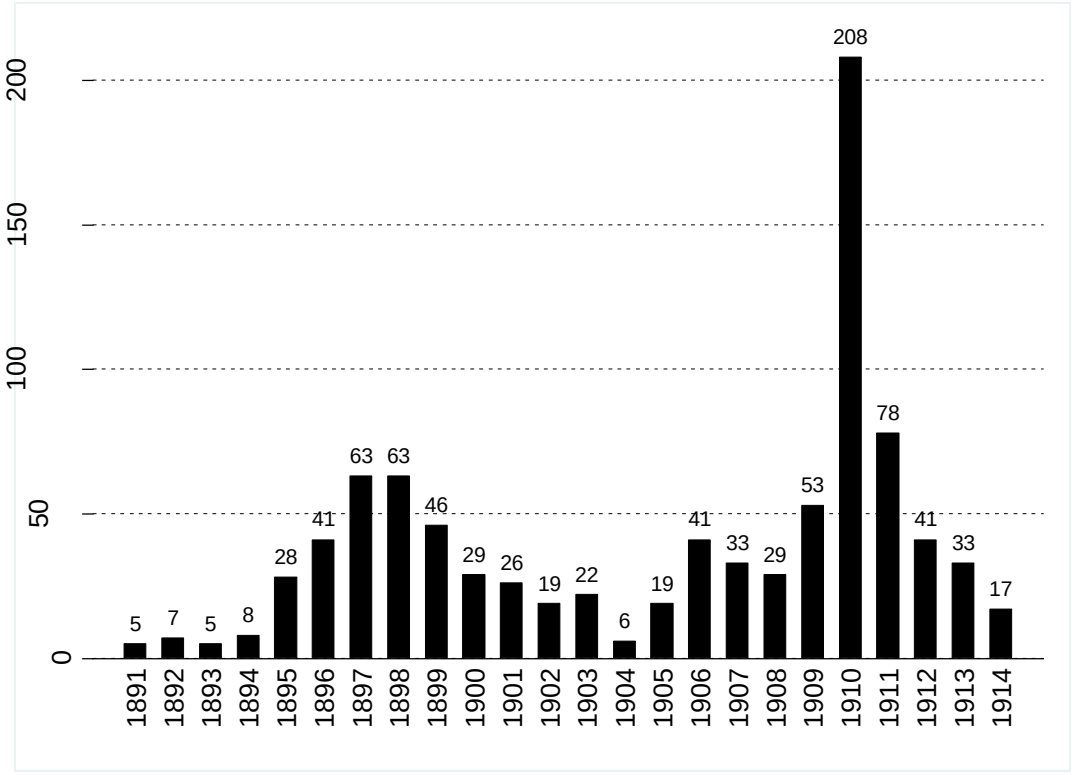

Figure 4-1: Volume of new issues, 1891–1914
Source: *LSE Listing Application Report Book*, 1891–1914.

The *LSE Listing Application Report Book* and the prospectuses of new issues provide information about the primary activities of firms; based on this information, new issues were grouped into industries. This study relies on the UK Standard Industrial Classification (SIC) 1948 in grouping new issues into industries.[7] Tables 4-1, 4-2 and 4-3 show the breakdown of new issues' distribution by industry and by year, grouped by decade. This classification highlights the trends and variations in the volume of new issues by industry and year. Industries such as agriculture and horticulture, clothing and textiles, distributive trade, food, drink and tobacco, mining and quarrying, transportation, communication and construction and vehicle significantly influenced the volume of new issues in the UK during the period of study, although these industries peaked at different times.

[7] New issues in the dataset cut across twenty industries, so based on the low volume of firms in certain industries, this study merged industries with similar activities together resulting in fourteen industries. Textiles was merged with clothing to have clothing and textiles. Metal manufacture, other manufacturing, precision instruments, and manufacture of wood and cork was merged together as manufacturing. Treatment of non-metalliferous mining products other than coal and miscellaneous services was merged together as others.

The clothing and textiles, distributive trade, vehicle, food, drink and tobacco industries peaked in the first decade. The vehicle industry peaked in 1897 with 12 issues, representing the highest number of issues in this industry for the entire period of study, while the distributive trade industry peaked in 1897 and 1898 with 10 issues in each year. New issues in food, drink and tobacco peaked with 10 issues in 1897, while issues in clothing and textiles peaked in 1900 with seven issues. Promotions in distributive trade contributed 15% to the boom in the first decade. Distributive trade was becoming more important industry due to rapid growth in multiple retailers during this period. Actually, this period establishes what we understand by modern retailing.[8] Also, promotions in food, drink and tobacco and the vehicle industries contributed 14% each to the boom in the first decade. However, the volume of new issues in these industries reduced in the second decade to half or less of the volume in the first decade.

The promotion boom in the second decade was influenced by promotions in agriculture and horticulture, mining and quarrying, and the transportation, communication and construction industries. The transportation, communication and construction industry peaked in 1906 with 13 issues, representing 32% of total issues. This increase was influenced by the introduction of the motor and omnibus cab system, which was partly influenced by the boom in the vehicle industry the previous decade.

The agriculture and horticulture industry significantly influenced the promotion boom in 1910, with a total of 162 issues representing about 78% of total issues in 1910. Although numbers of new issues in this industry were very low at the beginning of the second decade, with only two issues in 1901, this later increased to 13 issues in 1906. The boom in 1910 was greatly influenced by the promotion of rubber estates, not unnoticed by the *Financial Times*.[9] This is not surprising: the boom in rubber estates illustrates the increase in the demand for rubber for tyre production by the vehicle industry that boomed between 1896 and 1897. Finally, issues in the mining and quarrying industry also peaked in 1910, with 30 issues, representing about 14% of total issues in that year. Altogether, the agriculture and horticulture and the mining and quarrying industries contributed 92% to the boom of 1910.

[8] See, Alexander, N. and Akehurst, G., The emergence of modern retailing, 1750-1950 (London: Frank Cass, 1999), p.11.

[9] 'No day without its rubber company might almost be said of the present times in the City, but the activity of the industry and of the share market is so great, to say nothing of the rising price of the product, that a corresponding activity in the promoting world is little to be wondered at.' Quoted from the *Financial Times*, July 12, 1909, p.4.

Table 4-1: New issues: volume distribution by industry and year (1891–1900)

Industry	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	Subtotal
Agriculture and horticulture	0	0	0	1	5	7	1	6	5	1	26
Chemical and allied trade	0	0	0	1	1	1	0	5	4	3	15
Clothing and textiles	0	0	1	2	3	3	6	3	3	7	28
Distributive trade	1	0	0	0	7	6	10	10	8	4	46
Electricity	1	0	1	1	0	1	2	2	3	3	14
Engineering, shipbuilding and electrical goods	0	0	0	1	1	0	0	3	1	1	7
Food, drink and tobacco	1	2	0	0	2	4	10	8	1	2	30
Manufacturing	0	2	0	0	0	2	3	4	4	1	16
Metal goods	0	0	1	0	0	1	0	1	4	3	10
Mining and quarrying	1	2	0	1	5	3	6	4	6	2	30
Others	0	1	1	0	0	3	4	2	3	1	15
Paper and printing	0	0	0	0	0	1	6	5	3	0	15
Transportation, communication and construction	1	0	1	1	4	1	3	4	0	1	16
Vehicles	0	0	0	0	0	8	12	6	1	0	27
Total	5	7	5	8	28	41	63	63	46	29	295

Source: *LSE Listing Application Report Book*, Guildhall Library, London.
Note: Financial, gas and water industries were excluded due to heavy regulations following Braggion and Moore (2013).

Table 4-2: New issues: volume distribution by industry and year (1901–1910)

Industry	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	Subtotal	Cum. Total
Agriculture and horticulture	2	1	1	0	2	13	9	11	31	162	232	258
Chemical and allied trade	1	2	1	0	1	1	2	0	1	3	12	27
Clothing and textiles	0	1	3	0	2	0	2	3	2	1	14	42
Distributive trade	1	2	1	1	1	3	6	3	2	1	21	67
Electricity	3	0	1	0	1	1	1	0	0	0	7	21
Engineering, shipbuilding and electrical goods	4	2	4	1	2	0	0	0	3	2	18	25
Food, drink and tobacco	2	1	1	2	0	0	3	1	3	1	14	44
Manufacturing	1	0	0	0	2	2	0	1	0	1	7	23
Metal goods	2	1	0	0	0	0	0	0	0	0	3	13
Mining and quarrying	6	2	2	0	2	2	3	5	9	30	61	91
Others	0	0	1	0	0	1	1	1	0	2	6	21
Paper and printing	0	2	2	0	3	1	1	0	0	1	10	25
Transportation, communication and construction	4	5	5	2	2	13	3	4	2	2	42	58
Vehicles	0	0	0	0	1	4	2	0	0	2	9	36
Total	26	19	22	6	19	41	33	29	53	208	456	751

Source: *LSE Listing Application Report Book*, Guildhall Library, London.
Note: Financial, gas and water industries were excluded due to heavy regulations following Braggion and Moore (2013).

Table 4-3: New issues: volume by industry and year (1911–1914)

Industry	1911	1912	1913	1914	Subtotal	Cum. Total
Agriculture and horticulture	37	12	7	2	58	316
Chemical and allied trade	2	2	4	2	10	37
Clothing and textiles	2	2	1	0	5	47
Distributive trade	2	4	1	0	7	74
Electricity	1	0	0	0	1	22
Engineering, shipbuilding and electrical goods	2	2	2	0	6	31
Food, drink and tobacco	2	4	2	0	8	52
Manufacturing	3	2	3	1	9	32
Metal goods	0	0	0	0	0	13
Mining and quarrying	24	10	10	7	51	142
Others	1	0	0	0	1	22
Paper and printing	0	1	0	0	1	26
Transportation, communication and construction	2	2	2	1	7	65
Vehicles	0	0	1	4	5	41
Total	78	41	33	17	169	920

Source: *LSE Listing Application Report Book*, Guildhall Library, London.
Note: Financial, gas and water industries were excluded due to heavy regulations following Braggion and Moore (2013).

Table 4-4 shows the industry distribution of the dataset, and the breakdown of the presence of aristocratic elites across all issues, UK and overseas. Overall, there is a high concentration of new issues in the agriculture and horticulture industry, with 316 new issues representing 34% of the dataset. However, new issues in this industry are dominated by overseas firms operating mainly in Asia. It is not surprising that only three out of the 316 issues in this industry operated primarily in the UK; this is to be expected because of the agricultural depression. Interestingly, about one in three overseas firms in this industry recruited aristocratic elites, while the number of firms operating in the UK is too small to give any reasonable proportion of those that recruited aristocratic elites.

The mining and quarrying industry is the second largest industry, with 142 new issues, dominated by overseas new issues, with only 13 UK firms. Interestingly, there is a high concentration of aristocratic elites in overseas firms. About 55% of overseas new issues appointed aristocratic elites, while only 38% of UK firms appointed them. The presence of aristocratic elites on the boards of overseas mining new issues suggests a need for their managerial expertise and first-hand knowledge of the firm's primary place of operation. The primary place of activities of overseas firms in this industry is diverse and includes, but is not limited to, the US, Australia, Canada, South Africa and Russia. Interestingly, new issues in these countries vary by the date and the product being mined. For example, most new issues in the US and Russia were oil exploration firms, which mostly occurred in the 1900s, while new issues in gold mining were mainly based in Australia and were distributed fairly evenly throughout the first and second decades of the study period.

Distributive trade, the third largest industry, mainly consisted of wholesale and retail firms, with a total of 74 observations. In general, new issues in this industry are mostly UK firms and there is a low concentration of aristocratic elites in both UK and overseas firms, as expected. Another industry with a relatively high observation in the dataset is transportation, communication and construction, with 65 issues. There is a high concentration of aristocratic elites in this industry, with about two out of three new issues recruiting them, as expected. The appointments of aristocratic elites to boards of directors in this industry is not restricted by a firm's location; the proportion of firms with aristocratic elites is similar for both UK (60%) and overseas (66.67) firms. This demonstrates the importance of the resources provided by aristocratic elites in this industry, which could be in the form of securing easy access to land resource for UK new issues and access to managerial expertise for overseas new issues.

The numbers of new issues in the chemical and allied, electricity and vehicle industries are 37, 22 and 41 respectively. These firms mostly operate in the UK, with very few operating overseas. In general, one in two new issues in these industries recruited aristocratic elites, except the vehicle industry where the proportion of firms with aristocrats is slightly less than 50%. The proportion of UK new issues with aristocratic elites in these industries ranges between 44% and about 46%. On the other hand, the proportion of overseas new issues with aristocratic elites is generally above 50%, with chemical and allied having the highest percentage at 75%.

Table 4-4: New issues: volume distribution by industry, location and representation by aristocratic elites (1891–1914)

Industry	All		UK		Overseas	
	Obs.	Aristocrat (%)	Obs.	Aristocrat (%)	Obs.	Aristocrat (%)
Agriculture and horticulture	316	34.18	3	33.33	313	34.19
Chemical and allied trade	37	54.05	25	44	12	75
Clothing and textiles	47	17.02	39	10.26	8	50
Distributive trade	74	20.27	54	11.11	20	45
Electricity	22	50	15	46.67	7	57.14
Engineering, shipbuilding and electrical goods	31	45.16	25	44	6	50
Food, drink and tobacco	52	25	44	22.73	8	37.5
Manufacturing	32	28.13	26	23.08	6	50
Metal goods	13	38.46	13	38.46	0	0
Mining and quarrying	142	53.52	13	38.46	129	55.04
Others	22	31.82	20	30	2	50
Paper and printing	26	38.46	25	40	1	0
Transportation, communication and construction	65	63.08	35	60	30	66.67
Vehicles	41	48.78	35	45.71	6	66.67
Total	920	38.8	372	31.99	548	43.43

Source: *Times Book of Prospectuses, 1891–1914 and* the Financial Times Archive, *online.*
Note: Financial, gas and water industries were excluded due to heavy regulations following Braggion and Moore (2013).

The proportion of new issues that recruited aristocratic elites in clothing and textiles, engineering, shipbuilding, electrical goods, food, drink and tobacco, manufacturing, metal goods, others, and paper and printing is generally low, mostly less than 40%, except engineering, shipbuilding and electrical goods, with 45.16% aristocratic distribution. The clothing and textile industry has the lowest numbers of aristocratic elites at about 17%.

In broad terms, one in two new issues whose operation primarily relied on the use of land or new issues, who had either adopted new production processes or were producing entirely new products, recruited aristocratic elites. This suggests that the resources of aristocratic elites were important to the operations of these firms.[10]

4.3.2 Variables

Dependent Variables

Aristocrat. This is a binary variable that takes the value of 1 if a firm has at least one aristocratic elite on the board during issue, and 0 otherwise. Relying on the study of Amini and Toms (2018), aristocratic title is defined as any of the following: Duke, Marquess, Earl, Count, Viscount, Baron, Lord, Sir and Hon. It is expected that, besides recruiting aristocrats as a means of securing access to finance (Amini and Toms, 2018; Braggion and Moore, 2013), new issues would strategically appoint aristocrats to boards of directors to secure access to land, managerial expertise and legitimacy resource.

Independent Variables

Ukland. Relying on studies that examined the landed interests of aristocratic elites where their main activities were broadly classified as agriculture, estate management, urban and roads development, and mining (see Beckett, 1988; Raybould, 1984; Rubinstein, 1977), and extending the definition of natural resources firms by Burhop et al. (2014), this study classified firms operating in agriculture and horticulture, mining and quarrying, and transportation, communication and construction as land firms.[11] Hence, ukland is defined as a binary variable that takes the value of 1 if the primary place of activities of a firm is the UK, and if the firm is classified as belonging to any of the following industries: agriculture and horticulture, mining and quarrying, or transportation, communication and

[10] The exceptions to this broad generalisation are new issues operating in the agriculture and horticulture, and vehicle industries, where aristocratic representation under the 'All' classification is less than 50% for both industries. (See, Table 4-4: New issues: volume distribution by industry, location and representation by aristocratic elites (1891–1914)).

[11] Burhop et al. (2014) classified firms operating in the oil, rubber plantation and mining industries as firms operating using natural resources.

construction. This variable takes the value of 0 otherwise. The success of new issues in the stated industries, unlike other industries such as clothing and textiles, mostly depended on access to land resource. Hence, new issues in land-related activities could rely on the appointment of aristocratic elites to gain access to land resource. This would allow this chapter to achieve its aim of testing the interdependence between landed aristocrats and firms that required scarce land resources for the smooth operation of their primary activities.

Overseasland. This is a binary variable that takes the value of 1 if the primary place of activities of a firm is outside the UK and if the firm is classified as belonging to any of the following industries: agriculture and horticulture, mining and quarrying, or transportation, communication and construction. This variable takes the value of 0 otherwise. This variable allows this chapter to examine the reliance of new issues on the managerial expertise resource of aristocratic elites. It is expected that overseas new issues classified as land would require the managerial expertise of aristocratic elites to enhance their survival and growth.

Newtechnology. Relying on the study of Braggion and Moore (2013), firms operating in the electricity, vehicle, and chemical and allied trades industries are classified as newtechnology. Hence, this variable is defined as a binary variable, taking the value of 1 if a firm is classified as belonging to the following industries: electricity, vehicle, or chemical and allied trades, and 0 otherwise. It is expected that firms adopting new production processes or producing new product entirely would appoint at least one aristocratic elite to their board of directors as a means of certifying operations. This expectation is based on the difficulties faced by these firms in raising finance from the investing public due to their lack of historical performance records, which could be resolved with the appointment of aristocrats (see Braggion and Moore, 2013; Harrison, 1981).

Control Variables

There are other factors that are likely to influence the association of aristocrats with new issues. This study controls for such factors in order to establish an unbiased estimate of the resource roles of aristocratic elites.

Logproceed. This is defined as the log form of the total amount of the external capital raised by a firm, as disclosed in the *LSE Listing Application Report Book*. This variable was included as a control following the study of Amini and Toms (2018), and Braggion and Moore (2013). Both studies report that new technology firms with aristocratic directors raised more external finance than their counterparts without aristocratic directors.

Boardsize. This is defined as the total number of directors sitting on the board of a firm as disclosed in the prospectus. The use of boardsize as a control variable is consistent with the studies of Braggion

and Moore (2013), and Grossman and Imai (2016). Both studies report that firms with larger boards recruited elite directors.

Age. This is defined as the difference between the date at which a firm was admitted to trade on the LSE and the date of its incorporation. This study included age as a control variable, following the argument of Rutterford et al. (2017) that young firms with no historical records needed to be able to certify their operations to potential investors. This study expects that younger firms would be more likely to appoint aristocratic directors.

Year. This is a dummy variable that takes the value of 1 for the year in which a firm was admitted to the LSE, and 0 otherwise. This variable is included to account for the variations in the use of aristocratic elites from one period to another.

4.3.3 Descriptive Statistics

Table 4-5 presents summary statistics. It could be observed that of the 920 new issues, 38% had at least one aristocratic director. The proportion of new issues classified as ukland is about 5%, while the proportion of overseasland is about 51%. It is also evident from the table that only 10% of the total number of new issues used newtechnology. The average new issue had a proceed of about £147,000, though this figure is likely to be driven by extreme values given that the lowest proceed is less than £4,000 and the highest is £4,000,000. The average firm had a boardsize of about five directors, and an average age of less than one year.[12] Table 4-6 reports the correlation between the control variables, and shows that there is no high correlation that suggests any multicollinearity problem between variables.

Table 4-5: Summary statistics, 1891–1914

Variables	Obs.	Mean	Std. dev.	Min	Max
Aristocrat	920	0.38	0.48	0.00	1.00
Ukland	920	0.05	0.22	0.00	1.00
Overseasland	920	0.51	0.50	0.00	1.00
Newtechnology	920	0.10	0.31	0.00	1.00
Proceed (£m)	920	0.14	0.23	0.00	4.00
Boardsize	920	4.80	1.43	2.00	12.00
Age	920	0.61	1.47	0.00	21.00

Note: Aristocrat is a binary variable taking the value of 1 for the presence of at least one aristocrat on the board of a new-issue firm, and 0 otherwise. Ukland is a binary variable taking the value of 1 if the new-issue firm is operating in the UK and classified as a land-related business, and 0 otherwise. Overseasland is a binary variable taking the value of 1 if the new issue is operating primarily outside the UK and classified as land, and 0 otherwise. Newtechnology is a binary variable taking the value of 1 if the new-issue firm is adopting a new production process or producing a new product, and 0 otherwise. Proceed is a continuous variable representing the amount of proceed made from issue. Boardsize is a count variable representing the total number of individuals on the board of directors. Age is a continuous variable representing the difference between the date of admission to the LSE and the date of incorporation.

[12] Most firms applied for admission to the LSE within one year of incorporation.

Table 4-6: Correlations, 1891–1914

Variables	Proceed	Boardsize	Age
Proceed	-		
Boardsize	0.349***	-	
Age	0.004	0.1021***	-

Note: *, ** and *** represent statistical significance levels of 10%, 5% and 1% respectively.

4.3.4 Estimation Model

This study employs logistic regression analysis in multivariate models with robust standard error to test all hypotheses. Relying on the studies of Lester et al. (2008) and Simmons (2012), which examine the appointment of individuals to boards of directors through the theoretical lens of resource dependence hypothesis, aristocrat is used as the key dependent variable in this chapter. This allows this study to examine the appointment of aristocratic elites by new issues as a way of securing access to land resource, managerial expertise resource and legitimacy resource.

To examine the first hypothesis, which states that land-related new issues were more likely to strategically appoint aristocratic elites to boards of directors to secure access to land resource in the UK, the following model was estimated:

$$P(\text{Aristocrat})_i = b_0 + b_1 \text{Ukland}_i + b_2 \text{Controls}_i + e_i \qquad \text{Model 4.1}$$

To examine the second hypothesis, which states that land-related new issues were more likely to recruit aristocratic elites to boards of directors to secure access to managerial expertise resource, the model below was estimated:

$$P(\text{Aristocrat})_i = b_0 + b_1 \text{Overseasland}_i + b_2 \text{Controls}_i + e_i \qquad \text{Model 4.2}$$

To examine the third hypothesis, which states that new issues adopting new production processes or producing new product entirely appoint aristocratic elites to boards of directors to secure access to legitimacy resource, the model below was estimated:

$$P(\text{Aristocrat})_i = b_0 + b_1 \text{Newtechnology}_i + b_2 \text{Controls}_i + e_i \qquad \text{Model 4.3}$$

In all models, *i* is an index for firm, and aristocrat is the dependent variable. Ukland is the main independent variable in model 4.1. Overseasland is the main independent variable in model 4.2. Newtechnology is the main independent variable in model 4.3. Controls in all models are proceed, boardsize, age, and year. e_i represents error term.

Results from all models were supplemented with case study evidence randomly selected from firms classified as land and new technology in order to examine the characteristics of aristocratic elites that influence their representation on boards in more detail. This was then compared to the representation of aristocratic elites on the boards of non-land new issues.

4.4 Analysis and Discussion

This section discusses results and presents illustrative case study evidence. Model results are discussed in subsection 4.4.1, while case study evidence is discussed in subsection 4.4.2.

4.4.1 Model Results

Table 4-7 shows the odds ratio of estimated logistic regression models. An odds ratio greater than 1 is an indication of positive association; an odds ratio of less than 1 is an indication of negative association; and an odds ratio equal to 1 indicates no effect.

Model 1 of table 4-7 reports the estimation results of the first hypothesis, which states that land-related new issues were more likely to strategically appoint aristocratic elites to boards of directors to secure access to land resources in the UK. Consistent with the stated hypothesis, the results show that new issues classified as land-related (ukland) were more likely to appoint aristocratic elites than non-land issues. This finding shows that the appointment of aristocratic elites by land-related UK firms in the late nineteenth and early twentieth century was a non-random response for securing access to land resources; this is consistent with the argument of the resource dependence hypothesis and its contemporary findings (Howard et al., 2017; Reguera-Alvarado and Bravo, 2018; Zona et al., 2018).

Consistent with previous studies, new issues with high proceed were more likely to recruit aristocratic directors when compared to their counterparts without aristocratic directors. This result gives support to past findings, that aristocratic directors provided linkage to external finance resources in the UK during the late nineteenth and early twentieth century (Amini and Toms, 2018; Braggion and Moore, 2013). Consistent with the studies of Braggion and Moore (2013), and Grossman and Imai (2016), the empirical results also show that new issues with large board sizes were more likely to appoint aristocratic directors.

Furthermore, the results show that young (age) new issues were more likely to appoint aristocratic directors than older firms. The use of aristocratic directors by younger firms could be explained by the legitimacy resource needs of such firms in the absence of historical records. This is consistent with the argument of Rutterford (2011), that young firms with no historical records have more need to reassure potential investors that the firm will create wealth. The year of issue is irrelevant to the appointment of aristocratic directors by new issues as year dummies are jointly insignificant in all models.

Table 4-7: Baseline logistic regression results, 1891–1914

	Models						
Variables	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Ukland	2.324**			2.772***	2.637***		3.723***
	(0.797)			(0.966)	(0.920)		(1.343)
Overseasland		1.483**		1.660**		1.788***	2.186***
		(0.284)		(0.328)		(0.360)	(0.464)
Newtechnology			1.752**		1.928***	2.195***	2.713***
			(0.404)		(0.449)	(0.535)	(0.683)
Logproceed	1.336***	1.310***	1.305***	1.344***	1.337***	1.308***	1.351***
	(0.121)	(0.119)	(0.118)	(0.123)	(0.122)	(0.119)	(0.125)
Boardsize	1.270***	1.293***	1.276***	1.284***	1.263***	1.291***	1.280***
	(0.079)	(0.081)	(0.078)	(0.081)	(0.078)	(0.080)	(0.080)
Age	0.903**	0.911*	0.901**	0.910**	0.899**	0.908*	0.907**
	(0.044)	(0.044)	(0.045)	(0.044)	(0.044)	(0.045)	(0.045)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Wald Chi-square	69.13***	68.82***	66.48***	77.17***	72.98***	75.4***	86.49***
Likelihood-ratio test	22.63***	24.62***	23.57***	15.32***	15.03***	14.49***	

Note: This table reports the logistic regression result for examining the dependence of new-issue firms on aristocratic directors for access to scarce resources. Model 1 reports the estimation result of the interdependency between new issues and aristocrats for land resource (ukland). Model 2 reports the estimation result for the interdependency between new-issue firms and aristocrats for managerial expertise resource (overseasland). Model 3 reports the estimation result for the interdependency between new issue firms and aristocrats for legitimacy resource (newtechnology). Models 4–6 report the estimation results with two main independent variables at a time, and model 7 reports the estimation results that include all independent variables. Control variables in all models are logproceed, boardsize, age and year. Robust z-statistics in parentheses. P-values are shown with asterisks as *, ** and *** representing statistical significance levels of 10%, 5% and 1% respectively. The constants of the logistic regressions were not reported. All models were estimated with 920 firm observations.

Model 2 shows the estimation results of the second hypothesis, that land-related new issues operating overseas were more likely to appoint aristocratic elites to their boards of directors to secure access to managerial expertise resource. The results of this model show that new issues classified as operating outside the UK and whose operations relied on the use of land resource (overseasland) were more likely to recruit aristocratic elites than other new issues. This result confirms the prior expectation that firms in land-related businesses operating overseas would have more need for the expertise resource of aristocrat elites than their land resource. Hence, they needed to strategically appoint aristocrats to secure access to managerial expertise resource. Logproceed and boardsize remain significant at 1%, age is only significant at 10%, while year of issue remains irrelevant. Again, this result shows consistency with previous findings on the use of aristocratic elites to satisfy firms' resource needs and reaffirms contemporary findings on the resource dependence hypothesis.

Model 3 shows the estimation results of the third hypothesis, which states that new issues adopting new production processes or producing new product entirely strategically appointed aristocratic elites to boards of directors to secure access to legitimacy resource. Consistent with this hypothesis, the result shows that new technology firms (newtechnology) were more likely to recruit aristocratic elites than old technology firms, after controlling for proceed, age, boardsize and year of admission to the LSE. The results empirically show that new technology firms in the UK during the late nineteenth and early twentieth century endorsed their value to potential investors with the legitimacy resource of aristocratic elites. This resource enabled new technology firms to secure more external finance on the capital market when compared to their counterparts with no aristocrats, given that they both lacked historical performance records.[13] This result again confirms the argument of resource dependence theory that board composition is not just a random selection but a strategic selection to meet a firm's external resource needs.

In models 4 to 6, one independent variable was added to models 1 to 3, and the results show similar odds ratios to those reported in models 1 to 3, with a slight increase. All independent variables were included in model 7, and the results show an increase in odds ratio from those reported in models 1 to 6. The likelihood-ratio test reported compares the statistical fit of models 1 to 6 to that of model 7. The results show that model 7 significantly improved the statistical fit of the models. This chapter now discusses the robustness of these results.

Robustness Test

The results above show that the appointment of aristocratic elites to boards of directors was associated with raising higher proceed and a larger board size. However, it is likely that aristocratic

[13] See, for example, Braggion and Moore (2013), and Amini and Toms (2018), on access to external finance through the appointment of aristocratic elite(s).

elites may have been more attracted to bigger firms (Foreman-Peck and Hannah, 2013) because such firms could afford the cost of recruiting them. For example, Hooley during his interrogation, allegedly paid Earl De La Warr and Lord Albemarle £25,000 and £12,500 respectively to join the board of the Dunlop Pneumatic Tyre Company. He also allegedly paid the Earl of Winchelsea and Sir Sullivan £10,000 and £2,000 respectively to sit on the board of the Cycle Manufacturer's Tube Company.[14]

Apart from payments allegedly made to aristocratic elites to join boards of directors, firms also paid remuneration to directors sitting on their boards. For example, the remuneration of the Earl of Winchelsea and other directors sitting on the board of the Great Horseless Carriage Company was £5,000 per annum.[15] Hence, the costs associated with recruiting aristocratic elites may have been too high for smaller firms, causing aristocratic elites to be associated with high-proceed firms.

Also, the addition of aristocratic elites to boards of directors could increase board size, which is likely to influence the finding that aristocrat elites were more likely to be recruited by new issues with large boards. All this suggests that the results were likely to be driven by reverse causality: aristocratic elites could influence higher proceed to be raised by new issues, and increase the size of the board. The findings may also be driven by other unobservable factors such as the characteristics of promoters/founders making them more likely to appoint aristocratic elites during new issues.

To address these problems, the study used two-stage residual inclusion regression (2SRI) with instrumental variables, also known as control function, following the study of Goktan et al. (2018). The use of 2SRI in a nonlinear model to address potential endogeneity was recommended by Terza et al. (2008), who show that 2SRI produces more consistent results with endogenous variables in a nonlinear model than the popular two-stage predictor substitution (2SPS). Also, the 2SRI approach, as demonstrated by Petrin and Train (2010), produces robust results in the presence of unobservable factors. In the first stage of 2SRI, the potentially endogenous variable is regress on the instrumental variables and other independent variables. The residual from the first-stage regression is then included in the second-stage regression, along with the endogenous variable.

To use 2SRI regression, there is a need to identify instrumental variables that would be uncorrelated with the error term in the structural model but highly correlated with the potentially endogenous variables. The studies of Correia (2014) and Goktan et al. (2018) were followed to identify instrumental variables of this nature. Both studies used the industry average of endogenous variables over the same period as instrumental variables. The reasoning behind this is that average values provide the most desirable expected value for randomly selecting the value of a variable in a given industry over a given period (Goktan et al., 2018), which is similar to randomly adding errors to the

[14] *The Times*, July 28, 1898, p.14.

[15] The amount of remuneration stated is divisible. *Financial Times*, May 23, 1896, p.4.

endogenous variable, which would result in high correlation between the instrumental variable and the original variable, as suggested by Reiss and Wolak (2007), in Larcker and Rusticus (2010).

Hence, the average values of proceed (m_proceed) and boardsize (m_boardsize) for firms in the same industry that went public over the same period were first computed as instrumental variables. These variables, along with all independent variables, were used to estimate the first stage with the aid of OLS regression, where logproceed and logboardsize were the main dependent variables. Logboardsize, which is the natural log of boardsize, was used, following the study of Lu and McGuire (2002), where the natural log of count variable (the number of visits made by clients during treatment episode) was used as a dependent variable in the first-stage linear regression of 2SPS.[16]

Table 4-8 shows the results of the first-stage regression. This study finds a strong association between the industry average of proceed and the proceed of new-issue firms. The analysis also shows that the industry average of boardsize is highly correlated with the boardsize of new-issue firms. The results show that both instruments are positive and statistically significant. The partial F-statistic of the industry average of proceed (42.01, 43.13, and 42.29) and the industry average of boardsize (401.66, 380.11, and 387.97) are statistically significant at 1%. This shows that both instruments are not weak, as the partial F-statistic is greater than all the critical values suggested by Stock et al. (2002). The residuals from the first-stage regressions were used to create control variables (resproceed_1 and resboardsize_1) for the second-stage regression.

Table 4-9 shows the results of the second-stage regression, along with the baseline results in models 1 to 3 of table 4-7. This result shows that resproceed_1 is statistically significant at 1% in models 1 to 3, and resboardsize_1 is statistically significant at 5% and 10% in model 1 and 3 respectively. These findings confirm the prior arguments that proceed and boardsize are endogenous variables. Taking the endogeneity of proceed and boardsize into account, the findings in the baseline results and the second-stage results are qualitatively close. The main variables (ukland, overseasland, and newtechnology) remain statistically significant, and this supports the hypothesis that new issues appointed aristocratic elites to secure access to land, managerial expertise and legitimacy resource. Overall, the second-stage results are consistent with the baseline result, except that year dummies jointly influenced the appointment of aristocratic elites by land-related new issues in the UK, while boardsize is not statistically significant in all models.

[16] The use of 2SPS in a nonlinear model was suggested to be inconsistent. See, for example, Terza et al. (2008).

Table 4-8: First-stage OLS regression results

	Logproceed			Logboardsize		
Variables	**1**	**2**	**3**	**1**	**2**	**3**
Ukland	-0.298**			-0.039		
	(0.140)			(0.036)		
Overseasland		-0.050			0.000	
		(0.077)			(0.019)	
Newtechnology			0.034			0.034
			(0.092)			(0.092)
Age	-0.014	-0.015	-0.015	0.003	0.003	-0.015
	(0.019)	(0.020)	(0.020)	(0.004)	(0.004)	(0.020)
M_proceed	2.939***	2.973***	2.961***	-0.026	-0.022	2.961***
	(0.453)	(0.453)	(0.455)	(0.053)	(0.053)	(0.455)
M_boardsize	0.099***	0.085**	0.088**	0.189***	0.187***	0.088**
	(0.037)	(0.038)	(0.037)	(0.009)	(0.010)	(0.037)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Partial F-statistic	42.01***	43.13***	42.29***	401.66***	380.11***	378.97***
R-squared	0.236	0.232	0.232	0.389	0.388	0.232

Note: This table reports the first stage of the 2SRI regression result. Logproceed and logboardsize are the dependent variables. M_proceed is the mean of proceed for new issues in the same industry over the same year of issue. M_boardsize is the mean for new issues in the same industry over the same year of issue. Robust standard errors in parentheses. P-values are shown with asterisks as *, ** and *** representing statistical significance levels of 10%, 5% and 1% respectively. All models were estimated with 920 firm observations.

Table 4-9: Second-stage logistic regression results

	Second stage			Baseline		
Variables	**1**	**2**	**3**	**1**	**2**	**3**
Ukland	3.203***			2.324**		
	(1.124)			(0.797)		
Overseasland		1.609**			1.483**	
		(0.319)			(0.284)	
Newtechnology			1.616**			1.752**
			(0.390)			(0.404)
Logproceed	3.673***	3.613***	3.425***	1.336***	1.310***	1.305***
	(0.990)	(1.002)	(0.945)	(0.121)	(0.119)	(0.118)
Boardsize	1.027	1.100	1.059	1.270***	1.293***	1.276***
	(0.110)	(0.117)	(0.111)	(0.079)	(0.081)	(0.078)
Age	0.919*	0.926	0.917*	0.903**	0.911*	0.901**
	(0.046)	(0.046)	(0.046)	(0.044)	(0.044)	(0.045)
Resproceed_1	0.316***	0.316***	0.333***			
	(0.090)	(0.092)	(0.097)			
Resboardsize_1	3.659**	2.579	3.096*			
	(2.376)	(1.638)	(1.978)			
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Wald- Chi-square	85.21***	81.93***	79.31***	69.13***	68.82***	66.48***

Note: This table reports the logistic regression results of the second stage of the 2SRI along with the baseline results of models 1 to 3 reported in table 4-7. Aristocrat is the dependent variable in all models. Control variables in all models are logproceed, boardsize, age and year. Resproceed_1 and resboardsize_1 are the residuals of models 1 and 2 reported in table 4-8 respectively. Robust z-statistics in parentheses. P-values are shown with asterisks as *, ** and *** representing statistical significance levels of 10%, 5% and 1% respectively. All models were estimated with 920 firm observations.

The validity of the results reported in table 4-9 depends on the exogeneity of the instrumental variables, which could be examined by performing an over-identifying restriction test. According to Goktan et al. (2018), this type of test is not feasible in the context of this study because the models are nonlinear. Relying on their study, this study estimated another 2SRI referred to as a validity check with two additional instrument variables and compared the results of the second-stage validity check with the initial 2SRI second-stage results. If these two results were qualitatively close, the conclusion could be reached that at least one of the instrumental variables was exogenous (Stock and Watson, 2012).

To construct an additional instrumental variable for proceed, information about the authorised capital of all firms in the dataset was collected and transformed into a natural log form (logcapital). The value of authorised capital is mostly known before the appointment of aristocratic elites to boards of directors and the offering of shares to the public by promoters/founders. Hence, it is expected that authorised capital would be correlated with issue proceed and uncorrelated with unobservable factors such as the characteristics of promoters/founders that influenced them to appoint aristocratic elites to their boards. For example, Hooley had motives for recruiting aristocratic elites to the boards of the firms he promoted, such as the Dunlop Pneumatic Tyre Company, other than just raising external

finance and/or validating the firm's activities. His motive was to gain entry to the aristocratic elite social class and to establish a long-term relationship with them.[17]

An additional instrumental variable for boardsize was also constructed by obtaining information about numbers of non-family directors (non-family) on the boards of firms in the dataset. Non-family is defined as the number of directors on the board of a firm who do not have the same surname. It is expected that the number of non-family directors would be correlated with boardsize but uncorrelated with the decision of promoters/founders to recruit aristocratic elites. The reasoning is that directors could be selected from the pool of elites who were not aristocrats, such as bankers, MPs, JPs or military men, or from the pool of non-elite directors. For example, Lawrence Twentyman Boustead, who did not have any elite title, was appointed as a director on the boards of 10 new issues, all of which were rubber estates except the Premier Re-forming Company.[18]

The first-stage results of the validity check are reported in table 4-10. They show that logcapital and non-family are positively associated with logproceed and logboardsize respectively. Both instrumental variables are statistically significant. The partial F-statistic of logcapital (769.64, 751.14 and 769.31) and non-family (271.33, 293.50 and 265.28) shows that both instruments are not weak, based on the critical values suggested by Stock et al. (2002). Hence, the residuals from these regressions were included as control variables in the second stage of the validity check.

Table 4-11 reports the estimation results of the validity check together with the initial second-stage results. Comparing these results shows that the findings are qualitatively consistent.[19] Hence, following Goktan et al. (2018), this shows that the instrumental variables and error terms are not correlated with unobservable factors and other variables not included the models. Otherwise, there would be considerable change between the initial second-stage results and the validity check second-stage results, suggesting that the second-stage results reported in table 4-9 are not valid. It could therefore be argued that at least one of the instrumental variables is valid and exogenous, and that the results reported in table 4-9 are valid.

[17] See Amini and Toms (2018).

[18] Information obtained from the dataset.

[19] Suest test, which is similar to the Hausman test, was used to compare the equality of the second-stage validity results and the initial second-stage results. The results of the test, which are not reported here, show that the equality between the coefficients in models 1 to 3 under the second-stage validity check and the coefficient in models 1 to 3 under the initial second stage cannot be rejected.

Table 4-10: First-stage validity check OLS results

	Logproceed			Logboardsize		
Variables	**1**	**2**	**3**	**1**	**2**	**3**
Ukland	-0.210**			-0.047*		
	(0.097)			(0.027)		
Overseasland		0.036			-0.053***	
		(0.056)			(0.014)	
Newtechnology			-0.029			-0.011
			(0.064)			(0.016)
Age	-0.013	-0.013	-0.013	0.005	0.004	0.005
	(0.014)	(0.014)	(0.014)	(0.004)	(0.004)	(0.004)
M_proceed	1.082***	1.085***	1.098***	-0.194***	-0.177***	-0.190***
	(0.221)	(0.224)	(0.224)	(0.053)	(0.053)	(0.052)
M_boardsize	-0.050*	-0.052*	-0.056*	0.104***	0.097***	0.103***
	(0.029)	(0.029)	(0.029)	(0.011)	(0.011)	(0.011)
Logcapital	0.855***	0.859***	0.857***	0.080***	0.077***	0.080***
	(0.031)	(0.031)	(0.031)	(0.009)	(0.008)	(0.008)
Non-family	0.013	0.010	0.012	0.094***	0.096***	0.093***
	(0.012)	(0.013)	(0.012)	(0.006)	(0.006)	(0.006)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Partial F-statistic	769.64***	751.14***	769.31***	271.33***	293.5***	265.28***
R-squared	0.682	0.680	0.680	0.701	0.705	0.700

Note: This table reports the results of the first stage of the 2SRI OLS regression validity check. Logproceed and logboardsize are the dependent variables. Logcapital is the log form of authorised share capital. Non-family is the number of non-family directors. Robust standard errors in parentheses. P-values are shown with asterisks as *, ** and *** representing statistical significance levels of 10%, 5% and 1% respectively. All models were estimated with 920 firm observations.

Table 4-11: Second-stage validity check logistic regression results

	Second stage validity check			Initial second stage		
Variable	**1**	**2**	**3**	**1**	**2**	**3**
Ukland	2.564**			3.203***		
	(0.947)			(1.124)		
Overseasland		1.607**			1.609**	
		(0.311)			(0.319)	
Newtechnology			1.699**			1.616**
			(0.390)			(0.390)
Logproceed	1.615***	1.601***	1.569***	3.673***	3.613***	3.425***
	(0.196)	(0.194)	(0.188)	(0.990)	(1.002)	(0.945)
Boardsize	1.457***	1.495***	1.475***	1.027	1.100	1.059
	(0.140)	(0.148)	(0.141)	(0.110)	(0.117)	(0.111)
Age	0.886**	0.895**	0.885**	0.919*	0.926	0.917*
	(0.049)	(0.050)	(0.050)	(0.046)	(0.046)	(0.046)
Resproceed_2	0.512***	0.503***	0.519***			
	(0.096)	(0.093)	(0.095)			
Resboardsize_2	0.0742***	0.0667***	0.0684***			
	(0.053)	(0.048)	(0.049)			
Resproceed_1				0.316***	0.316***	0.333***
				(0.090)	(0.092)	(0.097)
Resboardsize_1				3.659**	2.579	3.096*
				(2.376)	(1.638)	(1.978)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Wald- Chi-square	95.59***	95.98***	99.9***	85.21***	81.93***	79.31***

Note: This table reports the logistic regression results of the second stage of the 2SRI validity check along with the initial second-stage logistic regression results reported in table 4-9. Aristocrat is the dependent variable in all models. Control variables in all models are logproceed, boardsize, age and year. Resproceed_2 and resboardsize_2 are the residuals of models 1 and 2 reported in table 4-10 respectively. Resproceed_1 and resboardsize_1 are the residuals of models 1 and 2 reported in table 4-8 respectively. Robust z-statistics in parentheses. P-values are shown with asterisks as *, ** and *** representing statistical significance levels of 10%, 5% and 1% respectively. All models were estimated with 920 firm observations.

In sum, the results of this chapter show that new issues strategically appointed aristocratic elites to boards of directors to secure access to land resource in the UK during the late nineteenth and early twentieth century. Also, new issues operating outside the UK whose activities primarily relied on the use of land strategically appointed aristocratic elites to boards of directors to secure access to managerial expertise, which was of great benefit to their operation and survival. The land estate and the wealth of aristocratic elites came with social class and titles that were well respected and trusted by the British investing community, which added legitimacy to the resources of aristocratic elites. Hence, new issues adopting new technology or producing new products strategically appointed aristocratic elites to boards of directors to secure access to legitimacy resource. This resource validated the activities of new issues to potential investors. The robustness check shows that the baseline findings are valid and suggests that the findings are less likely to be influenced by endogeneity and unobservable factors. The model results presented in this chapter suggest that the appointment

of aristocratic elites to the boards of new issues was not a random choice but represented a strategic decision for securing scarce resources. Hence, the results give support to the resource dependence hypothesis from a historical perspective.

4.4.2 Case Study Evidence

This section examines in more detail the characteristics of aristocratic elites appointed to the boards of new issues in the land-related and new technology industries to determine the reasons for their representation. First, firms were randomly selected in the transportation, communication and construction industry for the entire period of study. Second, firms were randomly selected from agriculture and horticulture and from the mining and quarrying industries in the year 1910 owing to the volume of activities in both industries for that year.[20] Lastly, firms were randomly selected in industries classified as new technology in the year 1897 because this year had the highest volume of new technology issues. A comparison was then made between the characteristics observed in aristocratic representation in land-related and new technology firms with the characteristics observed in the clothing and textile industry. The clothing and textile industry was used for comparison because it had the fewest aristocratic representations. Information on aristocratic elites was mainly collected from *Who Was Who*, the *Financial Times*, *The Times* and the *Dictionary of National Biography*.

Aristocratic Representation on Boards of UK Land-related New Issues

Most important is the pattern observed in new issues mainly operating in the UK, where land resources were usually controlled by individuals rather than by government as in the Empire. The UK therefore provides suitable case studies for determining the importance of access to land resource and land-related expertise.

The Lancashire, Derbyshire and East Coast Railway Company recruited aristocrats such as the 7th Duke of Newcastle, the Duke's brother Lord Francis Pelham Clinton, who later became the 8th Duke of Newcastle, and the 3rd Earl of Manvers.[21] The company stated in its prospectus that rail line construction would pass through the Newcastle and Portland estates, which had hitherto been prevented from intrusion but were now made available for colliery leases. It also stated that the railway would provide opportunities for the export of coals and agricultural produce as the line provided direct access to Sutton-on-Sea. The land access requirements and the opportunities this railway would make available to coal miners in Nottinghamshire explains the reason for the representation of aristocrats on its board. According to Cahill (2001), the Earl of Manvers owned

[20] All new issues in this period were overseas firms.

[21] Information obtained from dataset.

about 38,000 acreage and the Duke of Newcastle owned about 35,500 acreage in 1872; both aristocrats were from the county of Nottinghamshire.

The Port Talbot Railway and Dock Company was formed with similar objectives to the Lancashire, Derbyshire and East Coast Railway, aiming to open up the coal trade for export purposes. This firm consistently recruited aristocratic elites to its board of directors, including the 4th Earl of Dunraven, who owned about 39,800 acres of land in the county of Limerick according to Cahill (2001). Although his land was located miles away from the line to be constructed by the Port Talbot Railway and Dock Company, Dunraven demonstrated kin interest in new issues related to the management of land estate through active debates in the House of Lords. His interest in land is further shown by his full involvement in the Land Conference held in Dublin in 1902, where a Dunraven committee was constituted to represent landlords.[22] Apart from his land interests, Dunraven was also a yachtsman. Hence, his resources, interests and expertise suggest a number of reasons for his representation on the board of the Port Talbot Railway and Dock Company.

The Seaham Harbour and Dock Company was also established to take advantage of the growing opportunities in the coal trade. Unlike the other railway firms discussed above, Seaham Harbour and Dock was originally owned and managed by the Marquess of Londonderry, who was also a director. The purpose of floating the firm was to raise more money for the improvement and expansion of harbours and docks that were at the time too small for shipment requirements. The Marquess of Londonderry owned about 50,400 acres of land, and the prospectus of this firm stated that he owned coalfields totalling about 11,000 acres near the harbour, with plans to expand.[23] The case of the Seaham Harbour and Dock Company reinforces the value of land resources and land-related managerial expertise and, more importantly, demonstrates the realisation of initial investment in enterprise and taking advantage of future opportunities. Also appointed on the board of this firm was the 1st Marquess of Zetland, formerly addressed as the 3rd Earl of Zetland. The total land belonging to the Earl of Zetland in the county of York in 1872 was 68,000 acres according to Cahill (2001).[24]

Besides traditional landowners, new issues operating in the UK also recruited knighted individuals and baronets who may not have been able to provide access to land resource but possessed related expertise. Sir Richard Farrant was appointed chairman of Wharncliffe Dwellings Company Limited, whose objective was to acquire freehold land and artisans' dwellings erected on that land. Farrant was also chairman of Rowton Houses Limited, and the deputy chairman and managing director of the

[22] *The Times*, November 29, 1902, p.9.

[23] Charles Van-Tempest-Stewart, 6th Marquess of Londonderry (1852–1915), *Who Was Who*, Volume 1, p.437. See also *Financial Times*, March 16, 1899, p.8.

[24] The 1st Marquess inherited an earldom in 1873. It was assumed that not much of the land, if any, would have been disposed of between 1872 and 1873.

Artisans', Labourers' and General Dwelling Company. His previous experience suggests that his appointments were based on his expertise.[25]

Likewise, Sir Myles Fenton, who was an engineer, was appointed by Rother Valley (Light) Railway Company as the chairman of the board. Prior to this appointment, he was the assistant manager of the Lancashire and Yorkshire Railway in 1859, general manager of the Metropolitan Railway from 1863 to 1880, and became the Southern Eastern Railway general manager in 1880.[26] Similarly, Sir James Thomson Ritchie, Bart., the Lord Mayor of London from 1903 to 1904, was appointed director of the Automobile Cab Company that would operate primarily in London and its suburbs. Furthermore, Sir George Wyatt Truscott, former Sheriff of London, was one of the directors of the Great Eastern London Motor Omnibus Company.[27] The previous experience of these aristocrats suggests reasons for their representation on boards.

Apart from knights and baronets, the sons of traditional aristocrats were also appointed to the boards of new issues for their related expertise. For example, Hon Evelyn Ellis, the son of the 6th Baron of Howard de Walden, was appointed to the board of London Electrical Cab Company. He was the first person to travel in a motor car in the UK, driving from Hampshire to Datchet in July 1895, and had the honour of driving His Majesty King Edward VII on his first ever experience in a motor car in 1896.[28] More important, Ellis was a director of the Great Horseless Carriage Company, which had a contract to manufacture cabs for the London Electrical Cab Company and a director of Daimler Motors which had a contract with the Great Horseless Carriage Company for the sole licence to construct horseless carriages.[29] His appointment to the board of the London Electrical Cab Company illustrates the need for his expertise, knowledge, resources and networks.

A further illustration of related expertise is the appointment of Lord Claud Hamilton, son of the 1st Duke of Abercorn, to the board of the Sheffield District Railway.[30] Hamilton was a politician whose life was dedicated to the success of the Great Eastern Railway, initially as a director and later as its chairman (Simmons and Biddle, 1997, p.200). In addition, Hon Arthur Brand, son of the 1st Viscount of Hampden, who was appointed to the board of the New General Traction Company, had previous

[25] Sir Richard Farrant (1835–1906), *Who Was Who*, Volume 1, p.238. See also *Financial Times*, July 21, 1897, p.2.

[26] Sir Myles Fenton (1830–1918), *Who Was Who*, Volume 2, p.348.

[27] Sir James Thomson Ritchie, Bart. (1835–1912), *Who Was Who*, Volume 1, p.600, and Sir George Wyatt Truscott (1857–1941), *Who Was Who*, Volume 4, p.1167.

[28] *Financial Times*, October 19, 1953, p.30; *The Times*, July 10, 1895, p.10.

[29] *Financial Times*, May 19, 1896, p. 8.

[30] Lord Claud Hamilton (1843-1925), *Who Was Who*, Volume 2, p.456.

experience as an assistant clerk in the House of Commons, as an MP from 1891 to 1895, and as treasurer of the household.[31]

Consequently, it could be argued that the past careers and expertise of knights, baronets and the sons of aristocrats explain their representation on the boards of new issues primarily operating in the UK, where access to land and related experience were more important than in overseas firms. An alternative argument would be that anyone with related expertise from the past had an equal chance of gaining a directorship appointment. This argument is less likely to hold given that the average UK investor in this period had great respect for title. Hence, title holders with related expertise had more chance of securing directorship positions on the boards of new issues. More important, individuals receiving knighthood titles were those who had distinguished themselves from others in service or enterprise.

Apart from new issues in the transportation, communication and construction industries, this study also observed aristocratic representation in the mining and quarrying industry for new issues operating mainly in the UK.[32] For example, the Kent Coal Exploration firm appointed aristocratic elites in the form of Earl de la Warr (chairman) and Lord de L'Isle and Dudley on its board of directors. This firm mentioned in its prospectus that it would enter into mineral lease arrangements with landowners in Kent in exchange for royalties. The presence of aristocratic directors on the board could be interpreted as means of facilitating access to land resource through the social networks of these elites. It was stated at the first annual general meeting that the firm was warmly received by landowners who placed at its disposal large areas of land to select from, and that the firm had erected a site on the estate of Lord Hothfield in Kent.[33]

Overall, this evidence provides additional support for the first hypothesis which states that land-related new issues were more likely to strategically appoint aristocrats to boards of directors to secure access to land resource in UK. More important, the cases examined show that the land and social relationships of traditional aristocrats and the previous experience and expertise of new aristocrats played an important role in the appointment of aristocrats to the boards of new issues operating in the land-related industries in the UK.

[31] Hon Arthur Brand (1853-1917), *Who Was Who*, Volume 2, p.120.

[32] This particular case study was selected from outside the sample period for case study evidence described in section 4.5 above.

[33] *Financial Times*, May 1, 1897, p.8, August 27, 1897, p.4. It is worth noting that a direct link between the aristocrats on the board of this firm and Lord Hothfield could not be ascertained.

Aristocratic Representation on Boards of Overseas Land-related New Issues

The appointment of aristocratic elites to boards of new issues increased in the late nineteenth century, and their expertise in terms of their past careers and first-hand experience of the primary place of activities played an important part in their appointment. The account of Sir James Lyle Mackay, later made the first Earl of Inchcape in 1924, provides a starting point for understanding the reasons for these aristocratic representations.

Expertise derived from business engagements, military and colonial administration were of great importance for the successful operation of new issues in locations outside the UK, particularly in the Empire.

Mackay began his journey to the world of trade in India with a shipping assistant job with the agent of the British India Steam Navigation Company, known as Mackinnon, Mackenzie & Company in Calcutta, which made him relocate from London to India in 1874. Four years later, he was appointed as a representative of the firm in Bombay and became a senior partner. Mackay did not personally establish any great enterprise, but was appointed to grow existing ones. Apart from Mackay's interest in trade and shipping, he also served in various capacities as a representative of the UK government in India and China. For example, he was a legislative council member of the Viceroy of India between 1891 and 1893, and was appointed special commissioner to negotiate a commercial treaty with China. This gave him expertise in commerce which was sought thereafter (Grieves, 2008).

Mackay took up directorship positions in many firms but only one of these is included in this study dataset: the South Behar Railway Company, operating mainly in India. The appointment of Mackay to the board of this firm suggests that his knowledge of Indian terrain, his expertise, political influence and the resources that could be drawn from his networks with the boards of other firms were of great importance. The South Behar Railway, under contract to the secretary of state in the Council of India, obtained the right to construct a railway in Bengal. It was stated in the firm's prospectus that access to land would be provided by the government for the construction of a railway line, housing for employees, warehouses and offices, amongst other things, and that the railway would be worked and maintained by the East India Railway.[34] Interestingly, Mackay was one of the directors of the East India Railway Company. In addition to the value of Mackay's expertise, his appointment also suggests a potential flow of knowledge and resources between his corporate networks.

Alongside Mackay, there were two other aristocratic elites on the board of the South Behar Railway Company, namely Sir Juland Danvers and Sir Henry Stewart Cunningham. Both directors had acquired tacit knowledge and expertise from their service in India. Danvers, who was knighted in 1886, was an Indian administrator who retired as an Indian government official in 1892. Prior to his retirement, he was appointed secretary in the railway department of the India Office in 1858, and was

[34] *Financial Times*, July 10, 1895, p.7.

the government director of Indian railway companies in 1861.[35] The expertise of Danvers in matters relating to the operations of railway services is further illustrated by his article on English railways (for example see, Danvers, 1888).

Similarly, Sir Henry Stewart Cunningham, who was a lawyer, also had first-hand knowledge of India, her people and law. He started his career in India as advocate for the government and the legal expert for Punjab, a province in India. Cunningham served as the advocate general from 1872 to 1877 in Madras, now known as Chennai, became a high court judge in Calcutta from 1877 to 1887, and he also campaigned on matters relating to public health in India (Jay, 2004).

These individuals were knighted for their services in India; based on his business prowess and wealth, Mackay was also promoted to an earldom. Consistent with Brayshay et al. (2007), the evidence suggests that knowledge of the primary location of a firm's activities played a major role in the appointment of aristocrats to the boards of overseas new issues. In addition, the analysis shows that the expertise and past careers of aristocratic elites determined their directorship appointments.

Other compelling evidence comes from the 9th Viscount of Molesworth, George Bagot Molesworth, who was a military and naval officer. He served in Tirah expedition, which was then part of British India, from 1897 to 1898.[36] Molesworth was appointed by four firms that were all located in Asia (Sri Lanka, Malaysia, Indonesia and Myanmar); three of these firms were in agriculture and horticulture industry, while one operated in the mining and quarrying industry.[37] His appointment to the boards of these firms, with the exception of one, suggests that his knowledge of Asia derived from his past career was the reason for his representation. The odd one out was the board of Molesworth Brothers' Rubber, where the estates to be acquired were previously owned and managed by Mr Guy Nassau Layard Molesworth.[38] Hence, the floatation of Molesworth Brothers indicates the realisation of initial investments, while the appointment of Viscount Molesworth to other firms in Asia illustrates the need for his expertise resource.

Further evidence is shown by the presence on various boards of Sir Frank Athelstane Swettenham, who was a British administrator in Malaysia and Singapore, and the first resident general of the Federated Malay States (FMS; Malaysia).[39] He was appointed to the boards of three new issues in rubber, all located in Malaysia.[40] Furthermore, Sir William Hood Treacher, who was the second resident general of the FMS and the first governor of British North Borneo, was appointed by six

[35] Sir Juland Danvers (1826–1902), *Who Was Who*, Volume 1, p.180.

[36] George Bagot Molesworth, (1867–1947), *Who Was Who*, Volume 4, p.805.

[37] Information obtained from dataset.

[38] *Financial Times*, December 6, 1909, p.2.

[39] Sir Frank Athelstane Swettenham (1850–1946), *Who Was Who*, Volume 4, p.1127.

[40] Information obtained from dataset.

new issues in the agriculture and horticulture industry. These firms operated primarily in Malaysia, except one that was located in Burma, now Myanmar, which is still within Asia.[41] Similarly, Hon Charles Hedley Strutt, son of the 2nd Baron of Rayleigh, an agriculturalist who had travelled to North Borneo and Sumatra among other places, was appointed to the board of Anglo-Dutch Plantation of Java, operating primarily in Indonesia.

Additional evidence is shown in the composition of the board of the United Malaysian Rubber Company. This firm obtained 200 acres of leased land from the Sarawak government for rubber plantations.[42] Although the United Malaysian Rubber Company had an aristocratic director in Sir Percy Francis Cunynghame, his appointment was for reasons other than his access to land because the control of Malay land mostly lay in the hands of the government. Cunynghame was on the board of the United Malaysian Rubber Company for his managerial expertise in his dealings with Malaysia, derived from serving as a government official for about 25 years.[43]

More compelling evidence is shown with the appointment of aristocratic elites to the board of the Consolidated Tea and Lands Company, although this was floated in 1896, which is outside the sample period for agriculture and horticulture case studies. Its operation was mainly carried out in India and Ceylon, and at the time of issue it had 180,000 acres of land, of which about 150,000 acres were yet to be utilised for farming.[44] The company recruited aristocratic directors in the persons of Sir John Muir, Bart., Lord Frederick Sleigh Roberts and Sir Robert Drummond Moncreiffe, Bart.

The Consolidated Tea and Lands Company was an amalgamation of two companies, known as the Estates of the North Sylhet Tea Company and the Estates of the South Sylhet Tea Company, which had both been operating as private companies since 1882. Lord Roberts joined the board of the North and South Sylhet Tea Company in 1894, just after his tenure as the commander-in-chief in India in 1893. His popularity in the British Empire did not go unnoticed.[45] The appointment of Lord Roberts to the board of the companies that merged to become Consolidated Tea and Lands was due to his managerial expertise and connections because these companies had been operating privately as plantation estates for 12 years prior to his appointment.

It could also be argued that the appointment of Sir John Muir to the board of the Consolidated Tea and Lands Company was based on his business and management expertise in dealing produce (tea, rubber and jute) in India. Muir was a successful businessman who founded Messrs Finlay, Muir, and

[41] Sir William Hood Treacher (1849–1919), *Who Was Who*, Volume 2, p.1050.

[42] *Financial Times*, April 27, 1910, p.12.

[43] *Financial Times*, July 20, 1911, p.5.

[44] *Financial Times*, June 18, 1896, p.3.

[45] In Indian railways and finance correspondence, the name of Lord Roberts was said to stand higher than any other name in the British Empire (*The Economist*, August 5, 1893, p.947). See also Robson, B. (2011).

Company, which acted as an agency firm. In this capacity, he acted as the agent of the Consolidated Tea and Lands Company in India and Ceylon. Muir's agency company was praised for its judicious management of the tea estates of the Land Mortgage Bank of India at an AGM in 1895, which was said to have resulted in a satisfactory performance.[46] Proposals were later made by Muir to acquire the tea estates of the Land Mortgage Bank of India during its liquidation process in 1897.[47]

Sir John Muir and Lord Roberts both served as committee members of the Mansion House Relief Fund during the famine in India, which demonstrates their mutual interest in India.[48] The appointment of Sir Robert Drummond Moncreiffe, who was the 8th Baronet of Moncreiffe, to the board of the Consolidated Tea and Lands Company stands out from the appointment of other directors, as no records could be found for dealings in India.

New issues which operated mainly in Africa appointed individuals such as Major General Sir George Pretyman, Sir Ralph Moor and Sir Henry Dering, amongst others, who had previously served as British colonial administrators, military officers or had other dealings in Africa.[49] Similarly, Sir Alfred Dent, who had business dealings in China, was a partner at Dent Brothers and Company and founder of the British North Borneo Company, was appointed to the board of the Shanghai Electric Construction Company, primarily operating in China.[50]

Aristocratic Representation on Boards of New Technology Issues

During his public examination, the known rogue company promoter Ernest Terah Hooley emphasised the importance of certifying a firm's value using the front page of the prospectus during issue and stated clearly that the recruitment of titled directors was aimed at getting subscriptions from the investing public.[51]

For example, the presence of Hon Derek Keppel and Earl De La Warr on the board of the Clement Gladiator and Humber (France) Company, promoted by Ernest Terah Hooley, is a clear example of the legitimacy role played by aristocratic elites in firms operating in the new technology industries. Hon Derek Keppel, the son of the 7th Earl of Albemarle, a military officer/politician and an equerry in waiting to the Duke of York at the time of his appointment, had no previous managerial experience

[46] *The Times*, July 30, 1895, p.12.

[47] *The Times*, July 4, 1896, p.5.

[48] *The Times*, January 15, 1897, p.8.

[49] Sir George Pretyman (1845–1917), *Who Was Who*, Volume 2, p.854; Sir Ralph Moor (1860–1909), *Who Was Who*, Volume 1, p.503; Sir Henry Dering, Bart. (1866–1931), *Who Was Who*, Volume 3, p.355; Sir Ralph Moor, who was to sit on the board of Beira Rubber and Sugar Estates Limited, died before the firm was admitted to the LSE.

[50] Sir Alfred Dent (1844–1927), *Who Was Who*, Volume 2, p.281.

[51] *The Times*, July 28, 1898, p.14, and Harrison (1981), p.176.

in the cycle and related industries, neither was he a director in any other firm.[52] The appointment of Keppel to the board of directors was to provide legitimacy resource to this company. Though Earl De La Warr was on the board of other new issues (both in new and old technology) and served as trustee for debenture at Bovril Limited, it is doubtful whether he fully understood the operations of new technology firms despite his past board experience.[53]

Another example of the legitimacy role played by the aristocratic elites can be observed in the prospectus of the Dunlop Pneumatic Tyre Company, also promoted by Hooley in 1896. Aristocrats in the persons of Earl De La Warr, the Duke of Somerset and the Earl of Albemarle were used to add glitter to the prospectuses of Dunlop. Apart from the Earl of Albemarle, who had previous experience as a cyclist and was also involved in cyclist associations (Harrison, 1981), none of the other aristocrats had previous business experience in the cycle and related industries.

Aristocratic Representation in the Clothing and Textile Industry

In comparison to the representation of aristocrats on the boards of firms in the land-related industries, no sons of aristocrats or colonial administrators were appointed to the boards of new issues in the clothing and textile industry. Unlike most of their counterparts in land-related industries, individuals in clothing and textiles industry who had a knighthood or a baronet title were merchants, businessmen, industrialists or politicians. For example, Sir Israel Hart the chairman of Hart and Levy Limited, was a politician and merchant. Sir Robert Hargreaves Rogers, the chairman of RH and S Rogers Limited, was a businessman and politician. Sir Frederick William Fison, Bart., the chairman of Wm. Fison and Company, was an industrialist and politician. Lastly, Sir John Ure Primrose, Bart., director of R & J Dick Limited, was a merchant. It could be observed that these individuals were mostly recruited on the boards of family firms and had expertise in this industry.[54] The exception to this pattern was the Rt Hon James Parker Smith, the 4th Smith of Jordanhill, who was a politician.

Another major difference is that the Earl of Warwick was the only traditional landowner in the clothing and textile industry. He was appointed to the board of Maison Virot, Limited, operating mainly in France. The reason for his representation could not ascertained, but he was the chairman of the Singer Cycle Company that was promoted by Hooley. This suggests that he was also appointed to attract potential investors to Maison Virot, Limited, floated by the Industrial Contract Syndicate. Similarly, the 4th Baron of Tenterden,[55] who had no business-related expertise, was appointed to the

[52] There was no managerial or company description in front of Hon Derek Keppel in the prospectus issued by the Clement Gladiator and Humber (France) Company. See *Financial Times*, October 12, 1896, p.8.

[53] See Harrison (1981).

[54] The first three aristocrats floated family firms, which suggests that the issue aimed to realise initial investments in the family business.

[55] He also sits on the boards of two new issues in the agriculture and horticulture industry.

board of Ch. Drecoll Limited that was also operating in France. Lastly, Pryce Jones (Canada) Limited appointed as director Sir W Lennox Napier Bart., who also had no business-related skills. Interestingly, the three aristocrats appointed by overseas firms were the only military officials in this industry. This evidence suggests that military officials were appointed to boards as ornamental directors.

Hence, it could be argued that the reasons for aristocratic representation on the boards of land-related firms differed from those relating to clothing and textile firms. Aristocrats who took up directorship positions in land-related firms were mostly those with land-related expertise, first-hand knowledge of location and land resources, or were administrators in the British Empire. Unlike the land-related industries, aristocrats appointed to the boards of firms in the clothing and textile industry were more likely to be businessmen floating family firms and less likely to be landowners, or were those whose reputations were borrowed to attract investors.

An alternative argument for the representation of aristocratic elites on boards could be that they took up directorship position to stay relevant in the economy. To illustrate, Sir Auckland Colvin, who was appointed to the board of the Burma Railway Company in 1896, retired in 1892 from the British Empire administration in India. Likewise, Sir Ralph Moor, who was appointed to Beira Rubber and Sugar Estates Limited, retired from the British Empire administration in Southern Nigeria in 1903. Also, the 4th Baron of Tenterden retired as Lieutenant in 1894, and Sir Juland Danvers retired from Empire administration in 1892 before taking up their directorship positions. Lastly, the Marquess of Dufferin and Ava retired from diplomatic service in 1896 and subsequently took up directorship positions.

Another alternative argument for the representation of aristocratic elites could be that they took up directorship positions to generate more income to supplement dwindling revenue. For example, Lord Francis Pelham Clinton Hope was charged for bankruptcy in 1893.[56] According to the official receiver, the insolvency of Lord Hope, who at no time had any occupation, was the result of his extravagant lifestyle, debts and liabilities incurred from his generosity. It was said that he lost the sum of £70,000 in betting and gambling, which is much higher than the actual annual income of £10,000 generated from his inherited estates, which should have been generating £20,000 per annum.[57] This evidence suggests that aristocratic elites with financial difficulties could take up directorship positions to generate additional income.

However, the importance of the expertise, knowledge and land resources of aristocratic elites was of significantly greater benefit to the successful operation of new issues than the motives of aristocrats aiming to stay relevant or supplement their incomes. Most important, aristocrats were major investors

[56] *Financial Times*, June 4, 1894, p.3.

[57] *The Times*, December 20, 1895, p.14.

and some were guarantors for new issues; as such, they would want the operations of the firms associated with them to be successful.

In summary, the model results and case study evidence show that new issues recruited aristocratic elites to secure access to resources such as land, expertise and knowledge. Although new aristocrats were prevalent in land-related new issues operating overseas, expertise played a key role in their appointment as directors.

4.5 Conclusion

The disposal of land estate was more desirable and its acquisition was less attractive to aristocratic elites owing to prolonged agricultural depression, the introduction of death duties, taxes on estates and the reduced value of land-related income. As a result, aristocratic elites disinvested their interests from land estate and tilted their interest towards investing in the capital market and taking up directorship positions in UK and overseas firms. This occurred during a period when landed assets became an important resource for some emerging new industries, such as transportation, communication and construction. The implication is that firms in emerging industries whose primary operation relied on the use of land would have a continuing need for the land and managerial expertise of aristocratic elites for survival and growth. Also, the legitimising resource of aristocratic elites was required by firms in emerging industries that were adopting new production processes or producing new products, including firms operating in the cycle and related industries.

Through the theoretical lens of the resource dependence hypothesis on the composition of boards of directors, this study thus argues that new issues in the UK during the late nineteenth and early twentieth century strategically appointed aristocratic elites to boards of directors to satisfy their external resource needs for operation and survival. The results show that new issues in land-related businesses that operated mainly in the UK strategically appointed aristocratic elites to secure access to land resource, while land-related overseas new issues appointed aristocratic elites to secure access to managerial expertise. The results also show that new issues adopting new production processes or producing new products secured access to legitimacy resource by appointing aristocratic elites to their boards of directors.

This chapter concludes that the appointment of aristocratic elites to boards of directors in the late nineteenth and early twentieth century was not just ceremonial; it represented a key means of securing the external resources required for smooth operations. Hence, through their resources, aristocratic elites contributed to the expansion of the UK economy during the emergence of new industries by granting firms access to key resources. This chapter leaves one issue undetermined. It has examined the reasons for aristocratic representation on the boards of new issues but has suggested little about the effect of aristocrats' resources on the performance of new issues in the land-related industries.

5 The Long-term Performance of New Issues: The Role of the British Aristocracy, 1891–1911

5.1 Introduction

Scholars have highlighted the crucial importance of the composition of boards of directors in enhancing future performance during the transition of firms from private to public ownership (Certo, 2003). This assumption is based on the various roles played by outside directors that could be expected to positively influence performance. These roles include monitoring and advising managers on behalf of owners due to differing interests (Jensen and Meckling, 1976). In addition, the appointment of resourceful outside directors gives new issues access to essential external resources and the co-optation of external bodies (Pfeffer and Salancik, 1978). It is also important for new issues to structure boards in ways that show conformity with institutionalised norms. In this way, they can gain legitimacy, offsetting the disadvantage of market newness (Certo, 2003; North, 1990).

Previous research on corporate boards has examined the impact of the roles played by outside directors on the subsequent performance of new issues (for example, Burhop et al., 2014; Chancharat et al., 2012; Chen et al., 2017b; Fjesme et al., 2018; Kor and Sundaramurthy, 2009; Lew et al., 2017; Mutlu et al., 2018; Pearce and Patel, 2018; Uribe-Bohorquez et al., 2018; Zattoni et al., 2017). These studies have examined the relationship between independent directors and performance, resource and performance, and how institutional settings moderate the relationship between independence and performance. In developed and emerging economies, findings on the relationship between the monitoring and advisory roles of outside directors and the performance of new issues are inconsistent (Burhop et al., 2014; Chancharat et al., 2012; Fjesme et al., 2018; Lew et al., 2017). This has been attributed to the omission of the resources of outside directors, which have the capacity to enhance their ability to monitor and advise management, and hence positively influence performance (Hillman and Dalziel, 2003). Consistent support has been shown for this conclusion by contemporary studies (Chen et al., 2017b; Kor and Sundaramurthy, 2009).

However, there has been little discussion of the relationship between outside directors' resource and performance in a historical context. Scholars have only recently focused on the impact elite directors had on firm performance in the past, and the results are mostly inconsistent (for example, Braggion and Moore, 2013; Burhop et al., 2014; Campbell and Turner, 2011; Fjesme et al., 2018; Grossman and Imai, 2016). It is evident from previous studies that the aristocratic class of elite directors provided access to external finance (Amini and Toms, 2018) and derived managerial skills from the operation of their personal estates because they were traditionally landowners (Beckett, 1988; Rubinstein, 1977). However, there is no study to the best of my knowledge that has examined the impact of the managerial experience of aristocratic directors on firm performance. Hence, it remains

unknown whether their previous land-related managerial skills in any way influenced the performance of the firms they were associated with.

This study thus examines the relationship between the appointment of aristocratic directors and the long-term performance of new issues, recognising the possible influence that the managerial resources of aristocrats could have on performance, and also taking into account the moderating role of institutional changes on this relationship. The focus of this study is on post-issue share price behaviour. The use of long-term performance in the study of new issues is important because it offers a greater understanding of market informational efficiency (Fjesme et al., 2018). To accomplish this aim, this chapter uses a sample of 353 new issues admitted to trade on the LSE from 1891 to 1911 and examines long-term share price performance over three years from a buy and hold perspective. The use of buy and hold trading strategy would rule out market optimism in share prices as underlying quality becomes more evident in the first three years of operations (Fjesme et al., 2018; Ritter, 1991).

In support of the role of outside directors as proposed by agency theory, the results show that aristocratic elites positively influenced the long-term performance of new issues. More importantly, the results show that the managerial experience and agency role of aristocratic elites positively influenced the performance of firms classified as land-related. This result was further supported with illustrative case studies selected from rubber firms that performed better than the market in the long-term. It was observed from the case studies that aristocrats usually had prior experience in the regions where the rubber firms they were associated with operated. Aristocrats also derived related skills in the rubber industry from sitting on multiple boards, which may have influenced performance positively. Apart from aristocrats, other directors with expertise in planting, trade and finance were co-opted to boards, suggesting the accumulation of additional resources from various areas. The results support the claim that the ability to monitor and advise management in ways that enhance performance was influenced by director resources.

Furthermore, evidence shows that changes made to the legal system relating to shareholder protection negatively moderated the relationship between aristocratic elites and long-term performance. The implication of this is that the void created in the absence of regulation was filled by aristocrats. In addition to certifying the operations of new issues during these periods, aristocrats enhanced performance through their roles as gatekeepers and resource providers. Hence, it is suggested that aristocratic elites were not just appointed to boards for their social standing; rather, they were appointed for their contribution to the value of firms.

The study contributes to the extensive literature on the outside-director performance relationship from a historical perspective by examining the roles of aristocratic elites in relation to the long-term performance of new issues from the agency theory perspective and the integration of agency theory with resource dependence theory, alongside a consideration of institutional changes. This chapter offers a possible contribution to historical studies in the UK in two main areas. First, it shows the

importance of the managerial experience of aristocratic elites in enhancing the performance of firms promoted on the LSE. Second, it demonstrates the moderating effect of institutional changes on the elite-directors performance relationship in the UK.

The chapter proceeds as follows: section 5.2 discusses the theoretical background leading to the development of research hypothesis; section 5.3 describes data, variables, descriptive statistics and estimation models; model results and case study evidence are the focus of section 5.4; and the chapter concludes with section 5.5.

5.2 Theoretical Background and Hypotheses Development

This section discusses theoretical frameworks and presents arguments on how the resources of aristocratic elites, alongside their personal experience of estate management and dealings overseas in military, colonial administration and business activities, could be expected to positively influence the long-term performance of new issues where the main operation involved the development of land resources for mining, agriculture, construction or the building of physical infrastructure.

5.2.1 Aristocrats on Boards and New Issue Performance: Agency Theory Context

The composition of corporate boards plays a major role during the transition process of firms from the private to the public arena and in enhancing their subsequent performance in the long-term (Certo, 2003). Agency cost is one of the dominant theories used to understand the relationship between corporate board composition and firm performance (Certo, 2003). The separation of ownership from control, which arises as private firms becomes public, results in problems of agency owing to the conflicting interests between owners and managers (Jensen and Meckling, 1976). Appointing outside directors whose major role is to monitor and advise, with the aim of aligning the interests of power actors, could be used to allay such problems. Such appointments should enhance performance in the long-term (Jensen and Meckling, 1976). However, previous studies have shown mixed results on the relationship between outside directors and firm performance.

Some contemporary studies report that the presence of outside directors increases the likelihood of new issues surviving in new economy industries (Chancharat et al., 2012), improves new issues' operating performance after controlling for the effect of social ties with the top management team (Chahine and Goergen, 2013), positively influences accounting-based measures of firm performance using meta-analysis on governance studies in China (Mutlu et al., 2018), and positively influences the valuation of new issues after controlling for the moderating effect of firm age (Bertoni et al., 2014).

In contrast, Muth and Donaldson (1998), by combining the proportion of outside directors with other measures of board independency according to the propositions of agency theory, find that a board dominated by outside directors negatively influences the wealth of shareholders and has no effect on operating performance. Similarly, Lew et al. (2017) report that the dominance of outside directors has no material effect on the operating performance of new issues in emerging markets. Pearce and Patel (2018) find that outside directors have no significant effect on lowering operating performance variability.

Other studies have examined the relationship between firm performance and the appointment of elite directors who could be considered outside directors (Acheson et al., 2016b; Braggion and Moore, 2013; Burhop et al., 2014; Campbell and Turner, 2011; Fjesme et al., 2018; Foreman-Peck and

Hannah, 2013; Grossman and Imai, 2016) from a historical perspective. For example, Campbell and Turner (2011) examined the influence of ruling-class directors on the value of public firms across various industries in the UK between 1873 and 1883. They showed that firm value was negatively influenced by ruling-class directors for the period under review. Hence, they suggest that ruling-class directors were selected to boards for their status rather than their ability to monitor or advise. Likewise, Fjesme et al. (2018) show that the presence of political directors, defined as MPs or lords, negatively influenced the long-term performance of new issues floated on the official segment of the LSE between 1891 and 1911. Although their coefficients on political directors were generally insignificant in long-term performance models, they concluded that political directors were not functional in the operations of firms. These findings support the conclusion that titled directors were ornamental directors who did not add value to firms.

Other historical studies report that aristocratic elites had no effect on the performance of firms in the UK. For example, Grossman and Imai (2016) find no systemic difference in the performance of UK banks that appointed titled directors and their counterparts without titled directors during the late nineteenth and early twentieth century. Likewise, Burhop et al. (2014) find that the presence of elite directors had no meaningful effect on the failure rates of new issues admitted to the LSE in the early twentieth century. Examining the performance of large firms on the LSE in 1911, Foreman-Peck and Hannah (2013) report that the performance of firms was neither influenced negatively nor positively by the presence of aristocratic elites. They concluded that these directors were appointed to boards on merit.

Despite these results, some studies have found a positive relationship between the appointment of elite directors and the performance of firms. For example, Braggion and Moore (2013) report a positive relationship between the presence of political directors and the performance of new technology firms between 1895 and 1914. Also, Acheson et al. (2016b) found that the performance of brewery firms measured as percentage change in the price of ordinary shares was positively correlated with having peers or MPs on boards of directors. However, this result is limited to the inclusion of Guinness, which had a high presence of peers on its boards.

So far, therefore, the findings of the existing body of literature on aristocratic elites and the performance of firms have been largely inconsistent. Hence, this chapter seeks to contribute to existing studies by examining the relationship between aristocratic elites and the performance of firms from the perspective of agency theory. According to agency theory, in relation to the fundamental role of outside directors, it is argued that the appointment of aristocratic elites to the boards of new issues would have a positive effect on long-term performance. New issues are subject to the liability of newness, which increases the need to convey information about future prospects. The presence of aristocratic elites on corporate boards could be used to convey this information owing to the ability

of these elites to be effective gatekeepers and advisers, which could be expected to influence performance positively. Hence, it is hypothesised that:

H_1: The appointments of aristocratic elites to boards of directors positively influenced the long-term performance of new issues during the late nineteenth and early twentieth century.

5.2.2 Managerial Experience of Aristocratic Elites and New Issue Performance: Resource Dependency Theory and Agency Theory Context

Apart from the monitoring and advisory roles of outside directors, their appointment provided a medium for co-opting important external bodies, with the aim of securing external resources, which should enhance a firm's performance in the long-term (Pfeffer and Salancik, 1978). The resource dependence theory argues that outside directors could provide firms with managerial expertise resource derived from previous experience. This could influence strategic choices that would have a subsequent positive influence on the firm's performance (Pfeffer and Salancik, 1978).

This argument has been supported in various contexts by empirical studies examining the influence of outside directors' expertise on firm performance under the antecedent of human capital (Chen et al., 2017b; Kor and Misangyi, 2008; Kor and Sundaramurthy, 2009). For example, Kor and Sundaramurthy (2009) found that the managerial experience of outside directors in a given industry positively influenced the growth of new issues. They suggest that industry experience imparts outside directors with knowledge of competitive conditions, opportunities, structures, threats and industry regulations which enhances their advisory role and thus positively impact growth. By measuring the managerial experience of outside directors in industry as the average number of managerial positions they had previously held in a given industry, Kor and Misangyi (2008) suggest that the industry experience resource of outside directors is important to the survival of young entrepreneurial firms, as such directors could advise top management on matters relating to strategy formulations.

More recently, Chen et al. (2017b) have shown that the subsequent performance of entrants in an emerging new market is positively influenced by outside directors' managerial experience in the same industry. Furthermore, Meyerinck et al. (2016) report a positive association between the appointment of directors with industry experience and announcement returns. Their study suggests that investors positively value directors with industry experience. The implication of these studies is that experience derived from previous directorship positions in the same industry enhances the ability to monitor and formulate strategic plans that could subsequently positively influence a firm's performance.

The emergence of new industries in the UK during the late nineteenth and early twentieth century placed more demands on the need for infrastructure such as the construction of accessible roads for vehicles, and the building of industrial estates and residential houses, amongst other projects. Apart

from increasing infrastructure needs, there were increasing demands for mining products such as coal and crude oil required for the function of new products such as electricity, steam engines and vehicles. The need for agricultural produce, such as rubber used in the production of tyres also increased owing to growing demand from producers and users of cycles and vehicles. To take advantage of these emerging opportunities, firms were therefore promoted in industries such as agriculture, mining and construction and needed to set up boards of directors that could enhance their performance in the long-term.

Aristocratic elites had traditionally been landowners who, over time, gained managerial experience from their estates through enterprising activities aimed at wealth maximisation such as mining, agriculture, the leasing of estates, the construction of roads and canals, and urban development (for example see Beckett, 1988; Cannadine, 1977; Raybould, 1984; Rubinstein, 1977). Due to the decreasing attractiveness of owning estates from 1880s onwards, coupled with the urgent need to diversify activities and investments (Beckett and Turner, 2007; Cannadine, 1990), aristocratic elites increasingly took up directorship positions in public firms towards the end of the nineteenth century (Grossman and Imai, 2016).

Although it was generally established that aristocratic elites facilitated access to external finance (Amini and Toms, 2018; Braggion and Moore, 2013) and access to regional firm listing on the LSE (Amini and Toms, 2018), there is no consensus about their influence on the performance of firms (Acheson et al., 2016b; Burhop et al., 2014; Foreman-Peck and Hannah, 2013). According to Hillman and Dalziel (2003), examinations of the outside-director performance relationship that did not consider board resource are more likely to result in less accurate findings. It then becomes imperative to consider the resources possessed by aristocratic elites when examining their effect on the long-term performance of firms.

So far, however, there has been little empirical discussion of the influence of aristocratic elites' managerial experience on firm performance; it could be argued that they possessed industry experience in land-related firms through the management of their personal estates and their dealings in overseas locations. This study aims to address this debate by integrating agency theory and resource dependence theory in an examination of the relationship between aristocratic elites and the long-term performance of land-related new issues. It is argued that aristocratic elites would be more effective in monitoring and advising managers of land-related new issues owing to their managerial experience and overseas dealings, and that this would positively influence long-term performance. It is therefore hypothesised that:

H_2: The managerial experience of aristocratic elites positively influenced the long-term performance of land-related new issues during the late nineteenth and early twentieth century.

5.2.3 Effect of Institutional Changes on the Relationship between Aristocratic Elites and Firm Performance

Institutions are the formal or informal constraints created by humans that give form to a range of interactions (North, 1990). Formal institutions comprise written rules, such as regulations, constitutions, contracts and law, while informal institutions are derived from human culture such as norms, conventions and customs (North, 1990). Researchers have shown that the composition of outside directors on corporate boards is greatly influenced by nations' institutional framework such as investor protection regulations and the rule of law (Kim and Ozdemir, 2014), and institutional quality (Hearn, 2015). Scholars have also examined the moderating role of institutional context on the relationships between outside directors and firm performance from an agency theory perspective and from the integrated view of agency theory and resource dependence theory (Oehmichen et al., 2017; Uribe-Bohorquez et al., 2018; Zattoni et al., 2017).

By examining the short-term financial performance of new issues across various countries, Zattoni et al. (2017) show that the level of systemic trust – that is, the confidence the society has in the rule of law, including the enforcement of legal contracts – moderates the positive effect of outside directors on performance. Their study is based on the argument that poor legal institutions create a void that outside directors fill by monitoring managers and providing access to critical resources such as expertise. It suggests that the influence of outside directors' roles on the performance of new issues becomes weaker with higher levels of education and increasing reliance on legal and enforcement institutions.

Uribe-Bohorquez et al. (2018), on the other hand, using efficiency as the proxy for firm performance, report that the positive influence of the monitoring role of outside directors on performance is significantly greater in firms operating in countries with strong legal and enforcement institutions than firms operating in countries with weak legal and enforcement institutions. The findings of Uribe-Bohorquez et al. (2018) are based on the argument that outside directors operating in countries with strong legal and enforcement institutions have personal incentives to protect their reputation by avoiding market disciplines which could deter future directorship appointments. The importance of reputation for securing future directorship appointments is further demonstrated by a Ferris et al. (2003) study, which reports a positive association between the previous performance of firms and the likelihood of securing new board appointments.

The studies of Zattoni et al. (2017) and Uribe-Bohorquez et al. (2018) both show that the effect outside directors have on a firm's performance is moderated by legal and enforcement institutions operational in a given country, even though their findings differ. This difference could be attributed to the different foci of the studies. Uribe-Bohorquez et al. (2018) focused on the potentially damaging effect that the legal actions of stakeholders could have on the reputations of outside directors when

they failed to perform their monitoring roles. On the other hand, Zattoni et al. (2017) focused on efficiency in knowledge resource allocation and reliance on systemic trust by stakeholders, which would reduce the need for the resource and monitoring roles of outside directors. Nonetheless, both studies agree that, as legal and enforcement institutions are tightened, the interests of managers become more aligned with those of owners, resulting in less need for outside directors' advisory and monitoring roles.

Further demonstrating the importance of institutional context in the formation of boards of directors and their subsequent influence on firm performance, Oehmichen et al. (2017), using information disclosure regulations and laws protecting the interests of stakeholders as proxies for institutional context, find that outside directors with industry expertise positively influence strategic change in firms across countries. However, the strength of this influence is moderated by institutional context. They show that improvements in the quality of institutions reduce the dependency of firms on the monitoring and advisory roles of outside directors with industry expertise. The study of Oehmichen et al. (2017) suggests that integrating institutional context with the resources of outside directors would provide a more in-depth understanding of directors' roles in enhancing firm performance.

However, studies that examine the moderating roles of institutional changes on the resource provision and monitoring roles of outside directors are still lacking in business history studies. This is of particular interest because there is general agreement by business historians that, during the late nineteenth and early twentieth century, UK corporate law was weak in protecting the interests of minority investors, in enforcing regulations and in regulating disclosures (Cheffins, 2001; Foreman-Peck and Hannah, 2016; Franks et al., 2009; Hannah, 2007b).

For example, the Companies Act of 1862, regulating the operations of registered firms that dominated the UK market in the late nineteenth century, offered minority investors inadequate protection under the antidirector rights index. This index was used to measure the legal protection available to shareholders, ranging from a score of 1 for minimal protection to 6 for maximum protection (Foreman-Peck and Hannah, 2016). These legal protections gave shareholders the opportunity to exert influence on the actions of directors (Foreman-Peck and Hannah, 2016). UK corporate law had a score of 1 until the 1900s because shares were commonly registered. It scored 2 from 1900 to 1948, when the law allowed minority shareholders holding a minimum 10% of shares to call an extraordinary general meeting with or without the consent of directors (Foreman-Peck and Hannah, 2016).

Also, registered firms were advised by the UK Companies Act to voluntarily draft articles of association, which could enhance the protection of minority shareholders if fully adopted: for example, allowing shareholders to vote by proxy at meetings, giving shareholders pre-emptive rights to buy new shares issues and having a yearly audit of accounts, among others (Campbell and Turner, 2011). Considering that these recommendations were not legal requirements, firms' promoters,

vendors and/or directors could adopt them in full, select a few that would best suit their purpose, or they could choose to adopt none. Although Foreman-Peck and Hannah (2016) argue that some registered large firms adopted stricter regulations on a voluntary basis, it would be inappropriate to conclude that the interests of minority shareholders in the UK were protected legally in general during the late nineteenth and early twentieth century.

Apart from the weakness in UK law regarding the protection of minority shareholders, enforcement of the law by minority shareholders was also weak. Scholars generally agree that judges in the UK were, in the main, reluctant to meddle with the internal affairs of firms where allegations of fraud were not the main case because they expected matters arising to be dealt with by majority shareholders (Campbell and Turner, 2011; Cheffins, 2001; Franks et al., 2009). For example, Franks et al. (2009), using the LLS indices as a measure of the private enforcement index, shows that the UK had a score of 0 from 1889 to 1928 on the directors' liability standards index, which implies that directors were not liable to investors.[58] Also, the duties of directors were considered by judges to be wholly owned by the firms; hence it was the firms that could initiate proceedings against directors for breach of fiduciary duty, not minority shareholders (Cheffins, 2001; Franks et al., 2009). The lack of enforcement by minority shareholders in the UK remained largely unchanged until the latter part of the twentieth century (Cheffins, 2001).

Furthermore, company law in the UK was weak in compelling firms to disclose information to their members and to the general public on a regular basis until the dawn of the twentieth century (Cheffins, 2001). Apart from firms operating in industries such as railways, gas utilities, electric lighting, banks and life insurance, which were required by statutory law to publicly file balance sheets before the last decade of the nineteenth century, firms operating in other industries were not under obligation to do so (Burhop et al., 2014; Hannah, 2007b).

Though large British firms published audited accounts towards the end of the nineteenth century, there was no law requiring firms to prepare an audited balance sheet and present it at an AGM until 1900, and not to the general public by newly registered firms until 1907 (Cheffins, 2008; Hannah, 2007b). Balance sheet contents were largely unregulated until 1928, while the publication of a profit statement was not a legal requirement until 1929 (Hannah, 2007b). These weaknesses created voids that could be mitigated by an informal trust mechanism such as the trust investors had in elite directors (Hannah, 2007b).

Studies that examine the effect of institutional changes on the relationship between the appointment of aristocratic elites and the long-term performance of new issues are still lacking to the best of my knowledge. The exception to this is the study of Chambers and Dimson (2009), which examines the

[58] La Porta, Lopez-de-Silanes, and Shleifer indices (LLS). The LSS score was progressively improved from 1929, with changes made in the Companies Act of 1929.

influence changes in regulations had on the short-term performance of new issues. Their study suggests that a breakdown in the trust mechanism was one of the developments that eroded the positive influence that changes in regulation had on short-term performance. The effect of changes in regulations on the relationship between outside directors and firm performance was outside the scope of their study.

It is therefore argued that improvements made to UK corporate law regarding the protection of minority investors would have a positive moderating effect on the relationship between aristocratic elites and the performance of new issues, although only slight improvements were made to legal protection during the early twentieth century. It is expected that this would enhance the ability of shareholders under the law to monitor the activities of firms by calling for meetings where directors could be reprimanded if they failed to perform their duties. It is also expected that this would make aristocratic elites determined to avoid the damaging effect that a new issue's failure could have on their reputations, particularly in cases of negligence. It is therefore hypothesised that:

H_3: Improvements made to the legal protection of shareholders under UK corporate law and improved disclosure regulations positively enhanced the effect of the managerial experience and agency role of aristocratic elites on the long-term performance of land-related new issues.

5.3 Data, Measures and Estimation Models

This section discusses the data used for this chapter in subsection 5.3.1; subsection 5.3.2 discusses variables; subsection 5.3.3 discusses descriptive statistics; and, lastly, subsection 5.3.4 discusses estimation models.

5.3.1 Data

To examine the stated hypotheses, a subset of new issues offering ordinary shares to the public through prospectuses published by the *Times Book of Prospectuses* and admitted to trade on the LSE over the period 1891 to 1911 was obtained from the main dataset. The *Times Book of Prospectuses* was used to collect information on the characteristics of new issues, such as titles of directors, number of board members, primary place of operation, main activity and offer price. The *LSE Listing Application Report Book* was used to collect information on the size of capital raised and the date of admission to the Exchange. The *Investor's Monthly Manual* (IMM) and the Gale online resources (*Financial Times*) were used for share price information. This study relies on the index of Smith and Horne (1934) for information on market prices. In sum, a subset of 353 new issues was obtained.

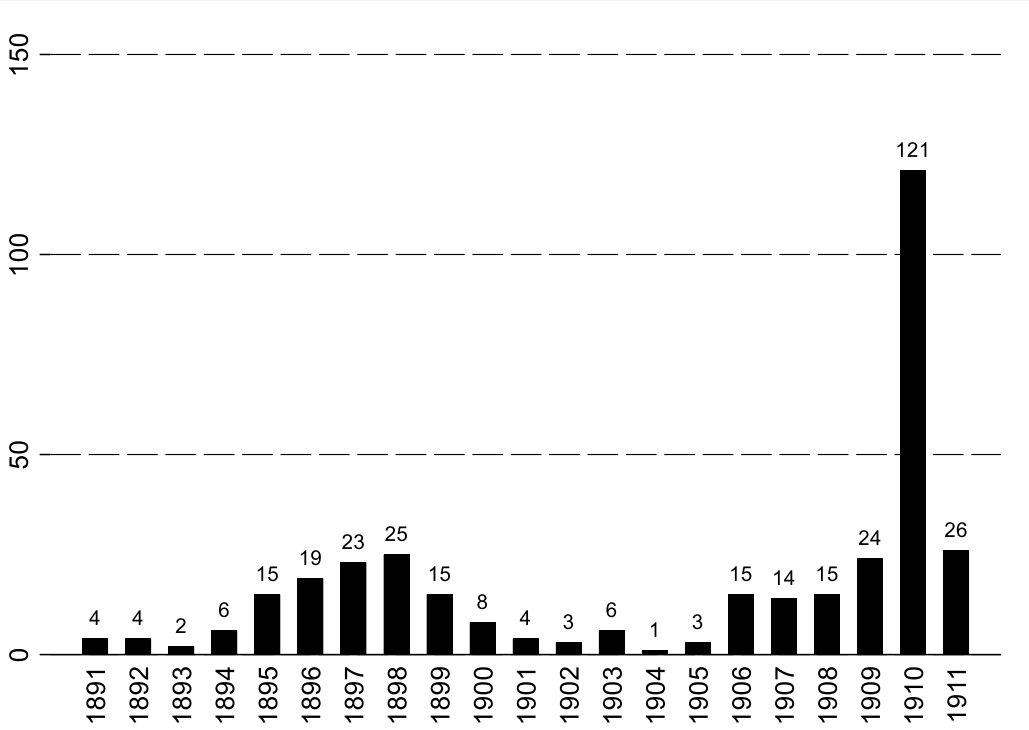

Figure 5-1: Volume of new issues, 1891–1911
Source: *Times Book of Prospectuses,* 1891–1911; *LSE Listing Application Report Book*, 1891–1911.

Figure 5-1 shows the distribution of new issues by year. The promotion of new issues during the last decade of the nineteenth century peaked in 1898. This could be attributed to the promotion of cycle-related new issues. Issues in the first decade of the twentieth century were initially low, increased from 1906, and reached a significant peak in 1910 due to a rubber promotion boom.

New issues cut across industries including agriculture and horticulture, distributive trade, manufacturing, mining and quarrying, and vehicles, amongst others. The UK Standard Industrial Classification (SIC) 1948 was used in grouping new issues into industries. Issues operating in the finance, and gas and water industries were excluded due to heavy regulations (Braggion and Moore, 2013). Table 5-1 shows the volume of new issues in various industries and the percentage of new issues that recruited aristocratic elites, classified as land and operating outside the UK (overseas). About 70% of issues were land firms, 72.2% were overseas issues, and 34.8% of issues appointed at least one aristocratic elite on their board. Land firms were issues operating in agriculture and horticulture, mining and quarrying, and transportation, communication and construction. Land firms mostly operated in overseas locations, while non-land firms mainly operated in the UK.

Table 5-1: New issues: volume by industry (1891–1911)

Industry	Obs.	Land	Overseas	Aristocrat
Agriculture and horticulture	192	100	100	27.6
Chemical and allied trade	9	0	33.3	66.7
Clothing and textiles	16	0	18.8	12.5
Distributive trade	13	0	15.4	15.4
Electricity	8	0	12.5	62.5
Engineering, shipbuilding and electrical goods	4	0	0	75
Food, drink and tobacco	13	0	7.7	15.4
Manufacturing	14	0	14.3	42.9
Metal goods	3	0	0	0
Mining and quarrying	40	100	97.5	42.5
Others	3	0	0	66.7
Paper and printing	12	0	0	50
Transportation, communication and construction	15	100	60	80
Vehicle	11	0	27.3	63.6
Total	353	70	72.2	34.8

Source: *Times Book of Prospectuses,* 1891–1911; *LSE Listing Application Report Book*, 1891–1911.
Note: Financial, gas and water industries were excluded due to heavy regulations following Braggion and Moore (2013).

The representation of aristocratic elites in agriculture and horticulture (27.6%) and in mining and quarrying (42.5%) is low compared to what might be expected. However, they are more often represented on the boards of new issues in transportation, communication and construction (80%), as expected. Aristocratic elites were also prevalent on the boards of some other industries. For example, 66.7% of issues in chemical and allied trades, 62.5% of issues in electricity and 63.6% of issues in the vehicle industry recruited aristocratic elites. In general, all industries recruited aristocratic directors except the metal goods industry.

5.3.2 Variables

Dependent Variables

Long-term performance. To examine the long-term share price performance of new issues, this chapter relies on the use of the three-year excess return from the buy and hold trading strategy, following the study of Fjesme et al. (2018). The examination of three-year post-issue performance is important because it offers a greater understanding of the informational efficiency of the issue market (Fjesme et al., 2018; Ritter, 1991). Hence, excess return is measured as the difference between firm's three-year share return and market return. Consistent with Fjesme et al. (2018) three-year share return and market return are examined from the day of prospectus to three years after admission to trade on the LSE.[59]

Independent Variables

Aristocrat. Following the study of Amini and Toms (2018), aristocrat is defined as a binary variable that takes the value of 1 if at least one director on the board of a new issue has any title such as Duke, Marquess, Earl, Viscount, Lord, Baron, Sir or Hon before or after their names, and is assigned 0 otherwise.

Moderating Variables

Protection. Relying on the study of Foreman-Peck and Hannah (2016), the anti-director rights index was used as the proxy for the legal protection available to minority shareholders under UK corporate law during the late nineteenth and early twentieth century. Changes made to UK company law regarding the preparation and publication of audited accounts, following the study of Hannah (2007b), were used as the measure of disclosure. Hence, protection is defined as the composite of legal protection and disclosure regulations. This variable takes the value of 1 prior to 1900, the value of 2 from 1900 to 1906, and the value of 3 thereafter.

Control Variables

Boardsize. Scholars have shown in historical studies focusing on the UK market during the late nineteenth century and early twentieth century that firm performance was positively influenced by larger boards (Campbell and Turner, 2011; Foreman-Peck and Hannah, 2013; Grossman and Imai,

[59] See appendix A for the methodology used for the computation of share return, market return and excess return, and appendix B for the yearly mean distribution of share return with the associated one sample t-test.

2016). This chapter therefore controls for boardsize, measured as the number of directors on the board.

Firm size and age. Specific characteristics of a firm such as size have been shown to influence the performance of new issues (Audretsch and Lehmann, 2005; Burhop et al., 2014). Hence, firm size, measured as the log form of the total amount raised from the public, was included in the control variables. Similar to other studies of new issue such as Ritter (1991) and Burhop et al. (2014), this chapter controls for firm age, measured as the difference between the date of incorporation and the date of listing on the LSE. Consistent with Fjesme et al. (2018), older firms are expected to perform better than younger firms.

Ownership. Given that Fjesme et al. (2018) show that new issues offering the public more shares performed worse than their counterparts, this chapter controls for the effect of ownership by vendor(s) on post-issue performance. Ownership is measured as the total value of shares owned by vendors as shown in the prospectus.

Track. Following the study of Burhop et al. (2014) and Chambers and Dimson (2009), this chapter controls for the effect of historical financial reports (track) on subsequent performance. Track is defined as a binary variable that takes the value of 1 if a new issue shows a record of any previous financial performance in its prospectus, and 0 otherwise.

Underwritten. Similar to previous historical studies on new issues (see Burhop et al., 2014; Fjesme et al., 2018), the effect of engaging the services of an underwriter on the subsequent performance of a new issue is controlled for. Underwritten is defined as a binary variable that takes the value of 1 if the issue is guaranteed by an independent third party according to information disclosed in prospectus, and 0 otherwise.

Official quotation. This is defined as a binary variable that takes the value of 1 if the new issue is admitted to trade as an official quotation according to the records of the *LSE Application Report Book*, and 0 otherwise. This variable is included as a control following the study of Fjesme et al. (2018).

Overseas. Past historical studies on the post-issue performance of UK firms have shown that new issues that operated primarily in the UK were no more likely to perform better compared to overseas issues (Burhop et al., 2014; Fjesme et al., 2018). Following these studies, this chapter controls for the primary location of new issues defined as a binary variable that takes the value of 1 if the issue operates in an overseas location; a value of 0 is assigned otherwise.

Military. As in Fjesme et al. (2018), this chapter controls for the appointment of a military director by new issues. This variable takes the value of 1 if a new issue appoints a military officer to its board, and 0 otherwise. Military director in this study refers to commissioned officers.

Industry dummies. These dummies are included in the models to account for variations in performance across industries.

Year dummies. Zattoni et al. (2017) show that the subsequent performance of new issues is positively influenced by their floatation time. Hence, this chapter controls for the year that new issues obtained admission to the LSE as year dummies to account for the influence of floatation time on post-issue performance.

Hot. This is included as a control variable in some models where year dummies could not be included due to multicollinearity. Hot is defined as a binary variable that takes the value of 1 if a new issue was promoted in 1910, and 0 otherwise.

5.3.3 Descriptive Statistics

Table 5-2 presents summary statistics. The average new issue had a negative long-term share price performance of about 9%. The worst new issue had a negative long-term performance of about 70%, while the best new issue had a positive long-term performance of about 152%, which implies that long-term performance is rightly skewed. About 35% of new issues appointed at least one aristocratic elite on their boards of directors, while 70% of new issues were classified as land-related firms. Boardsize on average was about five directors. The average new issue had vendor ownership of about £0.05 million, raised capital of about £0.19 million and had an age of less than one. About 22% of new issues disclosed at least one previous financial report, 17% engaged the service of a third-party underwriter, 34% were admitted to trade officially during listing application, 34% were promoted during the boom in 1910 (hot), 72% primarily operated outside the UK, and 12% appointed at least one military official on the board of directors.

Table 5-3 presents the summary statistics of new issues with aristocratic elites versus new issues without aristocratic elites. New issues that recruited aristocratic elites seem to have had a better long-term share price performance compared to new issues without aristocratic elites, but the difference is not statistically significant. Also, these new issues had larger boards and were larger in size when compared to their counterparts. Interestingly, firms that were promoted during periods of advanced protection recruited fewer aristocratic elites compared to firms promoted at periods of low protection. This is consistent with the argument that aristocratic elites filled the void created by the absence of legal protection for shareholders (Hannah, 2007b). Firms promoted during hot issue seem to have been less likely to appoint aristocratic elites to their boards of directors. It might be expected that firms promoted during hot issue would recruit more aristocratic directors given that they were mostly agricultural firms. However, the low numbers of aristocrats on boards could be attributed to over-optimism about the market, which meant there was a reduced need for the legitimacy resource of aristocratic elites.

Table 5-2: Summary statistics, 1891–1911

Variables	Obs.	Mean	Median	Std. dev.	Min	Max
Excess return (%)	353	-8.82	-10.53	30.54	-69.60	152.36
Aristocrat	353	0.35	0.00	0.48	0.00	1.00
Land	353	0.70	1.00	0.46	0.00	1.00
Protection	353	2.25	3.00	0.91	1.00	3.00
Boardsize	353	4.71	4.00	1.30	3.00	10.00
Ownership (£ million)	353	0.05	0.02	0.11	0.00	1.01
Firm size (£ million)	353	0.19	0.11	0.34	0.01	4.00
Firm age	353	0.41	0.00	1.15	0.00	18.00
Track	353	0.22	0.00	0.41	0.00	1.00
Underwritten	353	0.17	0.00	0.38	0.00	1.00
Official quotation	353	0.34	0.00	0.47	0.00	1.00
Overseas	353	0.72	1.00	0.45	0.00	1.00
Military	353	0.12	0.00	0.33	0.00	1.00
Hot	353	0.34	0.00	0.48	0.00	1.00

Note: Excess return is the difference between a three-year return and market return over the same period. Aristocrat is a dummy variable that takes the value of 1 if the new issue appointed at least one aristocrat, and 0 otherwise. Land is a dummy variable that takes the value of 1 if the new issue is classified as belonging to the agriculture and horticulture, mining and quarrying, or transportation, communication and construction industries, and 0 otherwise. Protection is categorical variable that takes the value of 1 prior to 1900, the value of 2 from 1900 to 1906, and the value of 3 thereafter. Boardsize is the total number of directors on the board. Ownership is the total amount of shares owned by vendors. Firm size is the amount of capital raised from the public. Firm age is the difference between date of admission to the LSE and date of incorporation. Track is a dummy variable taking the value of 1 if the new issue disclosed financial reports in its prospectus, and 0 otherwise. Underwritten is a dummy variable taking the value of 1 if the new issue was underwritten by third party, and 0 otherwise. Official quotation is a dummy variable assigned 1 if the new issue was admitted to trade on the LSE as an officially quoted firm, and 0 otherwise. Overseas is a binary variable that takes the value of 1 if the new issue primarily operated in locations outside the UK, and 0 otherwise. Military is a dummy variable that takes the value of 1 if at least one director had a military title, and 0 otherwise. Hot is a dummy variable that takes the value of 1 if the new issue was promoted in 1910, and 0 otherwise.

Table 5-4 presents the summary statistics of variables based on the classification of new issues as land and non-land. New issues classified as land had a smaller boardsize and higher ownership by vendors compared to non-land-related new issues. Non-land-related new issues raised more capital from the public during issue compared to land-related issues. Land-related issues were promoted more in periods of improved protection for shareholders, which is not surprising given the boom in 1910. There were more records of historical financial performance for non-land issues compared to land-related issues.

As expected, more non-land issues were admitted to the LSE to trade as official quotations compared to land-related issues. Also, land-related firms were mostly overseas issues compared to non-land issues, and they recruited military elites to their boards of directors more than their non-land counterparts. Not surprisingly, new issues promoted in 1910 were mostly classified as land due to the speculation in rubber.

Table 5-3: Summary statistics by aristocratic elites, 1891–1911

	Aristocrat		
Variables	**No**	**Yes**	**Difference**
Panel A			
Excess return	-9.332	-7.877	-1.455
Boardsize	4.495	5.106	-0.610***
Ownership	0.048	0.060	-0.012
Firm size	0.132	0.313	-0.181***
Firm age	0.426	0.374	0.052
Panel B			
Land	0.718	0.666	0.051
Protection	2.392	1.976	0.416***
Track	0.213	0.220	-0.007
Underwritten	0.178	0.155	0.024
Official quotation	0.318	0.382	-0.065
Overseas	0.735	0.699	0.036
Military	0.105	0.163	-0.059
Hot	0.379	0.277	0.102*

Note: *, ** and *** represent statistical significance levels of 10%, 5% and 1% respectively. A two-sample t-test with equal variances was used in Panel A, and the Mann-Whitney test was used in Panel B.

Table 5-4: Summary statistics by land, 1891–1911

	Land		
Variables	**No**	**Yes**	**Difference**
Panel A			
Excess return	-9.068	-8.720	-0.348
Boardsize	5.255	4.474	0.781***
Ownership	0.074	0.043	0.031**
Firm size	0.28	0.159	0.122***
Firm age	0.472	0.381	0.091
Panel B			
Aristocrat	0.387	0.332	0.055
Protection	1.415	2.603	-1.188***
Track	0.594	0.052	0.541***
Underwritten	0.142	0.182	-0.041
Official quotation	0.660	0.203	0.458***
Overseas	0.142	0.972	-0.83***
Military	0.066	0.150	-0.084**
Hot	0.019	0.482	-0.463***

Note: *, ** and *** represent statistical significance levels of 10%, 5% and 1% respectively. A two-sample t-test with equal variances was used in Panel A, and the Mann-Whitney test was used in Panel B.

Table 5-5 shows variables summary statistics by overseas issues. Though not statistically significant, it can be observed that UK new issues seem to perform better than overseas issues. Overseas new issues were characterised by having smaller boards, being small in size and usually being younger than firms operating in the UK. Overseas new issues were less likely to recruit aristocratic elites compared to UK issues, though this was not statistically significant. However, overseas new issues were more

likely to be classified as land, occurred during periods when there was more protection, were less likely to have a track record, were not likely to be officially quoted on the LSE, were more likely to recruit military directors and, lastly, were more likely to occur during a period of hot issue.

Table 5-5: Summary statistics by overseas, 1891–1911

	Overseas		
Variables	**No**	**Yes**	**Difference**
Panel A			
Excess return	-6.798	-9.604	2.806
Boardsize	5.234	4.506	0.729***
Ownership	0.069	0.045	0.024*
Firm size	0.303	0.153	0.15***
Firm age	0.428	0.4	0.029**
Panel B			
Aristocrat	0.378	0.338	0.041
Land	0.072	0.941	-0.87***
Protection	1.357	2.588	-1.231***
Track	0.582	0.074	0.507***
Underwritten	0.143	0.18	-0.037
Official quotation	0.694	0.204	0.49***
Military	0.072	0.145	-0.073*
Hot	0.01	0.471	-0.461***

Note: *, ** and *** represent statistical significance levels of 10%, 5% and 1% respectively. A two-sample t-test with equal variances was used in Panel A, and the Mann-Whitney test was used in Panel B.

In sum, the data show that aristocratic elites were recruited to the boards of new issues in most industries, but some appointed them more than others. The data also show that firms classified as land mainly operated in overseas locations. The summary statistics show that the characteristics of land-related firms were similar to those of overseas firms and, more importantly, that firms with aristocrats appeared to perform better.

5.3.4 Estimation Models

Quantile regression was used in multivariate models with robust standard error to estimate the stated hypotheses. Quantile regression analysis is similar to ordinary least squares regression but makes no strict assumptions about the distribution of error term or its normality. Unlike ordinary least squares regression, the estimates of quantile regression are based on conditional quartile of the dependent variable (Lin et al., 2016). The use of quantile regression is suggested to provide more insightful results compared to ordinary least squares, and given that the effect of various quantiles of the dependent variable could be estimated (Cavaco et al., 2017; Ramdani and Witteloostuijn, 2010). Also, quantile regression is a nonparametric method that is not sensitive to outliers (Lin et al., 2016; Suhail

et al., 2019). Hence its use in this study is appropriate given that long-term performance is greatly influenced by outliers and most of the independent variables are binary.

The first hypothesis, which states that the appointment of aristocratic elites to boards of directors positively influenced the long-term performance of new issues during the late nineteenth and early twentieth century, was examined with the following model:

$$\text{Long-term performance}_{it+3\ years} = b_1 \text{Aristocrat}_{it} + b_2 \text{Controls}_{it} + e_{it} \qquad \text{Model 5.1}$$

To examine the second hypothesis, which states that the managerial experience of aristocratic elites positively influenced the long-term performance of land-related new issues during the late nineteenth and early twentieth century, model 5.1 above was re-estimated on a subsample of land-related issues that mainly operated outside the UK. This restriction was necessary given that firms classified as land were mostly operating in overseas locations. This gives this chapter a unique testing ground to effectively examine the effect of the resource and agency roles of aristocrats on long-term performance.

Lastly, to examine the third hypothesis, which states that improvements made to the legal protection of shareholders under UK corporate law and improved disclosure regulations positively enhanced the effect of the managerial experience and agency role of aristocratic elites on the long-term performance of land-related new issues, model 5.2 below was estimated on a subsample of land-related issues operating mainly outside the UK:

$$\text{Long-term performance}_{it+3\ years} = b_1 \text{Aristocrat}_{it} + b_2 \text{Protection}_{it} + b_3 \text{Aristocrat}_{it} * \text{Protection}_{it} + b_4 \text{Controls}_{it} + e_{it} \qquad \text{Model 5.2}$$

In all models, *i* and *t* are indices for firm and issue year respectively; long-term performance is proxied with three-year post-issue excess return. Aristocrat is the independent variable in model 5.1. Aristocrat and protection are the main independent variables in model 5.2; these are also the interaction variables. Controls in all models are boardsize, firm size and age, ownership, track, underwritten, military, and industry dummies. Overseas and year dummies were controlled for in model 5.1, while hot was controlled for in model 5.2. e_{it} represents error term.

The results from an examination of the second hypothesis were supplemented with case study evidence that was randomly selected to investigate the international knowledge and connections of aristocrats and military officers on the boards of new issues classified as land and operating outside the UK that performed better than the market three years post-issue.

5.4 Analysis and Discussion

This section discusses results and presents illustrative case study evidence. Model results are discussed in subsection 5.4.1, while case studies are discussed in subsection 5.4.2.

5.4.1 Model Results

Table 5-6 shows the quantile regression results with robust standard errors. In model 1, all control variables were regressed on the dependent variable. Consistent with Fjesme et al. (2018) and Ritter (1991), the results show that older firms subsequently performed better compared to younger firms. As with Fjesme et al. (2018), the chapter finds evidence that underwritten firms and those that appointed military officials as directors performed worse three years post-issue compared to non-underwritten firms. No evidence from these results shows that firms that disclosed historical records of financial performance (track) performed better post-issue, as reported by Burhop et al. (2014). Also, the results show no significant relationship between long-term performance and ownership, boardsize, official quotation, overseas and firm size.

Model 2 examines the effect of aristocratic elites on three-year post-issue performance from the perspective of agency theory. In line with the first hypothesis, the results show a positive and significant relationship between the three-year post-issue performance and the presence of at least one aristocratic elite on the board of directors. This finding gives support to the proposition of agency theory. It also supports previous contemporary studies such as Chancharat et al. (2012) and Mutlu et al. (2018), among others, which report a positive association between the presence of outside directors and firm performance. Likewise, the study supports some historical studies in the UK that find a positive association between the presence of titled directors and firm performance (Acheson et al., 2016b; Braggion and Moore, 2013). This suggests that aristocratic elites were not just appointed to boards for their social standing; rather, they were appointed for their contribution to the value of a firm.

Table 5-6: Performance of firms three years post-issue – agency test

Variables	Model 1	Model 2
Aristocrat		5.024**
		(2.089)
Overseas	-6.593	-15.242
	(-0.751)	(-1.619)
Ownership (log)	8.590	2.354
	(0.449)	(0.140)
Boardsize	-1.261	-1.710
	(-0.825)	(-1.229)
Firm size (log)	-0.782	-0.412
	(-0.413)	(-0.271)
Firm age (1+log)	8.697**	11.653***
	(2.086)	(2.956)
Track	-2.033	-5.965
	(-0.411)	(-1.431)
Underwritten	-10.856***	-10.168***
	(-3.631)	(-4.386)
Official quotation	5.204	7.871
	(0.755)	(1.621)
Military	-14.095***	-14.646***
	(-3.839)	(-3.759)
Constant	-6.876	3.323
	(-0.503)	(0.247)
Industry dummies	Yes	Yes
Year dummies	Yes	Yes
Observations	353	353
Pseudo R-squared	0.176	0.180

Note: Robust t-statistics in parentheses. *, ** and *** represent statistical significance levels of 10%, 5% and 1% respectively.

The results in table 5-7 examine the effect of aristocratic elites on the three-year performance of new issues from the integrated view of agency and resource dependence theory. In model 1 all control variables were regressed on the dependent variable. Again, the results show that underwritten firms and those that appointed military directors performed poorly. Similarly, as with Ritter (1991), firms promoted during a promotion boom (hot) performed worse than firms promoted in other years.

In model 2, the results show that land firms with aristocratic elites on their boards performed better than land firms without aristocratic elites. Consistent with the second hypothesis, the results suggest that the managerial experience and knowledge of aristocratic elites influenced performance positively. These resources enhanced their ability to be effective monitors and advisers on the boards of firms with related activities. This finding gives support to studies that have integrated resource dependence theory with agency theory in examining the effect of outside directors on firm performance (Chen et

al., 2017b; Kor and Misangyi, 2008; Kor and Sundaramurthy, 2009). More importantly, results show that, in examining the effect of ruling-class directors on the performance of UK firms, business historians need to consider the resources of the various groups of ruling-class directors.

Table 5-7: Performance of firms three years post-issue – agency and resource test

Variables	Model 1	Model 2
Aristocrat		5.935*
		(1.950)
Ownership (log)	10.130	2.436
	(0.384)	(0.103)
Boardsize	-0.932	-1.140
	(-0.459)	(-0.596)
Firm size (log)	-1.140	-2.163
	(-0.530)	(-1.071)
Firm age (1+log)	7.858	2.908
	(1.482)	(0.712)
Track	-4.854	-6.779
	(-0.438)	(-0.522)
Underwritten	-8.015*	-8.339**
	(-1.865)	(-2.173)
Official quotation	-3.969	-5.788
	(-0.695)	(-0.994)
Military	-18.993***	-21.102***
	(-7.120)	(-8.536)
Hot	-15.512***	-18.342***
	(-3.774)	(-4.448)
Constant	0.687	0.716
	(0.0526)	(0.0595)
Industry dummies	Yes	Yes
Observations	240	240
Pseudo R-squared	0.100	0.105

Note: Regression estimated on a subsample of firms classified as land and overseas. Robust t-statistics in parentheses. *, ** and *** represent statistical significance levels of 10%, 5% and 1% respectively.

Table 5-8 reports the moderating effect that changes in the institutional environment, such as the legal protection available to shareholders and the introduction of disclosure regulations, had on the relationship between aristocratic directors and the long-term performance of new issues from the perspective of integrated agency and resource dependence theory. As before, model 1 shows that firms with military directors and firms that were promoted during the promotion boom performed worse.

Model 3 was used to examine the third hypothesis. Contrary to expectations, but consistent with the findings of Oehmichen et al. (2017) and Zattoni et al. (2017), the results show that the protection

available to shareholders negatively moderated the positive relationship between the resource and agency roles of aristocratic elites and the long-term performance of new issues. The implication of this result is that aristocratic elites influenced performance more in periods of low protection, while their positive effect on the long-term performance of new issues reduced alongside improvements to legal protection and disclosure requirements. Hence, new issues had less need to rely on aristocratic elites filling the voids created by the absence of regulation during periods of tightened regulations.

Table 5-8: Moderating role of institutions

Variables	Model 1	Model 2	Model 3
Aristocrat		5.935*	10.340**
		(1.950)	(2.346)
Protection_1			-7.795
			(-0.775)
Protection_2			23.820***
			(4.641)
Protection_1*aristocrat			-22.738*
			(-1.782)
Protection_2*aristocrat			-20.482
			(-1.510)
Ownership (log)	10.130	2.436	-12.165
	(0.384)	(0.103)	(-0.476)
Boardsize	-0.932	-1.140	-0.420
	(-0.459)	(-0.596)	(-0.210)
Firm size (log)	-1.140	-2.163	-2.350
	(-0.530)	(-1.071)	(-1.233)
Firm age (1+log)	7.858	2.908	4.897
	(1.482)	(0.712)	(1.268)
Track	-4.854	-6.779	-4.530
	(-0.438)	(-0.522)	(-0.928)
Underwritten	-8.015*	-8.339**	-6.118*
	(-1.865)	(-2.173)	(-1.841)
Official quotation	-3.969	-5.788	1.614
	(-0.695)	(-0.994)	(0.230)
Military	-18.993***	-21.102***	-16.619***
	(-7.120)	(-8.536)	(-4.624)
Hot	-15.512***	-18.342***	-18.162***
	(-3.774)	(-4.448)	(-4.415)
Constant	0.687	0.716	-5.689
	(0.0526)	(0.0595)	(-0.473)
Industry dummies	Yes	Yes	Yes
Observations	240	240	240
Pseudo R-squared	0.100	0.105	0.137

Note: Regression estimated on a subsample of firms classified as land and overseas. Robust t-statistics in parentheses. *, ** and *** represent statistical significance levels of 10%, 5% and 1% respectively.

In sum, the empirical evidence shows that aristocratic elites positively influence firm performance. More important, the land-related experience and the international connections of aristocratic elites improved the performance of new issues operating in their areas of expertise, while the presence of military officials on boards negatively influenced performance. The next section sets out illustrative case studies of firms that had aristocratic directors and those with military directors to provide further support for the results.

5.4.2 Case Study Evidence

This section examines the characteristics of the boards of randomly selected new issues in the agriculture and horticulture industry that recruited aristocratic elites and performed better than the market three years after promotion. To provide further evidence on the association of military officers with poorly performing new issues, the characteristics of boards with military directors were also examined in more detail. Information on aristocratic elites and military directors was mainly obtained from *Who Was Who*, the *Financial Times*, *The Times*. The thesis also uses *NewspaperSG* as a further source of information given that most of the firms in the agriculture and horticulture industry were located in Southeast Asia.

Aristocratic Elites' Representation

The composition of the board of directors of the Anglo-Malay Rubber Company, promoted in 1905, illustrates the international knowledge and connections of aristocrats and other board members. The likes of Sir Frank Athelstane Swettenham, John Edward Arthur Dick-Lauder, J Lloyd Anstruther, Charles Denny, Arthur Lampard and Herbert Wilford Brett were appointed to the board of directors of this firm. Swettenham could be considered as having vast knowledge of FMS, now Malaysia, where this firm operated, given that he was resident in Selangor and Perak, and he served as the governor of The Straits Settlements.[60] Some of the other board members were experts in rubber plantations and trade. For example, Authur Lampard, a tea merchant, visited Ceylon in a quest to expand the trade of Harrisons and Crosfield internationally, recognised the potential of the growing rubber industry while in Ceylon, and then returned to London to actively engage in rubber firm promotion.[61] Dick-Lauder, who moved to Singapore in the late 1870s, was also a respected planter in Ceylon.[62]

[60] See footnote 39 above.

[61] *The Malaya Tribune*, November 4, 1916, p.12.

[62] *The Straits Times*, July 8, 1913, p.9.

In 1906, Swettenham was also enlisted on the board of Highlands and Lowlands Para Rubber Company, one of the rubber firms that outperformed the market. The performance of this firm did not come as a surprise due to the structure of its board, which was similar to that of the Anglo-Malay Rubber Company. Among board members was William Welling Bailey, a leading planter and rubber merchant who made fortune from rubber plantations. The estates to be operated by Highlands and Lowlands Para Rubber Company were sold by him and his partner for £120,000.[63] It is also interesting to see that he was among the reporters who valued the estates operated by Anglo-Malay Rubber. This suggests that Bailey and Swettenham had a prior working relationship in rubber promotion. Such a relationship could result in knowledge exchange that could enhance performance. Furthermore, the board of Highlands and Lowlands Para Rubber Company recruited John Andrew Maitland, a director of the Mercantile Bank of India Limited, the banker of the focal firm. His presence suggests that he was representing the interests of the bank or securing finance for the rubber firm. Lastly, Hon Richard Douglas Denman, an underwriter, was also on board of directors.[64]

Another high-performing firm that recruited Swettenham was Lumut Rubber Estates Limited, promoted in 1909. Unlike the boards of other companies he was connected to, this firm enlisted individuals who were mostly directors of other firms located in FMS, with no obvious experience in rubber planting. However, its directors seem to have had vast knowledge of FMS and its trade. For example, Noel Trotter, through his previous position as The Straits Settlements postmaster general, would have had a good knowledge of the environment and the people. Also, Hermann Muhlinghaus, a Dutchman who founded a renowned business empire of tin smelting in FMS, a venture he took interest in during his work engagements and travels in the region, would have had great business acumen and experience.[65] In addition to these interesting individuals, Lumut Rubber Estates Limited appointed Sir William Adamson as its chairman, a resident of Singapore and a merchant in The Straits Settlements, who was knighted for his contribution in the region towards the stabilisation of the currency.[66]

The composition of the board of directors of the Badek Rubber Estate, promoted in 1910, again establishes that the knowledge and location experience of the aristocratic elites, combined with the experience of other board members, positively influenced the post-issue performance of land firms. This firm also included John Cornelius Sanderson, Vincent Richard Wickwar, the Rt Hon Viscount Molesworth (George Bagot Molesworth), Joseph Allen Baker, MP and Alfred Robert Warren on its board. Viscount Molesworth had previous location experience in Asia as a military officer, while

[63] *The Straits Times*, July 9, 1956, p.6. See also *Financial Times*, July 4, 1906, p.8.

[64] *Financial Times*, July 4, 1906, p.8.

[65] *The Straits Times*, May 19, 1985, p.11.

[66] Sir William Adamson (1832-1917), *Who Was Who*, Volume 2, p.8.

Wickwar was a planter.[67] The connections of Sanderson and Warren with FMS could not be ascertained, but both were appointed by other rubber firms and shared board positions in one of the firms.[68] The connections of Joseph Baker, MP, who was an engineer and politician with rubber promotions, could also not be ascertained. However, we do know that he was prominent in the extension of tramways in the UK.[69]

Another example of the importance of aristocrats' resources to the performance of land firms is the board of The Straits Settlements (Bertam) Rubber Company, promoted in 1906. This included the Rt Hon Sir L West Ridgeway, a politician, former British servant in India and a colonial governor of Ceylon,[70] and the famous planter John Edward Arthur Dick-Lauder, who brought his expertise in rubber farming to the firm.[71] Other directors included George Mouat Dundas-Mouat, a merchant in Singapore, George Short Barwick, and Thomas Ritchie who, by 1910, sat on the board of eight other rubber firms, mostly as chairman.[72]

In contrast to the observed pattern of combining an aristocratic director with location experience and experienced planters on a board, the board of Para (Marajo) Islands Rubber Estates, promoted in 1910 show a different pattern. Ridgeway was included on the board of this firm. Although he had no obvious location experience in Brazil, where the firm operated, his experience on the boards of other rubber firms could have been the reason for his appointment. Robert Joseph Montgomery, a former manager of a steam company in the Amazon that aimed to provide access to the estates of Para (Marajo) Islands Rubber Estates, was also appointed to the board. This suggests that he could provide the location experience that Ridgeway did not possess. Also, on this board were Edward William Schluter, a merchant, and Bertram S Straus, a JP.[73]

Military Directors' Representation

The empirical results consistently show that military officers were associated with poorly performing firms. This study now examines the characteristics of military directors in an attempt to provide

[67] *Financial Times*, April 8, 1910, p.14. See also footnote 36 above.

[68] Information obtained from dataset. John Cornelius Sanderson and Alfred Robert Warren both shared board positions in Majedie (Johore) Rubber Estates.

[69] Joseph Allen Baker (1852-1918), *Who Was Who*, Volume 2, p.44.

[70] Rt Hon Sir J. West Ridgeway (1844-1930), *Who Was Who*, Volume 3, p.1145.

[71] *The Straits Times*, July 8, 1913, p.9.

[72] Information obtained from dataset.

[73] *Financial Times*, April 29, 1910, p.14.

explanations for their negative influence on performance. Military directors were more frequently found on the boards of firms promoted in 1910 compared to other periods.

The board of Witu Rubber Estates Limited, promoted in 1910 provides a reasonable starting point for examining the poor performance of firms with military directors. This firm appointed Captain Charles Anderson Bullock to its board. Captain Bullock was dismissed from the management committee of the New Terras Tin Mining Company Limited in 1889, based on an allegation of mine mismanagement, by a shareholder vote in a special meeting.[74] It is also interesting to note that Captain Bullock retired from the board of Witu Rubber Estates Limited within one year of its promotion. This suggests that the promoters of this firm used Bullock's interests on the board to add glitter to the issue. Even though merchants played a supervisory and advisory role in the affairs of estates, their presence on the boards of Witu Rubber Estates Limited in the form of Digby Ashmore and TH Helken seems to have had no positive effect on performance.[75]

The prevalence of military directors during the rubber promotion boom in 1910 suggests that their recruitment was meant to underpin issue value in the highly speculative rubber market. For example, the board of Kwaloe Rubber Estates Limited included Commander AJ Farquharson who was a naval officer. Other board members seem to have been occupied with directorship positions on the boards of other rubber issues, mostly in 1910. Lawrence Twentyman Boustead sat on the board of seven other firms, while Richard Hoffmann sat on the board of two other rubber firms and shared one board position with Boustead. Furthermore, Alfred John Gordon Field sat on the board of five rubber issues in total and shared one board position with Farquharson. A Stalmann, a merchant who was one of the vendors of the issue, only sat on the board of one other rubber issue. These directors, including the military official, seemed to be too busy to influence performance positively.

Further evidence that demonstrates the use of military officers as ornamental directors and explains why they were mostly associated with poorly performing issues is provided by the case of Colonel Alexander Murray, who, in the space of one month, was appointed to the boards of three issues promoted at the start of 1910. All the firms associated with him performed poorly in the long-term.[76] Colonel Murray was a colonial engineer in The Straits Settlements, dedicated 38 years to colonial service, and retired in September 1909.[77] His years of experience in The Straits Settlements and Ceylon suggest that he had experience of the location and should have been able to influence performance positively. However, his death, announced at the end of April 1910 before any of the

[74] *Financial Times*, July 18, 1889, p.4.

[75] *Financial Times*, March 1, 1910, p.9.

[76] Colonel Murray sat on the boards of Victoria (Malaya) Rubber Estate, Langkapoera (Sumatra) Rubber Estates and Teluk Piah Rubber Estates. (Source: dataset)

[77] *Singapore Free Press and Mercantile Advertiser*, September 2, 1909, p.4.

issues could fully commence operations, suggests otherwise.[78] The Colonel was ill for some time, and this could have led to his retirement in 1909. His appointment to boards suggests that his name was used by vendors to promote issues, knowing that he may not be able to actively engage with the firms due to ill health.

In sum, these illustrative cases corroborate the empirical findings by showing that aristocrats mainly contributed to the performance of rubber firms through their location experience, their political activity in the region of operation, and their related industry experience from previous appointments to the boards of rubber firms. In addition, the planting expertise of other board members, their trading skills and their access to financial resources influenced performance positively in the long-term. Hence, these case studies suggest that the role of aristocrats as monitors and providers of resource, combined with the resources of other board members, influenced performance positively. On the other hand, military officials were used mostly by vendors/promoters as ornamental directors to underpin share value, and their presence on boards was mostly associated with poor performance.

[78] *Singapore Free Press and Mercantile Advertiser*, April 25, 1910, p.5.

5.5 Conclusion

Evidence of the relationship between elite directors and firm performance from previous studies is inconsistent: some studies find a positive relationship, while others report no relationship or even a negative relationship. These studies were usually carried out without consideration of the specific resources of each class of elites, which was not necessarily the same for all elite groups. Research examining the specific resources of each elite group in a historical context is therefore justified, given that it could explain these inconsistent findings.

This chapter has examined the relationship between elite directors and share price performance from a historical perspective, relying on agency theory and the integration of agency theory with resource dependence theory, and accounting for the moderating effect of institutional change on the aristocratic-director performance relationship. Employing a sample of new issues which gained admission to trade on the LSE from 1891 to 1911, the results show that aristocratic elites positively influenced the long-term performance of new issues. By examining the managerial resources of aristocratic elites, in addition to their roles as monitors and advisers, the chapter provides evidence from a historical perspective that the resources of aristocratic elites positively influenced the long-term performance of land-related new issues. This evidence is supported with illustrative case study evidence, which demonstrates that the experience of aristocrats contributed to performance.

However, the relationship between aristocrats and performance is negatively moderated by institutional change. This implies that improvements made to the legal system and disclosure requirements reduced the positive effect that aristocrats had on performance. This evidence suggests that the absence of regulations created a void, which was filled with the appointment of aristocratic directors. But beyond this legitimation of a firm's activities, in the absence of regulation, aristocrats provided resources that were essential to performance and they acted as effective gatekeepers. Hence, this study contributes to the existing body of literature by presenting a new approach to the examination of the elite-director performance relationship that could lead to more consistent and robust results in historical research.

6 Do Interlocks Negatively Affect Performance? Evidence from London Stock Exchange New Issues, 1895–1911

6.1 Introduction

Research has shown that the social relationships of directors with other firms through their interlocking directorships had an effect on corporate values (e.g., Basuil and Datta, 2017; Filatotchev et al., 2018; Lai et al., 2019; Sánchez and Barroso-Castro, 2015). Interlocking directorships occur when an individual sits on the board of two or more firms (Pombo and Gutiérrez, 2011); this serves as a medium for co-opting resources such as information, knowledge and legitimacy (Filatotchev et al., 2018; Hillman and Dalziel, 2003; Wilson et al., 2018). These resources are of great value to the growth of firms going public for the first time (Certo, 2003) because directors with interlocks are able to serve as better advisers due to their experience acquired over time from their public market dealings (Field et al., 2013; Filatotchev et al., 2018). Hence, it would be expected that board interlocks would be related to the superior performance of firms promoted on the LSE at the turn of the twentieth century, when vendors/promoters were better informed than investors (Rutterford et al., 2017) and ownership was separated from control (Foreman-Peck and Hannah, 2013).

Unlike previous historical studies in the UK that have examined the relationship between directors' characteristics and firm performance (Braggion, 2011; Braggion and Moore, 2013; Fjesme et al., 2018; Grossman and Imai, 2016), the focus of this chapter is on the linkages between boards of new issues through interlocking directorships, and how this social relationship influenced post-issue performance. The chapter further examines the impact of busy boards on post-issue performance, given the argument that directors holding three or more board positions would be overburdened with commitments, resulting in poor performance (Ferris et al., 2003). The chapter also examines the impact of the presence of elite directors with interlocks on post-issue performance.

To do this, a dataset of 837 firms promoted on the LSE between 1891 and 1911 was used. Information on the interlocks of directors was obtained by identifying their previous appointment(s) to the boards of firms in the dataset. Based on the availability of share price data, interlock information was merged with firm-level data for 337 firms promoted between 1895 and 1911, so as to examine the interlock performance relationship. Long-term performance was estimated as the difference between the three years post-issue return and market return from a buy and hold perspective. The examination of the three years post-issue share price performance would rule out market optimism in share prices as underlying quality becomes more evident in the first three years of operations (Fjesme et al., 2018; Ritter, 1991).

Consistent with the idea that directors' interlocks were one of the major tools through which new issues could secure legitimacy, the univariate analyses show that firms that appointed directors with interlocks were usually younger, less likely to appoint elite directors and hold records of previous performance, and more likely to have lower vendor ownership and be operating outside the UK. This evidence suggests the importance of value certification for firms promoted in the UK at the turn of the twentieth century. More importantly, it suggests that firms with interlocking directorships during these periods were more likely to be low-quality firms.

Contrary to the suggestion that interlocking directorships positively influenced the performance of new issues, this study finds no significant relationship between interlocks and performance. This finding is consistent with the results reported in a recent study (Braggion, 2011). The results also show that busy boards are not significantly related to the long-term performance of new issues. However, the results show that the presence of political elites on boards of directors positively moderated the relationship between interlocks and performance, while the presence of aristocratic elites on boards had no effect on the relationship between interlock and performance. It is worthy to note, that aristocratic elites have previous experience in locations outside the UK mostly in Asia, which came from their engagement in the British Empire as administrators, or businessmen. As such, they were not on boards to simply puff issue but to potentially enhance performance.

By focusing on a subsample of firms promoted during the rubber boom in 1910, this study found that interlocks negatively influenced post-issue performance. The possible explanation for these results is twofold: first, low-quality firms deemed to fail anyway were promoted owing to speculation in the rubber industry, and the directors' interlocks were used to secure the interest of naïve investors; second, directors were too occupied to actively engage with firms and harness resources from their interlocks. In support of the busy board hypothesis, the results show that overburdened directors negatively influenced post-issue performance. The findings on interlocks and busy boards were supplemented with evidence from illustrative case studies randomly selected from 1910 new issues. The case study evidence suggests that the positive influence of the expertise and experience of directors on performance reduced with additional board positions. The implication of these results is that interlocking directorships and busy boards exerted a negative influence on the performance of firms.

This study contributes to the existing body of literature on the relationship between interlocking directorships and firm performance (Basuil and Datta, 2017; Filatotchev et al., 2018; Lai et al., 2019; Sánchez and Barroso-Castro, 2015). It also contributes to previous studies on elite directors (Braggion and Moore, 2013; Fjesme et al., 2016; Grossman and Imai, 2016), to the extent that it examines the moderating effect of the presence of elite directors on the interlock performance relationship. Additionally, it contributes to extensive studies which argue that overburdened directors are too busy

to effectively use their resources for the benefit of associated firms and to monitor managers (Falato et al., 2014; Fich and Shivdasani, 2006; Sundaramurthy et al., 2014). Hence, this study gives support to the recommendations of proxy advisors and institutional investors in the UK that the number of board positions that directors either executive or non-executive could hold at any given time should be limited.

The chapter proceeds as follows: section 6.2 reviews relevant literature leading to the development of the research hypothesis; section 6.3 describes data, measures and estimation models; model results and case study evidence are the focus of section 6.4; and the chapter concludes with section 6.5.

6.2 Literature Review and Hypotheses Development

Interlocking directorship have been described as one of the major tools for responding to environmental uncertainty and for acquiring the scarce resources essential for enhancing firm performance (Boyd, 1990; Pfeffer and Salancik, 1978). An interlocking directorship exists where an individual associated with a firm through its board sits on the board of one or more other firms, hence creating linkages between firms (Mizruchi, 1996; Pombo and Gutiérrez, 2011). According to Mizruchi (1996), one of the reasons firms appoint individuals with connections to other firms is to send signals to the investing public that their activities are legitimate. This enhances their ability to secure scarce resources. As a source of external social capital, interlocking directorates also create relationships with other firms through external ties, which serve as a medium for exchanging knowledge, information and innovation (Hillman and Dalziel, 2003; Kor and Sundaramurthy, 2009).

For new issues, one could argue that securing the legitimacy resources that come with interlocking directorships is of great importance because new issues are faced with the liability of market newness and need to certify their value to the investing public (Certo, 2003; Pfeffer and Salancik, 1978). More importantly, securing access to information and a broad range of board experience through interlocking directorships should enhance their performance. According to Filatotchev et al. (2018), market practitioners are of the view that board experience gained through associations with other boards is of great value to the growth of young firms that are new to the market. These directors, through their broad board experience, will be aware of a range of matters that could influence performance.

6.2.1 Interlocking Directorships and the Performance of New Issues

The influence of interlocking directorships on the performance of firms has been studied in various contexts with largely inconsistent results (Basuil and Datta, 2017; Braggion, 2011; Filatotchev et al., 2018; Lai et al., 2019). For example, Filatotchev et al. (2018), drawing on a sample of firms that went public in the UK and US during 1996–2010, show that directors with interlocks positively influenced new issues' short-term performance proxy with first-day return in the UK, while directors with interlocks had no effect on performance in the US. Their study focuses on the legitimacy resources that the appointment of directors/CEOs with interlocks give to new issues, which, they assert, are influenced by institutional settings. Furthermore, Miwa and Ramseyer (2000) report that directors with interlocks positively influenced the performance of firms in the cotton and spinning industry at the turn of the twentieth century in Japan.

In a similar vein, Basuil and Datta (2017) found that linkages with other firms through interlocking directorships positively influenced value creation for shareholders during cross-border acquisitions.

They conclude that directors could acquire invaluable knowledge from their interlocks with other firms. In addition, Harris and Shimizu (2004) show that directors with interlocks positively influenced strategic decisions through their knowledge resources, thus enhancing firm value during acquisitions. Sánchez and Barroso-Castro (2015), using a cross-sectional sample of Spanish firms listed on the Madrid Stock Exchange between 2005 and 2008, found that total interlocks, measured as the total number of external linkages that directors had with other firms, positively influenced firm performance proxied with return on asset. However, they also show that, as interlocks increased, the influence on firm performance that was initially positive became negative, suggesting an inverted relationship between interlocks and firm performance.

Likewise, Lai et al. (2019) found an inverted U-shaped relationship between interlocking directorships and value creation for shareholders, following the announcement of foreign direct investment deals. They conclude that the interplay between the benefit of access to increased social relationships through interlocks and the downside of having overburdened directors determines the influence of interlocks on performance. This implies that having interlocks could potentially influence firm outcomes positively but could also influence them negatively if directors are overburdened.

In contrast to the positive relationship between interlocks and performance reported above, Braggion (2011) found no significant relationship between the performance of British firms and interlocking directorships at the turn of the twentieth century. It is worth noting, however, that his proxy for interlocks is inconsistent with those of other studies. Interlock was measured as a dummy variable taking the value of 1 if directors had external board connections, and 0 otherwise, while recent studies usually measure interlock as the total or average number of external connections that a given director has with other firms.

In sum, the above studies, except Braggion (2011), show that firms derive benefit from the external linkages of their directors. As such, individuals provide firms with resources such as legitimacy, knowledge and information. These are of particular importance to the growth and subsequent performance of new issues (Certo, 2003; Filatotchev et al., 2018), and to the quality of advice and monitoring available to these firms (Field et al., 2013; Jensen and Meckling, 1976).

So far, there has been little discussion by business historians of the interlocking-directorship performance relationship, although Brayshay et al. (2007) report that directors of multinational firms with British headquarters were highly connected through interlocks at the turn of the twentieth century, and that these represented major channels for the transfer of knowledge, information, expertise and business ideas. More recently, Wilson et al. (2018) report that there was an increase in interlocking directorships between British financial and industrial firms between 1904 and 1976. They also report that the presence of 'big-linkers' – that is, directors with more interlocks – increased the visibility and status of firms. Yet it appears that little attention has been given to the effect of directors'

interlocks on firm performance by business historians. The exception to this is the study of Braggion (2011), whose major focus was on freemasonry.

It is important to examine the relationship between interlocking directorships and the performance of new issues in the UK at the turn of the twentieth century. New issues were usually young at this time, and mainly operated in new industries (Fjesme et al., 2018), in the context of weak corporate law and a capital market that adopted a *laissez faire* approach to regulation (Burhop et al., 2014; Foreman-Peck and Hannah, 2016). Hence, these firms required the diverse resources of directors with interlocks in order to gain legitimacy, and to secure access to experience and information, which should in turn enhance performance. The aim of this study, therefore, is to examine the relationship between interlocking directorships and the performance of firms promoted in the UK at the turn of the twentieth century. Relying on the benefits new issues could derive from appointing directors with interlocks according to reviewed studies, it is hypothesised that:

H_1: The long-term performance of new issues promoted in the UK at the turn of the twentieth century was positively related to having directors with interlocks.

6.2.2 Busy Boards and the Performance of New Issues

The interlocks of directors have been shown to be of benefit to firms in securing access to resources (Basuil and Datta, 2017) and enhancing performance (Filatotchev et al., 2018; Miwa and Ramseyer, 2000). It could be expected then that having directors with multiple interlocks would be of greater benefit to firm performance. However, contrary to expectations, it is argued that multiple directorships influence performance negatively. The busyness hypothesis argues that directors holding multiple positions are unable to adequately monitor managers due to over-commitment. As such, more agency costs could be imposed on shareholders by managers, which would have a damaging effect on firm performance (Ferris et al., 2003). The number of interlocks held by a single director should therefore be limited. However, there is no agreement among researchers on the effect of multiple directorships on firm performance (Ferris et al., 2003; Fich and Shivdasani, 2006; Sundaramurthy et al., 2014).

For example, Ferris et al. (2003) show a positive but not significant relationship between firm's value and busy outside directors proxied with the average number of directorship positions held. When examining market reaction to the appointment of directors with multiple board positions, they found no support for the proposition that holding multiple board positions influences firm performance negatively. They conclude that there is no empirical evidence to support restrictions on the number of board positions that directors should hold. However, their proxy for busy directors has been highly criticised as a noisy measure of busyness (Fich and Shivdasani, 2006).

The findings of Ferris et al. (2003) are further supported by the study of Harris and Shimizu (2004), who report that directors with multiple board positions positively influenced firm value during acquisitions. Even though their results on multiple board positions are mostly insignificant, they found a significant and positive relationship between firms with directors who had six or more interlocks and abnormal returns.

Using event study, Perry and Peyer (2005) show a positive relationship between announcement returns and the nomination of directors with multiple directorship positions when the sender firm has a minimal agency problem. Their study suggests that firms derive benefit from the additional appointments gained by their directors who have multiple directorships only when agency problems are not a concern. Hence, they conclude that the number of external directorships held by individuals should not be constrained; rather, firms should address agency problems through improved monitoring and incentives.

Using a sample of venture-backed new issues, Field et al. (2013) similarly show a positive and significant relationship between the performance of new issues and busy boards in the first year following issue. They argue that management usually has a high ownership stake in a new issue, hence there is less need for the monitoring role of directors and more need for their advisory role, which busy boards could provide better.

By contrast, Fich and Shivdasani (2006) show that the presence of busy boards negatively influences firm performance proxied with market value and accounting measures. According to the authors, a board is classified busy if at least half of its directors hold three or more external board positions, and they emphasise the importance of the definition of busy board when estimating its effect on firm performance. Fich and Shivdasani (2006) examined the effect of the voluntary departure of busy directors on a firm's valuation with the aid of event study and found a greater increase in abnormal return when a busy outside director departed from a board compared to the departure of a non-busy director. They conclude that directors with several external board linkages are time-constrained in performing their monitoring roles, particularly when the majority of the board is overburdened with interlocking directorships.

Sundaramurthy et al. (2014), using a sample of biotechnology firms, found that new issues whose CEOs and directors served on multiple boards were associated with a high level of underpricing. Regardless of the benefits that interlocks bring to the board of new issues, such as experience and prestige, market participants were aware that overburdened boards may not be able to effectively monitor and leverage the experience gained from interlocks (Sundaramurthy et al., 2014). Hence, this study gives support to the argument that holding multiple board positions has certain drawbacks, irrespective of the benefits.

Similarly, Falato et al. (2014) found that the increased workloads of interlocked directors caused by the death of a colleague serving on a committee with interlocked directors, which they refer to as attention shock hypothesis, significantly reduced firm value in the short and long-term. Their study suggests that the increased workloads of interlocked directors constrain the time they have for effective monitoring, which has a detrimental effect on firm value. Hence, busy directors negatively influence firm performance.

Using shocks to workload that emanate from mergers, Hauser (2018) also finds that firm performance is positively associated with a reduction in the number of board seats when directors of acquired firms lose their appointments. The study suggests that directors who are less busy are of more benefit in improving firm value. Additionally, Masulis and Zhang (2019) find that distracted directors that attend meetings less frequently are less likely to trade in the firm's stock and have a high probability of leaving the board unexpectedly within two years. More importantly, they show that outside directors who are not effective monitors and advisers influence the firm's value negatively owing to external distractions, private or professional.

In sum, some studies report that having a busy board is detrimental to the performance of a firm, while others report that busy boards improve performance, though the latter studies mainly report insignificant relationships between performance and busy boards. However, all these studies show that the monitoring duties of outside directors play a significant role in determining the effect of busy boards on performance.

Given that investors in the UK at the turn of the twentieth century could not rely on corporate law (Foreman-Peck and Hannah, 2016) or the judiciary system (Campbell and Turner, 2011; Franks et al., 2009) to protect their interests, coupled with high levels of separation between share ownership and control (Foreman-Peck and Hannah, 2012; Hannah, 2007a), it is argued that the monitoring role of directors is essential in enhancing the performance of new issues. Directors with multiple directorships may not be able to monitor managers effectively due to time constraints. It is therefore hypothesised that:

H_2: The presence of busy directors on the boards of new issues promoted in the UK at the turn of the twentieth century was negatively related to long-term performance.

6.2.3 Interlocks of Elite Directors and the Performance of New Issues

Elite directors such as aristocrats and politicians were increasingly recruited to boards of directors in the UK at the turn of the twentieth century (Grossman and Imai, 2016). Even though business historians have examined their influence on the performance of firms, there is no general agreement between them on whether elites influenced performance positively or not (Acheson et al., 2016a; Braggion and Moore, 2013; Fjesme et al., 2018; Grossman and Imai, 2016).

However, these elites' prominence on boards can only suggest that they were important in the promotion of firms. Research has consistently showed that they were appointed for their social standing: political elites had the ability to lobby for regulations (Grossman and Imai, 2016; Rutterford, 2011), while the reputations of aristocratic elites provided firms with legitimacy, financial resources and access to the capital market (Amini and Toms, 2018; Franks et al., 2009; Rutterford et al., 2017). It is not surprising that these directors sometimes held more than one directorship position in new issues (Amini and Toms, 2018). This implies that, in addition to their reputation and legitimacy resources, they could acquire other resources such as information and knowledge from their interlocks.

It is therefore argued that the resources of elite directors, coupled with the resources they could secure from their interlocks or the interlocks of other non-elite directors, should positively influence the long-term performance of new issues. Hence it is hypothesised that:

H_3: Firms recruiting both elite directors and directors with interlocks were likely to have access to more resources, which should enhance performance in the long-term.

It has been suggested by Grossman and Imai (2016) that directors who were political elites may not have had the time to effectively monitor the affairs of managers due to the demands of their parliamentary roles. Hence, it could be expected that firms with busy boards that also recruited elite directors may not perform well in the long-term given that these directors may have been too busy to effectively utilise their resources for the benefit of their firms. Relying on the proposition that busy directors influence performance negatively, this chapter further hypothesis that:

H_4: The presence of elite directors on busy boards had a negative effect on the long-term performance of new issues promoted in the UK at the turn of the twentieth century.

6.3 Data, Measures, and Estimation Models

This section discusses the data used for this chapter in subsection 6.3.1; subsection 6.3.2 discusses variables; subsection 6.3.3 discusses descriptive statistics; and, lastly, subsection 6.3.4 discusses estimation models.

6.3.1 Data

The primary dataset used in this study consists of firms promoted on the LSE for the period 1891–1911, obtained from the *LSE Application Report Book*. This source was used to hand-collect information on date of establishment, date of listing, size of capital raised and vendor ownership. Information on individuals sitting on boards of directors and the characteristics of firms, such as primary activity, offer price and place of operation, was hand-collected from the *Times Book of Prospectuses*. Following the study of Braggion and Moore (2013), the dataset excludes firms promoted in the finance, gas, and water industries. These criteria resulted in the construction of a subsample of 837 new issues.

To measure the various proxies for interlocking directorship positions held by directors, this study restricts external board appointments to new issues in the subsample. This constraint was necessary because it allows the study to measure the impact of the resources that individuals acquired from their previous positions as directors of new issues on the subsequent performance of the focal issue. In order to obtain information on previous appointments, the total number of board appointments from 1891 to issue date was counted. The start period for interlocking directorships was restricted to 1895, making the years 1891 to 1894 a base for subsequent periods. This restriction resulted in a subsample of 811 new issues.

Table 6-1 reports the frequency of interlocking directorships for firms promoted for the period 1895–1911. Similar to Ferris et al. (2003), the data show that interlocking directorships were not common among new issues. Only about 9% of new issues appointed directors with at least two external board positions, while about 3.14% appointed directors with three or more external positions. Directors with five or more external positions were even less common as they represented less than 1% of the sample.

Data on interlocking directorships were merged with other firm-specific information. Information on share price was collected from *Investor's Monthly Manual* (IMM) and Gale online resources (*Financial Times*). This chapter relies on the index of Smith and Horne (1934) for information on market prices. In total, the chapter has a subsample of 337 new issues with the required firm-level information.

Table 6-1: Frequency of directorship positions held by directors, 1895–1911

Directorship held	Number of directors	Percentage of directors
1	3045	91.00
2	196	5.86
3	56	1.67
4	19	0.57
5	11	0.33
6	6	0.18
7	4	0.12
8	2	0.06
9	2	0.06
10	0	0.00
11	2	0.06
12	2	0.06
13	0	0.00
14	1	0.03
Total directors	3346	100
Total directorships	3894	
Number of firms	811	

Source: *Times Book of Prospectuses,* 1891–1911.

6.3.2 Variables

Dependent Variables

Long-term performance. Following previous studies on new issues, three-year post-issue excess return was used as the measure for long-term share price performance (Fjesme et al., 2018; Ritter, 1991). To determine excess return, share return was first examined from the day of prospectus to the third-year anniversary after issue and market return was also examined for the same period. Then excess return was estimated as the difference between share return and market return.[79]

Independent Variables

Interlocks. Consistent with previous studies, board interlocks were defined as the total number of external directorship positions held in previous new issues by all the directors of the new issue at the time of promotion (Filatotchev et al., 2018; Perry and Peyer, 2005). Interlocks were estimated using information that was hand-collected from the Board of Directors section of the prospectus.

Busy board. Following previous research, busy directors were defined as directors holding three or more external directorship positions at the time of the promotion of the focal issue (Ferris et al.,

[79] See appendix A for the methodology used for the computation of share return, market return and excess return, and appendix B for the yearly mean distribution of share return with the associated one sample t-test.

2003; Fich and Shivdasani, 2006; Field et al., 2013). Consistent with Fich and Shivdasani (2006), busy board was then defined as a dummy variable, taking the value of 1 if at least 50% of directors were classified as busy directors, and 0 otherwise. As an alternative to using a dummy variable for busy boards, this chapter also uses fraction busy, defined as the fraction of busy directors to boardsize if at least 50% of directors were classified as busy directors. This is similar to using the percentage of directors with at least three external positions as a proxy for busy (Ferris et al., 2003) and is consistent with the definition that considers a board as busy if at least 50% of its directors have three or more interlocks (Fich and Shivdasani, 2006).

Elite. In previous studies, elite directors have been grouped into two categories, namely MP and aristocrat (Braggion and Moore, 2013; Grossman and Imai, 2016). MP is defined as a dummy variable that takes the value of 1 if any director was a member of the House of Commons, otherwise it takes 0. This chapter extends the definition of aristocrat to include individuals with titles such as Count, Sir and Hon, following the study of Amini and Toms (2018). Hence, Aristocrat is defined as a dummy variable that takes the value of 1 if at least one director had any of the following titles: Duke, Marquess, Earl, Lord, Count, Sir, Viscount, Baron or Hon, and 0 otherwise.

Control Variables

Boardsize. Following previous studies, this chapter controls for boardsize, measured as the total number of individuals sitting on a board of directors (Field et al., 2013; Sundaramurthy et al., 2014). Information on boardsize was obtained from the prospectus at the time of issue.

Military. Relying on prior historical studies examining the subsequent performance of new issue, this chapter controls for the presence of military officers on boards of directors (Fjesme et al., 2018). Military is defined as a dummy variable, assigned 1 if a new issue appointed at least one military official on its board of directors, and 0 otherwise. Military title in this study refers to commissioned officers and it was observed in the Board of Directors section of the prospectus.

Firm size and age. This chapter controls for the effect of firm size and age at the time of issue on long-term performance, following studies on new issue and board governance (Field et al., 2013; Filatotchev et al., 2018). Firm size is measured as issue proceed, defined as the amount raised from the public. Firm age is defined as the difference between the date of establishment and the date of admission to the LSE. Information on proceed and age was obtained from the *LSE Application Report Book*.

Ownership. As in Filatotchev et al. (2018), this chapter controls for ownership, which could have a positive influence on performance as it aligns the interests of managers with those of owners.

Ownership is measured as the total number of shares owned by vendors. Data on ownership were obtained from the *LSE Listing Application Report Book*.

Track. Consistent with Burhop et al. (2014), this study controls for the potential effect that the disclosure of financial records in a prospectus could have on performance. Track is defined as a dummy variable, assigned 1 if a firm discloses its historical record in the prospectus, and 0 otherwise. Information on track was obtained from prospectuses.

Underwritten. Following the study of Fjesme et al. (2018), this chapter controls for the underwriting of an issue by an arm's length underwriter. Underwritten is defined as a dummy variable that equals 1 if the issue was underwritten by an independent third party, and 0 otherwise. Information on underwriters was obtained from prospectuses.

Overseas. This variable was controlled for following earlier historical studies (Burhop et al., 2014; Fjesme et al., 2018). Overseas is defined as a dummy variable that takes the value of 1 if the new issue primarily operated in locations outside the UK, and 0 otherwise. Information on places of operation was obtained from the *LSE Listing Application Report Book*.

Year dummies. Consistent with Sundaramurthy et al. (2014), the effect of floatation year variation on performance was controlled for by including time dummies in the estimation models.

Industry dummies. Variation of performance among industries was also controlled for by including industry dummies in the estimation models.

6.3.3 Descriptive Statistics

Table 6-2 presents summary statistics. The average new issue underperforms the market by about 9%. In terms of interlocks, a director sits on the board of three new issues on average, while about 16% of new issues had busy boards. An average firm had five directors, vendor ownership of about £0.05 million and issue proceed of about £0.20 million. The average new issue went public 0.39 years after its establishment. About 20% of new issues disclosed historical financial records in their prospectuses, while only 18% engaged the service of a third-party underwriter during promotion. Most of the new issues operated primarily outside the UK, while 32% were admitted to the LSE as officially listed firms. About 12% of new issues appointed at least one military official on their board of directors, 34% recruited at least one aristocratic elite, and about 11% recruited at least one political elite.

Table 6-2: Summary statistics, 1895–1911

Variables	Obs.	Mean	Median	Std.	Min	Max
Excess return	337	-9.03	-10.85	31.00	-69.60	152.36
Interlocks	337	3.25	1.00	5.15	0.00	26.00
Busy board	337	0.16	0.00	0.37	0.00	1.00
Boardsize	337	4.66	4.00	1.27	3.00	10.00
Fraction busy	337	0.10	0.00	0.24	0.00	1.00
Ownership (£ million)	337	0.05	0.02	0.11	0.00	1.01
Firm size (£ million)	337	0.20	0.11	0.35	0.01	4.00
Firm age	337	0.39	0.00	1.14	0.00	18.00
Track	337	0.20	0.00	0.40	0.00	1.00
Underwritten	337	0.18	0.00	0.38	0.00	1.00
Official quotation	337	0.32	0.00	0.47	0.00	1.00
Overseas	337	0.74	1.00	0.44	0.00	1.00
Military	337	0.12	0.00	0.32	0.00	1.00
Aristocrat	337	0.34	0.00	0.47	0.00	1.00
MP	377	0.11	0.00	0.31	0.00	1.00

Source: Dataset.

Note: Excess return is the difference between the three-year return and the market return over the same period. Interlocks is the total number of external directorships on a given board at the time of promotion. Busy board is a dummy variable that takes the value of 1 if at least half the directors on a given board hold three or more external directorship positions in other new issues at the time of promotion, and 0 otherwise. Boardsize is the total number of directors on board. Ownership is the total amount of shares owned by vendors. Firm size is the amount of capital raised from the public. Firm age is the difference between the date of admission to the LSE and the date of incorporation. Track is a dummy variable taking the value of 1 if the new issue discloses financial reports in its prospectus, and 0 otherwise. Underwritten is a dummy variable taking the value of 1 if the new issue was underwritten by an independent third party, and 0 otherwise. Official quotation is a dummy variable assigned 1 if the new issue is admitted to trade on the LSE as an officially quoted firm, and 0 otherwise. Overseas is a binary variable that takes the value of 1 if the new issue primarily operates in locations outside the UK, and 0 otherwise. Military is a dummy variable that takes the value of 1 if at least one director has military title before or after their names, and 0 otherwise. Aristocrat is a dummy variable that takes the value of 1 if at least one director has an aristocratic title, and 0 otherwise. MP is a dummy variable that takes the value of 1 if at least one director is a member of the House of Commons.

Table 6-3 presents the distribution of interlocks, busy boards and long-term performance proxied with excess return by year. The level of interlocks that an average new issue had increased significantly from 0.13 in 1895 to 1.79 in 1907, then increased to 6.20 in 1910. The increase in interlocking directorships observed from 1907 to 1911 could have influenced the average level of interlocks for the whole sample. The data show that interlocks increased around the promotion boom. For example, the promotion boom that occurred towards the end of the nineteenth century could be attributed to the increase in interlocks from 1896 to 1899. Also, the increase in interlocks among new issues from 1907 onwards could be attributed to the rubber promotion boom in 1910. In particular, the 1910 boom increased average interlocks from 5.92 in 1909 to 6.20, making new issues in 1910 the most interlocked firms in this subsample.

The boards of new issues could not be considered busy until 1907, when 14% of new issues had busy boards. The percentage of firms with busy boards was more than double the percentage in 1907 by 1910, which could be considered the year with the busiest boards. The performance of new issues in

this subsample varied through time. Consistent with Ritter (1991), data show that firms promoted during the 1910 rubber boom performed poorly.

Table 6-3: Distribution of interlocks, busy boards and long-term performance by year, 1895–1911

		Interlocks		Busy board		Excess return	
Year	Obs.	Mean	Median	Mean	Median	Mean	Median
1895	15	0.13	0.00	0.00	0.00	-5.78	-9.75
1896	19	0.37	0.00	0.00	0.00	-21.61	-24.07
1897	23	0.35	0.00	0.00	0.00	-14.93	-6.76
1898	25	0.32	0.00	0.00	0.00	-8.66	-9.05
1899	15	0.60	0.00	0.00	0.00	-14.32	-13.26
1900	8	0.13	0.00	0.00	0.00	-0.40	3.44
1901	4	0.25	0.00	0.00	0.00	16.30	16.02
1902	3	0.00	0.00	0.00	0.00	-10.84	-21.70
1903	6	0.33	0.00	0.00	0.00	-1.36	-4.66
1904	1	0.00	0.00	0.00	0.00	-17.12	-17.12
1905	3	0.33	0.00	0.00	0.00	10.64	4.15
1906	15	0.87	1.00	0.00	0.00	18.56	20.28
1907	14	1.79	0.00	0.14	0.00	-1.08	-18.55
1908	15	2.80	1.00	0.20	0.00	10.87	-0.33
1909	24	5.92	3.00	0.25	0.00	14.81	7.58
1910	121	6.20	4.50	0.31	0.00	-18.22	-20.85
1911	26	3.27	2.50	0.23	0.00	-14.83	-11.89

Source: *Times Book of Prospectuses,* 1891–1911, *Investor's Monthly Manual* (IMM), Gale online resources (*Financial Times*).

Table 6-4 presents the industry distribution of interlocks, busy boards and long-term performance proxied with excess return. The UK Standard Industrial Classification (SIC) 1948 was used in grouping new issues into industries. It could be observed that all industries had directors with interlocks, except metal goods. The directors of an average new issue promoted in the agriculture and horticulture industry sat on the board of 5.36 firms. This industry had the highest level of interlocking directorships. Directors in all other industries sat on the boards of one new issue on average. Busy boards were not a frequent occurrence; only the boards of an average new issue in the agriculture and horticulture, distributive trade and mining and quarrying industries could be classified as busy. About 28% of new issues in agriculture and horticulture had a busy board, 3% of new issues in mining and quarrying had a busy board, while 8% of new issues in distributive trade had a busy board.

Long-term performance varied across industries. An average new issue promoted in the electricity, metal goods, and transportation, communication and construction industries outperformed the market, while firms promoted in other industries underperformed the market or generally performed poorly.

Table 6-4: Distribution of interlocks, busy boards and long-term performance by industry, 1895–1911

		Interlocks		Busy board		Excess return	
Industry	**Obs.**	**Mean**	**Median**	**Mean**	**Median**	**Mean**	**Median**
Agriculture and horticulture	191	5.36	3.00	0.28	0.00	-9.94	-12.68
Chemical and allied trade	9	0.11	0.00	0.00	0.00	-14.07	-15.05
Clothing and textiles	14	0.29	0.00	0.00	0.00	-2.63	2.44
Distributive trade	12	0.42	0.00	0.08	0.00	-11.38	-9.45
Electricity	5	0.40	0.00	0.00	0.00	7.99	9.46
Engineering, shipbuilding and electrical goods	3	0.33	0.00	0.00	0.00	-12.24	-20.38
Food, drink and tobacco	13	0.31	0.00	0.00	0.00	-5.95	-6.76
Manufacturing	12	0.25	0.00	0.00	0.00	-4.02	-9.20
Metal goods	2	0.00	0.00	0.00	0.00	3.13	3.13
Mining and quarrying	37	0.92	0.00	0.03	0.00	-7.10	-7.68
Others	2	1.00	1.00	0.00	0.00	-27.10	-27.10
Paper and printing	12	0.58	0.00	0.00	0.00	-4.03	3.81
Transportation, communication and construction	14	0.36	0.00	0.00	0.00	6.44	-7.51
Vehicle	11	0.36	0.00	0.00	0.00	-41.33	-46.57

Source: *Times Book of Prospectuses,* 1891–1911, *Investor's Monthly Manual* (IMM), Gale online resources (*Financial Times*).
Note: Financial, gas and water industries were excluded due to heavy regulations following Braggion and Moore (2013).

Table 6-5 presents summary statistics that compare the characteristics of new issues with board interlocks and those without.[80] The data show that new issues with interlocks performed poorly compared to their counterparts without interlocks, though this is not statistically significant. New issues with interlocks had smaller boards, lower vendor ownership, and were mostly younger than new issues without interlocks. This gives support to the argument that firms under conditions of uncertainty should have a board that is not too large and comprise directors with strong links with the external environment (Boyd, 1990). Second, it gives support to the argument that new issues could secure legitimacy resource by appointing directors with interlocks (Certo, 2003; Fama and Jensen, 1983; Filatotchev et al., 2018; Mizruchi, 1996).

Table 6-5: Summary statistics by interlocks, 1895–1911

		Interlocks	
Variables	**No**	**Yes**	**Difference**
Panel A			
Excess return	-5.999	-11.297	5.298
Boardsize	4.889	4.487	0.402***
Ownership	0.064	0.042	0.022*
Firm size	0.232	0.168	0.063
Firm age	0.563	0.259	0.303**
Panel B			
Track	0.361	0.077	0.28***
Underwritten	0.139	0.208	-0.069
Official quotation	0.541	0.161	0.381***
Overseas	0.493	0.917	-0.424***
Military	0.125	0.109	0.016
Aristocrat	0.409	0.295	0.114**
MP	0.138	0.093	0.045

Note: *, ** and *** represent statistical significance levels of 10%, 5% and 1% respectively. A two-sample t-test with equal variances was used in Panel A, and the Mann-Whitney test was used in Panel B.

As a further indication of the legitimacy provided by directors with interlocks, the data show that boards with interlocked directors were less likely to publish past financial reports in their prospectuses, were less likely to trade as officially quoted, were more regulated, and were more likely to operate mainly outside the UK. Additionally, firms with interlocks were less likely to recruit aristocratic directors, which suggests that firms used interlocks as a substitute for aristocratic elites, given that interlocks provided similar resources. However, there is no statistical difference in the mean of firms with or without interlocks for political elites (MP).

[80] Solely for this purpose, a dummy variable for interlocks taking the value of 1 if the new issue had interlocks, and 0 otherwise, was created.

Table 6-6 shows the summary statistics of variables by busy directors. In line with studies that report a negative association between performance and busy board, new issues with busy boards seem to perform poorly compared to new issues without busy boards. This provides initial support for the second hypothesis, that busy directors influence performance negatively (see, for example, Sundaramurthy et al., 2014). New issues with busy boards had smaller boards and vendor ownership, were less likely to have a track record and be officially quoted, and were more likely to be classified as overseas compared to issues without busy boards. Firms with busy boards were also less likely to have aristocratic directors.

Table 6-6: Summary statistics by busy board, 1895–1911

		Busy board	
Variables	**No**	**Yes**	**Difference**
Panel A			
Excess return	-7.186	-18.506	11.320**
Boardsize	4.801	3.928	0.874***
Ownership	0.057	0.022	0.035**
Firm size	0.22	0.068	0.152
Firm age	0.415	0.255	0.161
Panel B			
Track	0.238	0.000	0.238***
Underwritten	0.163	0.255	-0.091
Official quotation	0.383	0.018	0.365***
Overseas	0.685	1.000	-0.316***
Military	0.121	0.091	0.03
Aristocrat	0.382	0.145	0.237***
MP	0.124	0.054	0.069

Note: *, ** and *** represent statistical significance levels of 10%, 5% and 1% respectively. A two-sample t-test with equal variances was used in Panel A, and the Mann-Whitney test was used in Panel B.

In sum, the data show that interlocking directorships were more frequent among new issues in the UK towards the end of the first decade of the twenty-first century. Firms promoted during this period were younger, most often in the agriculture and horticulture industry, and operated outside the UK. The implication is that these new issues needed the legitimacy resource that directors with interlocks could provide. They were also more likely to engage the services of a third-party underwriter as a further legitimacy resource, observed in table 5, though this was not statistically significant. Apart from a legitimacy resource, these firms seemed to need the monitoring resource of outside directors because they were more likely to have lower vendor ownership. However, the busy directors who were prevalent in the period may not have been able to provide the adequate monitoring that could enhance subsequent performance.

Hence, the stated hypotheses were further examined with two subsamples: the first included firms promoted from 1907 to 1911; and the second included firms promoted in 1910. This has allowed the chapter to examine the impact of interlocking directorships and busy boards on the performance of new issues in samples where interlocking directorships and busy boards were more prevalent.

6.3.4 Estimation Models

Quantile regression was used in multivariate models with robust standard error to estimate the stated hypotheses. To examine the effect of interlocking directorships on the long-term performance of new issues as stated in the first hypothesis, that the long-term performance of new issues promoted in the UK at the turn of twentieth century was positively related to having directors with interlocks, the following model was estimated:

$$\text{Long-term performance}_{it+3\ years} = b_1 \text{Interlocks}_{it} + b_2 \text{Controls}_{it} + e_{it} \quad \text{Model 6.1}$$

To examine the second hypothesis, which aims to examine the effect of busy directors on the long-term performance of new issues, the following model was estimated:

$$\text{Long-term performance}_{it+3\ years} = b_1 \text{Busy board}_{it} + b_2 \text{Controls}_{it} + e_{it} \quad \text{Model 6.2}$$

To examine the third hypothesis, which states that firms recruiting both elite directors and directors with interlocks were likely to have access to more resources, which should enhance performance in the long-term, the following model was estimated:

$$\text{Long-term performance}_{it+3\ years} = b_1 \text{Elite*Interlocks}_{it} + b_2 \text{Elite}_{it} + b_3 \text{Interlocks}_{it} + b_4 \text{Controls}_{it} + e_{it} \quad \text{Model 6.3}$$

To examine the fourth hypothesis, which aims to examine the effect of having elite directors and busy boards on the long-term performance of new issues in UK at the turn of the twentieth century, the following model was estimated:

$$\text{Long-term performance}_{it+3\ years} = b_1 \text{Elite*Busy board}_{it} + b_2 \text{Elite}_{it} + b_3 \text{busy board}_{it} + b_4 \text{Controls}_{it} + e_{it} \quad \text{Model 6.4}$$

In all models, *i* and *t* is an indices for firm and issue year respectively; long-term performance is proxied with three-year post-issue excess return. In models 6.1 and 6.2, interlocks and busy board are the independent variables respectively. In model 6.3, the independent variables are elite and interlocks; these are also the interaction variables. In model 6.4, the independent variables are elite and busy board, these are also the interaction variables. Controls are boardsize, military, firm size, firm age, ownership, track, underwritten, overseas, and time and industry dummies. e_{it} represents error term.

Results from model 6.1 were supplemented with illustrative case study evidence that was randomly selected from a sample of directors with a high number of interlocks by 1910, to investigate in more detail the experience of these directors and their influence on long-term performance. Also, results from model 6.2 were supplemented with case study evidence randomly selected from a sample of poorly performing new issues in 1910 that had busy boards to examine in more detail the characteristics of busy directors and how they influenced long-term performance.

6.4 Analysis and Discussion

This section discusses results and presents illustrative case study evidence. Subsection 6.4.1 discusses model results, and subsection 6.4.2 discusses case study evidence.

6.4.1 Model Results

Table 6-7 presents quantile regression results with robust standard errors. Model 1 shows the effect of control variables on the long-term performance of new issues. Similar to previous studies, the results show that older firms were more likely to perform better, and firms engaging the services of a third-party underwriter performed poorly compared to their counterparts (Fjesme et al., 2018). In line with Burhop et al. (2014), the results show that officially quoted new issues performed better in the long-term, although this was not significant in all models. In contrast with Fjesme et al. (2018), the results show that overseas new issues performed poorly in the long-term, though this is not statistically significant in all models. In line with Fjesme et al. (2018), the results show that new issues which had military officials performed poorly compared to those without.

Model 2 shows the effects that interlocks had on the long-term performance of new issues. Similar to Braggion (2011), there is no statistically significant relationship between interlocking directorships and the long-term performance of firms promoted in the UK. In contrast to the first hypothesis, but consistent with the coefficient reported by Braggion (2011), the results show a negative relationship between interlocks and performance. This suggests that interlocking directorships negatively influenced firm performance in the UK. Models 3 and 4 examine the effect of busy boards on performance respectively. The relationship between busy boards and long-term performance is not statistically significant. However, the results suggest that busy boards negatively influenced the long-term performance of new issues in the UK. The lack of statistically significant results is not surprising given that interlocks and busy boards were not prevalent in the data until 1907. Interlocks have a mean of less than 1, while busy boards have a mean of 0 for the period 1895–1906.[81]

[81] See Table 6-3: Distribution of interlocks, busy boards and long-term performance by year, 1895–1911 in subsection 6.3.3 above.

Table 6-7: Long-term performance of new issues three years post-issue

Variables	Model 1 Controls only	Model 2 Interlocks effect	Model 3 Busy board effect	Model 4 Fraction busy effect
Boardsize	1.182	-0.087	1.481	1.345
	(0.953)	(-0.0628)	(1.368)	(1.069)
Ownership (log)	-10.125	0.940	-4.360	-5.294
	(-0.549)	(0.0461)	(-0.225)	(-0.293)
Firm size (log)	-1.529	-1.053	-1.967	-1.976
	(-1.065)	(-0.636)	(-1.123)	(-1.362)
Firm age (log)	10.361***	7.189*	10.053**	10.194***
	(3.191)	(1.794)	(2.435)	(3.045)
Track	-6.760	-2.769	-6.488	-6.785
	(-1.538)	(-0.624)	(-1.337)	(-1.564)
Underwritten	-7.139**	-9.305***	-8.737**	-8.050**
	(-2.026)	(-3.618)	(-2.185)	(-2.022)
Official quotation	7.627*	6.039	6.435	6.185
	(1.726)	(1.070)	(1.183)	(1.425)
Overseas	-19.979**	-10.586	-14.355	-17.692**
	(-2.446)	(-1.087)	(-1.534)	(-2.361)
Military	-20.738***	-15.606***	-18.505***	-19.274***
	(-5.674)	(-3.540)	(-4.562)	(-5.367)
Interlocks		-0.373		
		(-1.538)		
Busy board			-3.701	
			(-0.760)	
Fraction busy				-5.429
				(-0.940)
Constant	-0.063	-0.050	-7.706	-3.848
	(-0.00554)	(-0.00338)	(-0.606)	(-0.353)
Year dummies	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes
Observations	337	337	337	337
Pseudo R-squared	0.115	0.167	0.116	0.116

Note: Robust t-statistics in parentheses. *, ** and *** represent statistical significance levels of 10%, 5% and 1% respectively.

Table 6-8 presents the results of the third and fourth hypotheses. As before, firm age, underwritten, military and overseas significantly influence long-term performance. The coefficient of interaction between aristocrat and interlocks is not statistically significant in model 1. Partly consistent with the third hypothesis, the interaction between interlocks and MPs is positive and statistically significant in model 4. The implication of this result is that the negative effect of having either interlocks or an MP on performance is weakened when firms have both. In models 2 and 3, the coefficient of interaction between having a busy board and fraction busy and an aristocratic director is not statistically significant. Also, the interaction between MP and busy board and fraction busy is not statistically significant in models 5 and 6.

Table 6-8: Effect of the interaction of elite directors with interlocks and busy board on performance

Variables	Model 1 Interlocks and aristocrat	Model 2 Busy board and aristocrat	Model 3 Fraction busy and aristocrat	Model 4 Interlocks and MP	Model 5 Busy board and MP	Model 6 Fraction busy and MP
Boardsize	-1.823	-1.698	-2.013	-1.685	-1.860	-1.440
	(-1.313)	(-1.145)	(-1.350)	(-1.107)	(-1.174)	(-0.939)
Ownership (log)	0.931	3.354	3.380	1.080	4.171	0.898
	(0.0607)	(0.458)	(0.243)	(0.0496)	(0.201)	(0.0370)
Firm size (log)	-0.384	-1.840	-0.919	0.553	-0.965	-0.631
	(-0.235)	(-1.035)	(-0.530)	(0.330)	(-0.574)	(-0.339)
Firm age (log)	11.074***	11.355***	11.567***	9.808**	9.747**	8.998**
	(2.595)	(2.669)	(2.707)	(2.267)	(2.274)	(1.996)
Track	-7.347	-8.650*	-8.367*	-5.202	-6.106	-4.520
	(-1.603)	(-1.681)	(-1.767)	(-1.093)	(-1.132)	(-0.843)
Underwritten	-10.458***	-10.642***	-10.768***	-9.081***	-10.778***	-9.913***
	(-3.731)	(-3.345)	(-3.575)	(-3.127)	(-3.185)	(-3.306)
Official quotation	7.084	6.831	7.800	7.086	5.719	5.698
	(1.283)	(1.212)	(1.414)	(1.266)	(1.221)	(0.777)
Overseas	-17.464*	-20.411**	-20.763**	-15.597	-15.605	-13.646
	(-1.729)	(-2.057)	(-2.102)	(-1.650)	(-1.572)	(-1.396)
Military	-15.075***	-13.850***	-15.201***	-14.812***	-14.902***	-16.907***
	(-3.160)	(-2.972)	(-3.972)	(-3.801)	(-3.789)	(-4.310)
Aristocrat*interlocks	0.257					
	(0.346)					
Aristocrat	3.241	3.851	3.100			
	(0.940)	(1.191)	(1.005)			

(continued)

Table 6-8 (continued)

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Interlocks	-0.270			-0.571**		
	(-0.909)			(-2.164)		
Busy*aristocrat		6.112				
		(0.567)				
Busy		-5.922			-3.654	
		(-1.206)			(-0.797)	
Fraction busy*aristocrat			11.970			
			(1.008)			
Fraction busy			-6.323			-2.363
			(-0.936)			(-0.381)
Interlocks*MP				4.737***		
				(3.013)		
MP				-16.439***	3.112	1.872
				(-2.603)	(0.502)	(0.293)
Busy*MP					6.555	
					(0.710)	
Fraction busy*MP						11.902
						(0.569)
Constant	13.911	10.760	13.770	12.590	9.021	7.318
	(0.912)	(0.685)	(0.898)	(0.787)	(0.548)	(0.452)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes
Observations	337	337	337	337	337	337
Pseudo R-squared	0.171	0.172	0.171	0.178	0.168	0.167

Note: Robust t-statistics in parentheses. *, ** and *** represent statistical significance levels of 10%, 5% and 1% respectively.

Tables 6-9 and 6-10 show the results of the re-examination of all stated hypotheses on a subsample of firms promoted during the period 1907–1911. The models were re-examined on this subsample due to the prevalence of interlocks and busy boards during this period. The results were mainly consistent with those of the full sample. As before, the results show no significant relationship between performance and independent variables: interlocks, busy board and fraction busy in table 6-9. In table 6-10, the proxy for elite directors was interacted with interlocks, busy board and fraction busy. The results reported in model 4 again show that the interaction of MPs with interlocks significantly reduced the negative effect of either interlocks or MPs on performance, while the variables of interest were not statistically significant in all other models.

Table 6-9: Long-term performance of new issues three years post-issue (1907–1911 subsample)

Variables	Model 1 Controls only	Model 2 Interlocks effect	Model 3 Busy board effect	Model 4 Fraction busy effect
Boardsize	-0.318	0.901	1.362	-0.397
	(-0.117)	(0.387)	(0.560)	(-0.165)
Ownership (log)	14.031	5.192	5.335	11.108
	(0.335)	(0.0857)	(0.116)	(0.287)
Firm size (log)	0.761	1.121	1.081	1.468
	(0.257)	(0.485)	(0.375)	(0.517)
Firm age (log)	11.874	10.427	9.635	11.128
	(1.466)	(1.044)	(1.033)	(1.457)
Track	-6.946	-8.729	-6.050	-6.310
	(-0.355)	(-0.496)	(-0.311)	(-0.313)
Underwritten	-11.021***	-7.633***	-9.220**	-11.757***
	(-2.926)	(-2.627)	(-2.339)	(-3.231)
Official quotation	-7.145	-10.560	-19.694	-9.018
	(-0.530)	(-0.705)	(-1.588)	(-0.701)
Overseas	2.237	-3.298	-7.122	3.618
	(0.00359)	(-0.00563)	(-0.120)	(0.0649)
Military	-17.235***	-18.367***	-16.978***	-18.547***
	(-4.866)	(-6.230)	(-5.206)	(-5.830)
Interlocks		-0.413		
		(-1.577)		
Busy			-3.172	
			(-0.830)	
Fraction busy				-1.395
				(-0.259)
Constant	-11.898	-7.444	-6.290	-9.680
	(-0.0191)	(-0.0127)	(-0.112)	(-0.186)
Year dummies	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes
Observations	200	200	200	200
Pseudo R-squared	0.161	0.163	0.162	0.161

Note: Robust t-statistics in parentheses. *, ** and *** represent statistical significance levels of 10%, 5% and 1% respectively.

Table 6-10: Effect of the interaction of elite directors with interlocks and busy boards on performance (1907–1911 subsample)

Variables	Model 1 Interlocks and aristocrat	Model 2 Busy board and aristocrat	Model 3 Fraction busy and aristocrat	Model 4 Interlocks and MP	Model 5 Busy board and MP	Model 6 Fraction busy and MP
Boardsize	-1.612	-1.951	-2.229	0.068	-0.322	-0.987
	(-0.632)	(-0.791)	(-1.082)	(0.0254)	(-0.109)	(-0.324)
Ownership (log)	19.536	21.314	22.646	7.179	10.363	12.266
	(0.526)	(0.279)	(0.586)	(0.123)	(0.118)	(0.143)
Firm size (log)	0.405	-0.146	-0.571	0.572	0.296	0.289
	(0.127)	(-0.0624)	(-0.245)	(0.194)	(0.0918)	(0.0920)
Firm age (log)	9.950	9.725	6.067	14.154	8.341	7.656
	(1.094)	(1.264)	(0.778)	(1.513)	(0.695)	(0.634)
Track	-7.946	-7.229	-4.300	-9.973	-12.971	-11.848
	(-0.394)	(-0.488)	(-0.227)	(-0.528)	(-0.352)	(-0.605)
Underwritten	-4.329	-6.395	-7.245*	-7.357*	-8.074	-8.926
	(-1.031)	(-1.635)	(-1.698)	(-1.830)	(-1.262)	(-1.581)
Official quotation	-9.321	-6.888	-12.941	-5.764	-15.848	-17.705
	(-0.845)	(-0.685)	(-1.464)	(-0.392)	(-1.046)	(-1.033)
Overseas	-8.091	-3.866	-9.300	-0.157	-9.013	-10.867
	(-0.205)	(-0.00631)	(-0.372)	(-0.00452)	(-0.0177)	(-0.0193)
Military	-17.802***	-18.288***	-18.737***	-20.785***	-20.397***	-21.088***
	(-4.962)	(-6.591)	(-6.551)	(-5.233)	(-4.932)	(-4.578)
Aristocrat*interlocks	0.460					
	(0.600)					
Aristocrat	5.712	5.608	5.508			
	(1.144)	(1.337)	(1.506)			

(continued)

Table 6-10 (continued)

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Interlocks	-0.531			-0.567*		
	(-1.369)			(-1.789)		
Busy*aristocrat		5.809				
		(0.652)				
Busy		-6.065			-6.912	
		(-1.319)			(-1.420)	
Fraction busy*aristocrat			10.336			
			(0.862)			
Fraction busy			-5.908			-10.099
			(-0.855)			(-1.568)
Interlocks*MP				4.279**		
				(2.008)		
MP				-12.832	7.992	7.344
				(-1.088)	(0.533)	(0.542)
Busy*MP					7.603	
					(0.353)	
Fraction busy*MP						14.381
						(0.150)
Constant	4.123	0.344	6.094	-12.803	0.246	4.973
	(0.114)	(0.000561)	(0.249)	(-0.384)	(0.000483)	(0.00886)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes
Observations	200	200	200	200	200	200
Pseudo R-squared	0.171	0.170	0.169	0.178	0.167	0.164

Note: Robust t-statistics in parentheses. *, ** and *** represent statistical significance levels of 10%, 5% and 1% respectively.

Furthermore, the stated hypotheses were re-examined on a subsample of firms promoted in 1910 during the rubber boom. This subsample is important given that it has the highest level of interlocked directors and busy boards in the sample period. Unlike before, new issues granted official quotation and those with track records were excluded from the control variables because new issues in 1910 generally did not report historical financial statements in their prospectuses and were usually admitted to trade as a special settlement.[82] Results of these analyses are reported in tables 6-11 and 6-12.

Table 6-11 presents the results of the first and second hypotheses for the 1910 subsample. As previously, older firms performed better in the long-term, while firms that recruited military officers to their boards performed poorly. Contrary to the first hypothesis, which states that interlocks influenced performance positively, results given in model 2 indicate that interlocks negatively influenced the long-term performance of firms promoted in 1910. However, care must be taken in interpreting this result given that firms in 1910 were usually smaller firms promoted as a consequence of speculation in rubber. It could therefore be inferred that these firms were riskier and appointed directors with interlocks to certify their value to investors.

Consistent with the second hypothesis, the evidence shows that busy boards is negatively related to the long-term performance of firms promoted in 1910. The findings on busy boards are consistent with the busyness hypothesis, which argues that overburdened boards would be too busy to effectively monitor managers owing to time constraints (Fich and Shivdasani, 2006). This result is also consistent with the findings of Falato et al. (2014) and Sundaramurthy et al. (2014), who both suggest that increased workloads of directors due to numerous interlocks is harmful to firm performance.

Table 6-12 presents the results on the third and fourth hypotheses for the 1910 subsample. The results show no significant relationships between the interaction variables and the long-term performance of firms promoted in 1910.

[82] Only four issues were officially quoted, while two disclosed their historical financial records.

Table 6-11: Long-term performance of new issues three years post-issue (1910 subsample)

Variables	Model 1 Controls only	Model 2 Interlocks effect	Model 3 Busy board effect	Model 4 Fraction busy effect
Boardsize	2.330	3.426	2.093	1.229
	(0.848)	(1.484)	(0.831)	(0.489)
Ownership (log)	16.146	3.822	8.122	11.159
	(0.170)	(0.0419)	(0.102)	(0.133)
Firm size (log)	-1.906	0.354	0.311	1.309
	(-0.654)	(0.150)	(0.133)	(0.536)
Firm age (log)	39.127***	44.716***	46.076***	50.297***
	(4.417)	(5.790)	(6.270)	(5.897)
Underwritten	-0.980	-0.125	4.239	1.154
	(-0.182)	(-0.0256)	(0.622)	(0.194)
Military	-13.626***	-13.008***	-14.671***	-12.802***
	(-3.369)	(-3.791)	(-3.118)	(-3.248)
Interlocks		-0.541**		
		(-2.082)		
Busy board			-13.529***	
			(-3.208)	
Fraction busy				-14.347*
				(-1.959)
Constant	-34.586**	-29.032**	-24.109*	-19.503
	(-2.241)	(-2.189)	(-1.908)	(-1.463)
Observations	121	121	121	121
Pseudo R-squared	0.098	0.118	0.135	0.117

Note: Robust t-statistics in parentheses. *, ** and *** represent statistical significance levels of 10%, 5% and 1% respectively.

Table 6-12: Effect of the interaction of elite directors with interlocks and busy boards on performance (1910 subsample)

Variables	Model 1 Interlocks and aristocrat	Model 2 Busy board and aristocrat	Model 3 Fraction busy and aristocrat	Model 4 Interlocks and MP	Model 5 Busy board and MP	Model 6 Fraction busy and MP
Boardsize	2.396	1.510	0.959	1.855	0.948	1.100
	(0.862)	(0.549)	(0.364)	(0.585)	(0.457)	(0.553)
Ownership (log)	-2.264	10.686	14.504	8.992	12.322	18.445
	(-0.0214)	(0.110)	(0.146)	(0.0800)	(0.184)	(0.227)
Firm size (log)	1.119	0.982	1.608	0.071	-0.849	-1.139
	(0.426)	(0.349)	(0.869)	(0.0207)	(-0.390)	(-0.461)
Firm age (log)	46.472***	48.516***	44.383***	42.213*	47.990***	52.023***
	(6.143)	(6.872)	(7.813)	(1.663)	(4.480)	(4.465)
Underwritten	0.481	3.135	1.503	-1.944	2.875	0.354
	(0.0935)	(0.511)	(0.241)	(-0.256)	(0.430)	(0.0588)
Military	-11.239***	-13.059**	-10.585***	-15.094***	-17.931***	-13.706***
	(-2.750)	(-2.570)	(-2.700)	(-3.638)	(-3.912)	(-3.504)
Aristocrat*interlocks	0.808					
	(0.773)					
Aristocrat	2.006	3.025	5.383			
	(0.263)	(0.524)	(0.979)			
Interlocks	-0.680*			-0.518*		
	(-1.756)			(-1.740)		
Busy*aristocrat		12.691				
		(0.951)				
Busy		-12.770***			-14.226***	
		(-2.635)			(-3.046)	

(continued)

Table 6-12 (continued)

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Fraction busy*aristocrat			14.727			
			(0.802)			
Fraction busy			-11.971			-12.283*
			(-1.530)			(-1.666)
Interlocks*MP				2.924		
				(0.185)		
MP				5.435	32.311**	33.001**
				(0.155)	(2.419)	(2.496)
Constant	-23.045	-21.365	-19.759	-23.668	-21.979*	-27.630**
	(-1.553)	(-1.408)	(-1.538)	(-1.360)	(-1.824)	(-2.195)
Observations	121	121	121	121	121	121
Pseudo R-squared	0.128	0.137	0.124	0.135	0.157	0.138

Notes: Robust t-statistics in parentheses. *, **, and *** represents statistical significance level at 10%, 5%, and 1% respectively.

In sum, the results show that the interlocks of directors negatively influenced the performance of firms promoted in the UK at the turn of the twentieth century, rather than influencing it positively, given the resources such as knowledge, information and legitimacy these directors could secure from their social relationships with other firms. The results suggest that directors with interlocks in the UK during the period under review were more value certifiers than knowledge or information sharers. The possible explanation is that these directors did not have enough time to actively engage with these firms. The results on busy boards show support for this explanation. This chapter consistently finds a negative relationship between performance and busy boards, which suggests that busy directors were too distracted to engage and influence the performance of firms positively. However, their prevalence on boards suggests that they could be better advisers to new issues given their previous experience in the promotion of new firms. Finally, the models show that the presence of political elites on boards of directors positively moderates the relationship between interlocks and performance, while the presence of aristocratic elites has no moderating effects. Nonetheless, the models suggest that aristocratic elites were not on boards to simply add glitter to issue but to potentially contribute to performance through their previous experience in South East Asia.[83]

6.4.2 Case Study Evidence

This section examines in more detail the characteristics of directors with interlocks by looking at their experience and the performance of firms connected to them. To do this, three directors were randomly selected, based on the availability of information, from a sample of directors with at least nine interlocks by 1910. The section also examines the characteristics of busy boards by randomly selecting rubber issues promoted in 1910 that performed poorly post-issue. The focus of the case study evidence on busy boards is on directors with three or more connections. Information on these directors was collected from *Who Was Who*, the *Financial Times*, *NewspaperSG* and the *Dictionary of Welsh Biography*.

[83] The coefficient of aristocratic elites was positive but not statistically significant in Model 1, Model 2, and Model 3 (See Table 6-8: Effect of the interaction of elite directors with interlocks and busy board on performance, Table 6-10: Effect of the interaction of elite directors with interlocks and busy boards on performance (1907–1911 subsample), and Table 6-12: Effect of the interaction of elite directors with interlocks and busy boards on performance (1910 subsample).

Interlocks

Thomas Carritt provides a good starting point to examine in more detail the negative relationship between interlocks and performance during the rubber promotion boom of 1910. Thomas Carritt was a member of Messrs Lloyd, Matheson and Carritt, a firm operating mainly as a tea broker.[84] Based on available records, the operation of the firm had continued for a relatively long period of time in India and Ceylon before the rubber promotion boom.[85] This suggests that Thomas Carritt had experience of produce dealings in Asia, and that his experience should impact positively on the performance of rubber firms. This experience positioned him for a rubber board appointment and involvement in rubber promotions.

Carritt sat on the board of 14 firms in total, 13 of which were promoted in 1910 and one in 1907. In the long term, PPK (Ceylon) Rubber Estates Limited, which was promoted in 1907, performed very well. It is worth noting that this firm's board was the first to appoint Thomas Carritt as director in the dataset. Eight of the firms promoted in 1910 performed poorly three years post-issue, while share price information on the other five firms could not be obtained. Contrary to the expectation that interlocks could serve as the medium for securing resources that could positively influence performance, but consistent with the argument that overburdened directors could negatively influence performance, the interlocks of Thomas Carritt were mostly associated with poor performance. This suggests that the benefits of having directors with interlocks is eroded when these directors hold numerous board positions.

Another compelling piece of evidence is the case of Keith Fraser Arbuthnot, a Scotsman born in India. He was a member of Sanderson and Company, a firm that operated as tea and coffee merchants with a longstanding relationship with the East. Arbuthnot was referred to as the chief of rubber kings, based on his experience of rubber dealings and the performance of the leading rubber firms he was associated with.[86] By 1910, Arbuthnot had been appointed director or chairman of about 11 rubber firms in the dataset. Two of these were promoted in 1910, five in 1909, three during the period 1906-1908, and one in 1901. Performance data were not available for two firms, four rubber firms performed exceptionally well three years post-issue, while five performed poorly. This evidence shows that interlocks could positively influence performance. More importantly, the case of Arbuthnot shows that too many interlocks could result in poor performance irrespective of the expertise, experience or other resources that could be derived.

[84] *The Strait Times*, December 8, 1914, p.12.

[85] *Financial Times*, October 12, 1901, p.3.

[86] *Singapore Free Press and Mercantile Advertiser*, May 21, 1910, p.10.

The case of Sir William Hood Treacher also depicts the negative influence that interlocks of directors may have on performance when directors have too many connections. By 1910, Sir William sat on the boards of 11 firms in total. Despite his experience as a former colonial administrator in FMS, three of the firms associated with him failed post-issue, four performed well, while performance data were not available for four firms.[87] The satisfactory performance of some of these firms suggests that the experience and interlocks of Sir William influenced performance positively. However, as interlocks increased, their positive effect on performance reduced. This suggests that interlocks could be beneficial if kept at the minimum; otherwise they are detrimental to performance.

Busy boards

The board of the Bukit Sembawang Rubber Company provides a good starting point for a further examination of the negative relationship between busy boards and post-issue performance. This firm recruited directors such as Colonel Ivor Philipps, MP, Hon Everard Feilding, James Gibson, John Turner and Sir William Erskine Ward. Most of these directors were very connected with the boards of other firms in the dataset. Among these, the characteristics of Colonel Ivor Philipps are particularly interesting. He joined the Indian army in 1884 and served until 1903. He temporarily served as quartermaster general in China in 1900 and as a colonel in the Pembroke Yeomanry from 1908 to 1912 (Jones, 2011). His years of service in Asia suggest that he had experience that could be beneficial to the performance of rubber firms operating in Asia. Colonel Philipps was introduced to the market for a directorship by his brother John Philipps in 1905, and sat on the board of many new issues as director or chairman.

Apart from the Bukit Sembawang Rubber Company, Philipps also sat on the boards of four other firms in the dataset as either director or chairman. All these firms except one performed poorly in the long-term.[88] This is not surprising given that Colonel Philipps must have had little or no time to actively engage with these firms to enhance performance. Apart from being busy with numerous board positions, he was also busy with other time-consuming career engagements. As an active military officer at the time of his appointment to the boards, he would have prioritised his military service,[89] and as an active MP he would have been busy with the affairs of the House of Commons.

[87] See footnote 41 above.

[88] Taiping Rubber Plantations was the only firm connected to Colonel Ivor Philipps in the dataset that improved performance post-issue.

[89] Colonel Ivor Philipps was only able to impact firm performance positively after the First War World, when he rejoined the board of two firms (See Jones, 2011).

These engagements would reduce the time he had for monitoring and advising managers, and using his resources to create wealth for owners of the firms.

Another director of the Bukit Sembawang Rubber Company who could be considered busy was Hon Everard Feilding, who also sat on the board of six other rubber firms in the dataset. Feilding was the second son of the eighth Earl of Denbigh, described as the director of many rubber firms and a famous character in rubber circles.[90] It could be expected that Feilding's experience through his position in rubber circles would positively impact the performance of all firms connected with him. However, three of these new issues performed poorly post-issue, two performed better than the market, while performance data were not available for two.

John Turner another director on the board of Bukit Sembawang Rubber Company, could also be considered busy. He sat on the boards of three rubber firms in addition to the focal firm, plus one other firm. He migrated to Singapore in 1889 after spending a year in Brazil studying methods of sugar planting. He was a famous rubber planter, a previous member of the legislative council of The Straits Settlements, and a senior member of the Chamber of Commerce in Penang.[91] Despite his experience, two of the rubber firms associated with him performed poorly post-issue.

Given the previous experience of most of the directors of the Bukit Sembawang Rubber Company in Asia, and their positions in rubber circles, this firm still performed poorly three years post-issue. Results from the Bukit Sembawang Rubber Company show that busy boards influence performance negatively, and that the experience or expertise of busy directors plays little or no role in reducing the negative effects of busyness.

Other compelling evidence on the negative effects of busy boards on performance is illustrated by the board of Majedie (Johore) Rubber Estates. This firm recruited directors such as Colonel George Wentworth Forbes, Cosby Francis Deane-Drake, John Cornelius Sanderson and Alfred Robert Warren. Two of these directors, Cosby Francis Deane-Drake and John Cornelius Sanderson, sat on the boards of nine and six rubber firms respectively and shared positions on three boards. Though information could not be obtained on the experience that made these directors prominent on the boards of rubber firms, it is evident from the dataset that four of the firms associated with Cosby Francis Deane-Drake performed poorly and five of the new issues associated with John Cornelius Sanderson also performed poorly in the long-term.[92]

[90] *The Straits Times*, February 12, 1936, p.12.

[91] *The Straits Times*, June 23, 1923, p.8.

[92] Among the connections of John Cornelius Sanderson, only Badek Rubber Estates had good performance post-issue. Even though John Cornelius Sanderson sat on the board of Badek Rubber Estates with Vincent

Similarly, Lewa Rubber Estates recruited Theodore Charles Owen, John Edward Humphery, Bertram Francis White and Barr Robertson on its board of directors. Theodore Charles Owen sat on the boards of seven other rubber firms, all promoted in the period 1909–1910. He moved to Ceylon in 1872 to develop cocoa, rubber and tea plantations in the Matale district, and became one of the prominent pioneer tea and rubber planters in Ceylon. His life was dedicated to the development and interests of tea and rubber firms.[93] Again, his experience as a rubber planter could be expected to positively influence the performance of rubber firms, and explains the reason for his appointment to the boards of many rubber firms. However, two of the firms in his interlocks performed poorly in the long-term, two performed better than the market, while performance data were not available for four firms. This suggests that the time Owen had available to engage with firms in terms of his resource utilisation, monitoring and advisory roles, reduced with each additional appointment, resulting in poor performance.

John Edward Humphery seems to have been less busy than Theodore Charles Owen given that he only sat on the board of four firms in total: only one of these performed better than the market in the long-term, two performed poorly and data were not available for the last. Similarly, Bertram Francis White sat on the boards of three rubber issues, including Lewa Rubber Estates. All these firms performed poorly in the long-term. The experience of Owen and White in Asia could not be determined owing to non-availability of information. Nevertheless, their presence on boards seems to be associated with poor performance.

Lastly, the board of Teluk Piah Rubber Estate, classified as busy, also shows the negative effect of a busy board on firm performance. This firm recruited directors including John Loudoun Shand, Alfred Broughton Lamb and Colonel Alexander Murray. Colonel Murray sat on the boards of three new issues, and all performed poorly in the long-term. His presence was used to underpin issue value but his reported ill health suggests that he could not be fully committed to the activities of Teluk Piah Rubber Estate,[94] leaving the governance of this firm in the hands of John Loudon Shand and Alfred Broughton Lamb. Both these directors were over-burdened. Shand sat on a total of four rubber firm boards, and Lamb sat on five rubber firms in total. Though Shand was a planter and Lamb seems to

Richard Wickwar, who had five other board positions, the board of Badek Rubber Estates could not be classified as busy given that it had three other directors with either one other connection or no connections at all. The implication is that the experience of other non-busy board members, such as the Rt Hon Viscount Molesworth, could have influenced performance positively. Performance data could not be obtained on the other four issues connected with Cosby Francis Deane-Drake.

[93] *The Malaya Tribune*, May 3, 1926, p.2.

[94] See footnote 78 above.

have been prominent in the rubber industry, their experience could not prevent the poor performance observed in most of the firms they were connected with.

In sum, directors with many interlocks were mainly individuals with expertise in planting or those who had prior experience in Asia. Their representation on boards underpinned the underlying value of issuing firms. This suggests that they were used as ornamental directors during the rubber promotion boom. Beyond this ornamental role, their expertise and experience seem to have reduced the overall poor performance that would have been recorded if they had not been on these boards. However, as they gained additional board positions, the positive effect of their expertise and experience on performance reduced, resulting in poor performance.

The evidence from these case studies supplements the findings of the empirical results by demonstrating that interlocks and busy boards negatively influenced share price performance. The chapter, however, suggests that the experience and expertise of directors had less impact on firm performance when these directors were over-burdened with appointments on several boards, particularly during the promotion boom. Hence, investors could ignore the past records of these directors signalling them for future board appointment, as suggested by Fama and Jensen (1983), in cases where they held many board positions.

Though this chapter has four hypotheses, the data shows a complicated story. This study used historical data to examine the impact of interlocks and busy boards on share price performance, however, the results have implications for present time. Recently, the UK Corporate Governance Code 2018, recommends restrictions on the number of board appointments that full-time executive directors in large firms could hold in other firms while proxy advisors and institutional investors also set out more specific recommendations on the number of external board positions executive and non-executive directors could hold. These restrictions have been welcomed with lesser support for over-burden directors during re-election votes at annual general meetings.[95] The results of this study show that this is a step in the right directors, hence it gives support to limiting the number of board positions held by directors either executive or non-executive.

[95] 'KPMG', Overboarding <https://assets.kpmg/content/dam/kpmg/uk/pdf/2018/08/overboarding-blc.pdf> [Accessed 5 May, 2020].

6.5 Conclusion

Researchers have extensively examined the effects of board interlocks on firm performance in various contexts in contemporary studies. But surprisingly little is known about the relationship between interlocks and share price performance in the UK from a historical perspective, in particular before 1914, even though the boards of firms admitted to trade on the LSE at that time were often connected through interlocking directorships. Research that examines this relationship in the UK at a time when the LSE was considered to be the largest capital market in the world is therefore desirable.

This chapter has analysed the effects of directors' interlocks and board busyness on the long-term share price performance of firms promoted in UK at the turn of the twentieth century. Using a dataset of firms admitted to trade on the LSE, the results consistently show that interlocking directorship and busy boards are associated with poor long-term performance. Particularly, the model results show that the interlocks of directors and busy boards negatively influenced the long-term performance of firms promoted during the rubber boom of 1910. The evidence from illustrative case studies of new issues randomly selected in 1910 consistently supports the empirical findings. These findings imply that interlocks and busy boards exert negative effects on firm performance and give support to the contemporary argument that holding multiple board positions has drawbacks, irrespective of the benefits. Hence, the number of board positions held by directors should be limited. The findings also show that the presence of political directors on boards reduced the negative effect of interlocks on performance, while the presence of aristocratic elites did not influence the relationship between interlocks and performance regardless of their previous experience.

The findings of this chapter give support to the proposition that the interlocks of directors serve as a legitimate resource for the focal firm. Furthermore, this chapter contributes to the argument that interlocking directorships exerts negative effects on performance despite the resources that could be acquired by directors from their external connections. Lastly, this chapter complements previous research which argues that busy boards negatively influence firm performance from a historical perspective.

7 Discussion and Conclusion

7.1 Thesis Background

The appointment of British elites to boards of directors has been extensively discussed in the business history literature. Their presence on boards facilitated access to a variety of resources such as finance, legitimacy, trust and lobbying in parliament (Amini and Toms, 2018; Rutterford, 2011; Rutterford et al., 2017). Despite these resources, there is no general agreement in the literature about the contribution of British elites, particularly the aristocratic class, to enhancing the performance of the firms on whose boards they sat (Braggion and Moore, 2013; Campbell and Turner, 2011). Aristocratic elites were mostly landowners with related land estate managerial experience and/or experience derived from dealings overseas, which could enhance the performance of firms in related industries (Brayshay et al., 2007; Raybould, 1984). Yet there is little or no empirical evidence that has examined the contribution of the land-related resources of aristocratic elites on the performance of firms.

The main aim of this thesis has been to examine the land-related resources of the aristocratic elites as it influenced their appointment to boards of directors and its contribution to enhancing share price performance. To do this, a primary dataset of firms promoted on the LSE from 1891 to 1914 was hand-collected. Firms were classified as land or non-land, based on the industry they were operating in, and directors were classified as aristocrats if they had any of the following titles: Duke, Marquess, Earl, Count, Viscount, Baron, Lord, Sir or Hon.[96]

The thesis examines the determinants of aristocratic elite representation on the boards of new issues, the influence of aristocratic elites on the subsequent performance of new issues, and the effect of interlocks on subsequent performance. The determinants of aristocratic representation on boards is addressed in Chapter 4 by examining three research hypotheses: (1) Land-related new issues were more likely to strategically appoint aristocratic elites to boards of directors to secure access to land resource in the UK; (2) Land-related new issues operating overseas were more likely to recruit aristocratic elites to their boards of directors in order to secure access to managerial expertise resource; and (3) New issues adopting new production processes or producing new product entirely strategically appointed aristocratic elites to boards of directors to secure access to legitimacy resource.

The influence of the resources of aristocratic elites on new issues' performance was addressed in Chapter 5 by examining the following research hypotheses: (1) The appointment of aristocratic elites to boards of directors positively influenced the long-term performance of new issues during the late

[96] The Standard Industrial Classification (1948) was used to group new issues into various industries.

nineteenth and early twentieth century; (2) The managerial experience of aristocratic elites positively influenced the long-term performance of land-related new issues during the late nineteenth and early twentieth century; and (3) Improvements made to the legal protection of shareholders under UK corporate law and improved disclosure regulations positively enhanced the effect of the managerial experience and agency role of aristocratic elites on the long-term performance of land-related new issues.

Chapter 6 investigates the effect of directors' interlocks on the subsequent performance of new issues by examining the following research hypotheses: (1) The long-term performance of new issues promoted in the UK at the turn of the twentieth century was positively related to having directors with interlocks; (2) The presence of busy directors on the boards of issues promoted in the UK at the turn of the twentieth century was negatively related to long-term performance, (3) Firms recruiting both elite directors and directors with interlocks were likely to have access to more resources, which should enhance performance in the long-term, (4) The presence of elite directors on busy boards had negative effect on the long-term performance of new issues promoted in the UK at the turn of the twentieth century.

In examining the stated research hypotheses, the thesis highlights the importance of the land-related resources of British aristocratic elites to the development of the British economy by using these resources to enhance firm performance.

A summary of findings is discussed in section 7.2, while section 7.3 discusses the contributions of this thesis to the literature.

7.2 Summary of Findings

The first empirical study in this thesis in Chapter 4 strongly suggests that the presence of aristocrats on boards is a major means of access through which new issues secured the scarce external resources required for their operations. The results given in this chapter show that land-related new issues operating mainly in the UK strategically appointed aristocratic elites to their boards of directors to secure access to land resource; land-related issues operating outside the UK strategically appointed aristocratic directors to gain access to managerial experience; and issues adopting new production processes or producing new products appointed aristocratic directors to secure legitimacy resource. Proceed from issue, boardsize, age and issue year effects are controlled for in the study. The results are robust to multicollinearity that could arise from reverse causality between the appointment of aristocrats and proceed, and boardsize. The evidence from illustrative case studies provides corroborating support for the empirical results. Overall, the empirical results and evidence from the

case studies confirms that the resources of aristocratic elites influenced their appointment to the boards of new issues.

The findings of the second empirical study in Chapter 5 highlight the importance of aristocrats in the development of the British economy by providing further evidence of the relevance of their resources to the subsequent performance of new issues, as measured through the three-year post-issue excess return. The results presented in this chapter show a positive and significant relationship between the presence of aristocrats on boards at time of issue and the long-term performance of new issues, after controlling for other factors that could influence subsequent performance.[97] By restricting the sample of firms to new issues classified as land and operating mainly outside the UK to examine the influence of the resource and agency roles of aristocrats on performance, the chapter shows that land-related new issues that recruited aristocrats performed better in the long-term compared to their counterparts without aristocrats. These results are supported with evidence from illustrative case studies. Interestingly, the chapter suggests the importance of institutional frameworks in the examination of board performance relationships by showing that the positive relationship between the presence of aristocrats on boards and subsequent performance was negatively moderated by institutional change. Overall, evidence in this chapter suggests that the land-related experience and international connections of aristocratic elites improved the subsequent performance of issues operating in their area of expertise and those promoted during the rubber boom.

The last empirical study of this thesis in Chapter 6 suggests that the external board connections of aristocrats and/or non-titled directors had no effect on long-term performance, except during the promotion boom where such connections negatively influenced performance. Two aspects of board external connections were considered: interlocks, measured as the total number of board positions held in other firms at the time of issue; and busy board, measured as a dummy variable, taking the value of 1 if at least half the board held three or more board positions in other firms at the time of issue. The results show no significant relationship between interlocks and performance; neither is there a significant association between busy board and performance. Furthermore, the chapter shows that the presence of aristocrats on boards had no effect on the relationship between interlocks and performance, while the presence of MPs positively moderated the relationship between interlocks and performance. The chapter also examines the effects of interlocks and busy board on two subsamples. The first subsample comprises share issues promoted between 1907 and 1911, and the second consists of new issues promoted during the boom in 1910. In the first subsample, the relationship between interlocks, busy board and performance was not significant. However, the second subsample shows that interlocks and busy board negatively influenced long-term performance

[97] The chapter controls for firm size and age, vendor ownership, track, underwritten issue, track, official quotation, the presence of military on the board, industry and issue year effects.

during the rubber promotion boom. These results are supported with illustrative case study evidence, which shows that the resources of directors with interlocks did not matter when they held many board positions. Overall, the chapter suggests that interlocks and busy boards had a damaging effect on performance.

In sum, the evidence in the thesis demonstrates that aristocrats were not appointed to boards of directors merely for their status but also for their resources, which had a positive effect on a firm's long-term performance, while their interlocks had no effect on performance.

7.3 Implications, Limitations and Future Research

The thesis contributes to an understanding of boards as the channel for resources, and as monitors of and advisers to managers to enhance firm performance. It provides further evidence on the importance of integrating resource roles and agency-based roles in the examination of board performance relationships. It also highlights the relevance of institutional frameworks on the board performance relationship, in that it contributes to academic discourse on the interrelatedness of internal governance control mechanisms and institutional frameworks (Oehmichen et al., 2017; Uribe-Bohorquez et al., 2018; Zattoni et al., 2017).

Furthermore, the thesis contributes to the ongoing debate on the effects of multiple directorships on performance. Scholars such as Filatotchev et al. (2018) show that the legitimacy resource firms are given by interlocks positively influences the short-term performance of new issues in the UK. In a historical context, this thesis finds no relationship between interlocks and the long-term performance of new issues, although interlocks were consistently used to secure legitimacy. However, if interlocks had any influence, they exerted negative effects on the long-term performance of firms that went public during the promotion boom.

The findings of this thesis have implications for various stakeholders. For firms faced with board composition decisions, Chapter 4 highlights the importance of considering the industry-related expertise of potential directors and their ability to secure other relevant resources that could enhance the long-term performance of a firm when making decisions about who sits on its board of directors. For investors seeking to maximise the performance of their investment, Chapter 5 suggests that investors should look for boards with directors who have related industry experience, as they have the ability to effectively monitor and advise managers and enhance firm value. This is particularly the case where firms are operating in regions with weak institutions because directors with related industry expertise can fill the vacuum created in the absence of tighten regulations.

For business historians, Chapter 5 also suggests that factors such as the regulations and the specific resources of an elite director should be examined in any study that examines the relationship between director and performance. Lack of evidence on these factors could explain the inconsistent results reported so far, particularly for studies on elite directors. For campaigners on board reforms, and in debates on limiting the number of external positions that directors can hold in other firms, Chapter 6 suggests that interlocks and busy boards negatively influenced the subsequent performance of firms. Hence, restrictions should be placed on the number of board positions that directors could hold.

This thesis is not without limitations. Regarding data, the main challenge was the time spent in hand-collection. Although the use of the three-year excess return from a buy and hold perspective to measure long-term performance of new issues is valid (Fjesme et al., 2018), estimating the cumulative average return for 36 months after issue, as suggested by Ritter (1991), might be a better approach. Further studies could look at this alternative approach. Also, the use of an operating performance measure, such as return on asset, might be a good alternative to checking the robustness of the resource performance relationship reported in Chapter 5. However, owing to the nature of data collection and time limitations, this information could not be obtained.

Care must also be taken in interpreting the results on interlocks and busy boards in Chapter 6. Data on the interlocks of directors and classification of firms into busy board or otherwise were restricted to the population of firms in the dataset. However, a director could have external board positions in other public firms or new issues raising debt finance, which were excluded from the main dataset. The implication is that the external board positions of directors may have been understated because the study does not obtain interlock information from the universe of directors for the period under review.

The definition of aristocratic title is not without limitation. This thesis broadly defines aristocratic elites as any director with the title Duke, Marquess, Count, Earl, Viscount, Lord, Baron, Sir or Hon as an aristocrat. The distinction between these titles is that the first six titles are classified as peerage titles, except Count, which is a European nobility title that is equivalent to Marquess, while the title Sir is used by knights and baronets, with the latter having the title 'Bart.' at the end of their name, and the title Hon mostly used by the sons of peers.[98] This distinction is particularly important because new aristocrats who were not necessarily landowners emerged in the UK towards the end of the nineteenth century. The implication is that some individuals classified as aristocrats may not have possessed land-related skills or experience in overseas dealing as they may have been awarded a knighthood based on activities that were not related to the focus of this study.

[98] There were only three directors with the title 'Count' in the dataset.

Furthermore, the definition of protection used to proxy institutional framework in this thesis is not without concern. Other studies on institutional quality, such as Oehmichen et al. (2017), measure regulations on information disclosure separately from the legal protection available to shareholders against misappropriation by insiders. But in this study, protection available to shareholders has been measured as a composite of changes made to UK corporate law on the protection of minority shareholders and information disclosure. Hence, the results in this study should be interpreted with caution.

Several issues worth further investigating emerge from this thesis. First, does the determinant of the representation of aristocratic elites on the boards of land-related issues and issues adopting new production processes persist in other industries, where elites other than aristocrats would be resourceful? In examining the board performance relationship, this thesis focused on long-term performance. It might be insightful to examine immediate market reactions to the appointment of aristocratic elites to the boards of land-related issues from the integrated view of resource dependence theory and agency theory. Also, the descriptive evidence in Chapter 6 shows that the interlocks of directors were used to certify the underlying value of firms at the turn of the twentieth century. Future research examining the relationship between the short-term performance of issues and the interlocks of directors for the period could lead to greater understanding of the importance of legitimacy resource.

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Appendix

Appendix A: Excess Return

Ritter (1991) show that new issues market is subject to over-optimism and fads, this is particularly true for the LSE during the late nineteenth and early twentieth centuries (Fjesme et al., 2018). For example, the cycle and related industries had a promotion boom in the mid-1890s (Amini and Toms, 2018), as well as a rush in rubber promotion in 1910. Under these market conditions, the examination of long-term share price performance would alleviate the problem of market fads and over-optimism. Hence, this study relies on the use of excess return from the buy and hold strategy to examine the long-term performance of new issues following the study of Fjesme et al. (2018). The buy and hold strategy means investors should buy shares and leave it for a long period to realise good returns (Cohen and Cabiri, 2015; Shiryaev et al., 2008). The strategy is based on the efficient market theory which argues that in the long-term share prices efficiently reflect available information and firm value (Malkiel, 2003). More importantly, the buy and hold strategy has been shown to be effective in measuring long-term performance as it replicates shareholders' experience (Strong, 1992). Therefore, the use of excess return from a buy and hold strategy is the most appropriate measure of long-term performance for this study. Hence, excess return is measured as the difference between share return and market return three-year after issue.

Share return three-year after issue is defined as follows:

$$\text{Share return}_{it} = \left(\left(\frac{\text{Share price}_{it}}{\text{Offer price}_{it}} \right)^{\frac{1}{n}} - 1 \right) \times 100 \qquad \text{(A.1)}$$

Where share price is the price of firm i three-year after it first appeared on the *LSE Listing Application Report Book*, offer price is the price advertised in the prospectus of firm i at the time of issue, and n is three-year holding period.

Market return three-year after issue is defined as follows:

$$\text{Market return}_{mt} = \left(\left(\frac{\text{Market index}_{3}}{\text{Market index}_{t}} \right)^{\frac{1}{n}} - 1 \right) \times 100 \qquad \text{(A.2)}$$

Where market index_3 is the market index on the three-year anniversary of firm i, market index_t is the index at the time firm i advertised its prospectus and n is 3 years holding period.

Excess return is then defined as follows:

$$\text{Excess return}_{it} = \text{Share return}_{it} - \text{Market return}_{mt} \quad \text{(A.3)}$$

Where share return is the three-year return of firm *i*; market return is the three-year return of market index. A positive excess return is interpreted as firm *i* outperforming the market; a negative excess return indicates firm *i* performed poorly.

Appendix B: Yearly Distribution of Share Return, 1891–1911

Year	Obs.	Mean	P-value
1891	4	5.216	0.190
1892	4	-14.713	0.282
1893	2	25.192	0.145
1894	6	7.989	0.338
1895	15	3.412	0.713
1896	19	-17.994	0.003
1897	23	-14.342	0.021
1898	25	-9.997	0.019
1899	15	-17.145	0.016
1900	8	-10.193	0.163
1901	4	12.954	0.622
1902	3	-11.363	0.419
1903	6	-0.990	0.909
1905	3	8.462	0.791
1906	15	15.671	0.057
1907	14	-0.260	0.980
1908	15	15.031	0.073
1909	24	18.845	0.034
1910	121	-17.348	0.000
1911	26	-15.976	0.001
Total	353	-7.738	0.000

Note: One sample t-test of share return