

**A Historical Study of the Role of Cost
Accounting on Performance in the UK
Confectionery Market:
The Experience of Cadbury and
Rowntree 1919-38**

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Abstract

Rowntree's and Cadbury's emerged in the latter half of the nineteenth century as two of the UK's major confectionery firms. By 1918 they had achieved national prominence through the manufacture and marketing of distinct products. Their growth during the interwar period reflected the broader development of non-durable consumer goods within the British economy.

The increasing size and complexity of these companies -- a direct consequence of their commercial success -- meant that effective management became critical to their continued ability to compete in the UK confectionery market. In addition to competencies in production management, planning, sales, marketing, distribution and labour management, which became increasingly necessary for the successful control of growing firms, this thesis argues that cost accounting was also a key determinant of this success. Rowntree's and Cadbury's pursued different paths to the introduction and development of their respective cost accounting capabilities. This was reflected in the level of technical sophistication they had achieved by the outbreak of World War II. These important differences are identified and explained.

The end of the Great War created a changed landscape for the UK confectionery industry and the response of the two companies to this new environment is assessed and explained by a wide range of comparable financial performance measures which were known to contemporaries. Using a wide range of accounting metrics this thesis argues that the prevailing view in the historiography -- that Cadbury's achieved superior performance -- needs substantial re-assessment. The extent to which the role of cost accounting contributed to this performance is considered, including examples where failings played a part in inferior performance. This is an important addition to business history by the exploration of the role of cost accounting in an industry not previously studied, and its impact on performance that is considered in a wide context.

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doubted for an instant that I could do this. In addition, inspiration was gained from my mum who has demonstrated strength, courage and stoicism in the face of enormous adversity.

Declaration

I declare that this thesis is all my own work and the sources of information and material I have used have been fully identified and properly acknowledged as required by the University guidelines.

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Introduction

Background

Every dissertation leading to a PhD must have had a genesis as to why the topic area was originally chosen for scrutiny. For this thesis that genesis moment is lost somewhere during the time that the author worked at Rowntree's from 1979 until 2004 as a practicing cost and management accountant.¹ Commencing work at Rowntree's in 1979 involved the understanding and acceptance of the existing corporate culture of the company that was firmly rooted in the fundamentals of social responsibility surrounding the Quaker faith of the founding family. In addition to this cultural base, most long-standing organisations of over 100 years would also have had a history of traditions that were to become the basis for the way in which the company operates. These loose traditions have been identified by Johnson as a "Cultural Web", whose main elements include stories, rituals, symbols, routines, control systems and organisational power structures.² Johnson suggested that the loose affiliation of elements that surround a company are collectively a way of preserving its identity and could be described as "the way we do things around here", which is then passed on to new employees.³ With these principles in mind, one of the "stories" which was constantly being referred to within the finance department at Rowntree's, and particularly by the older members, was the acceptance that the cost accounting techniques which were currently being used had first been suggested and implemented prior to World War II. In addition to this perceived fact was the belief that superior competence in these techniques was the foundation of the company's success that was then being enjoyed. Whilst at the time this perception within the finance department could have been interpreted as being one of 'blowing your own trumpet'. An alternative suggestion is that it was a response to the accepted belief that Rowntree's success was based on primacy in product development and marketing. But, like all stories and myths that are passed down, the constant nagging at the back of my mind was how much truth is there in this perception – and could it be established? Furthermore, did this perceived superiority in cost accounting provide a significant and measurable contribution to overall company performance?

¹ 1979-1988 as Rowntree plc, then from 1988-2004 as the Rowntree Division of Nestle(UK) Ltd. following the takeover of the business.

² Johnson, "Managing strategic change".

³ Ibid.

The eventual suggestion that perhaps there was a structured avenue whereby this thesis could be tested came from an original discussion with Professor David Otley at Lancaster University, when he and the author were both members of the Business Process Research Group (BPRG)⁴, and a subsequent collaboration in support of Professor Otley's research at the time into the problems associated with the introduction of new management accounting techniques into large organisations. Professor Otley is an enthusiastic champion of the case-based approach to accounting research and following detailed discussions it appeared feasible that a comparative study into the introduction of cost accounting principles at Rowntree was possible. Professor Otley has published extensively on the case method of inquiry.⁵ The notion of a comparative study was important, and led to the natural identification of Cadbury as Rowntree's closest competitor.⁶ Over a period of time this original concept was developed further and eventually formulated into a formal research proposal. Given that the original idea for the project emanated from stories at Rowntree's that pre-eminence in cost accounting was achieved prior to World War II, it seemed appropriate to carry out the study over the 20 year time period of 1919-38. Within this nominated period, the scope of the project is to provide answers to the following research questions:

1. What was the extent of the development and implementation of cost accounting techniques by Cadbury and Rowntree, and how did this enable them to compete in the UK confectionery market between 1919 and 1938?
2. How did cost accounting capability contribute to their corporate performance in the period between 1919 and 1938, and how did any deficiencies in cost accounting sophistication impact upon this performance?

It is important to point out that in both companies the emphasis was predominantly on the UK home market prior to World War II, the export market was relatively insignificant and any overseas activity was carried out mainly through manufacturing

⁴ The BPRG was a distant descendant of the Management Research Groups (MRG's) that had been established by Seebohm Rowntree in the 1920's as a forum to share and discuss contemporary topics relating to management issues.

⁵ See for example Otley and Berry *Case-Based Research in Accounting* in Humphrey and Lee, (eds.) *Real Life Guide to Accounting Research*.

⁶ Cadbury emerged as the natural comparator given that company had a similar background to Rowntree, being a Quaker company and had also been in existence since the mid-nineteenth century.

subsidiaries in the British Empire.⁷ The primary reasons for the lack of emphasis on export markets were the perishable nature of the products combined with the devastating effects of the Great War on overseas markets. Even trading with countries of the British Empire such as Australia, New Zealand and South Africa, the effects of local taxation meant that profits were meagre.⁸ Consequently the focus of this study is on the performance of the two companies within the UK confectionery market during the interwar period.

A preliminary examination of the literature, revealed previous organisational studies on the development of cost accounting in the traditional industries of coal mining, iron and steel, chemicals, textiles and shipbuilding. The research in these “old” industries has thus far has been principally conducted by the ‘Cardiff School’⁹. The case study in this thesis reflects the “old” versus the “new” debate in the interwar period and therefore provides new insights as to the different ways in which techniques such as cost accounting could be applied.¹⁰ The confectionery market provides an important example of this trend of “new” industries and this thesis makes a substantial and original contribution to knowledge by providing an in-depth analysis of the introduction of cost accounting and how this affected performance. In addition, this thesis provides a major revision of accepted scholarship on “performance” by focussing on the application of heterogeneous measures that were known and understood at the time, derived from the contemporary literature.

This thesis will argue that the differing approaches and development of cost accounting at Rowntree’s and Cadbury’s had consequences on the way that each company competed in the UK confectionery market during the interwar period. For Rowntree, the evidence in this thesis demonstrates that they developed a superior competence in cost accounting that enabled the company to survive at a time when their branded product portfolio was not as strong as Cadbury’s. For Cadbury, however, the possession of superior brands was not maximised in terms of superior

⁷ See Fitzgerald, *Rowntree and the Marketing*, p. 511 and Cadbury Brothers, *Industrial Record*, pp. 76-81.

⁸ Ibid.

⁹ Wilson and Thomson, *The Making of Modern Management*, pp. 236-237. The ‘Cardiff School’ comprises Boyns, T., Edwards, J.R., Anderson, M. and Matthews, M.

¹⁰ An example of the debate surrounding “old versus new” industries has been provided by Weir, R. (1989) Rationalization and Diversification in the Scotch Industry, 1900-1939: Another Look at ‘Old’ and ‘New’ Industries. *The Economic History Review*, 42: 375-395

performance. This was a consequence of the failure to develop their cost accounting capability in support of the execution of a cost reduction/price cutting strategy.

This thesis will also demonstrate that for both companies, but especially so for Cadbury, the inability to understand and incorporate the principles of price elasticity had a significant effect on the effectiveness of their sales and brand policies. This had consequences in terms of performance because profit maximisation selling prices could not therefore be determined.

The findings in this thesis challenge the accepted view of interwar performance of the two companies under scrutiny that can be found in the business history literature, and provides an alternative perspective of what is described as “superior” or “inferior” performance.

Methodology

Although the topic area of this thesis is concerned with the technical arrangements in cost accounting that Cadbury and Rowntree attempted to establish prior to World War II, and its effect on performance, it is important to recognise at the outset that this thesis falls within the boundaries of “Accounting and Business History”. Therefore if deemed to be an applied historical study of the two nominated companies, the argument should be supported and informed by the accepted cost accounting conventions during this period.

As a broad starting point as to how the study should be approached from an historical perspective, it is useful to consider the suggestion by Boyns and Edwards¹¹ that any study of accounting, in whatever guise, should be viewed in an organisational context and critiqued not according to the contemporary best-practice, but rather as to whether it satisfied the needs of the business. They concluded that the best method to approach this should be based on organisational studies supported by company archival research. This knowledge, they argued, is obtained by studying the practices used and then discovering when, how and why they changed, combined with an identification of any consequential effect. In addition, a broader business history perspective outlined by De Jong, Higgins and Van Driel is also appropriate to this study:

¹¹ Boyns and Edwards, *A History of Management Accounting*, p. 8

“All businesses are different because they have unique characteristics and, over time, each will follow a different path of growth or decline. In our view a scientific analysis should aim to understand why managers, entrepreneurs and employees involved in companies have made certain strategic decisions, why companies change over time, why businesses perform better or worse in terms of, for example, revenues, profits or survival.”¹²

This study will engage with these observations, albeit from a particular cost accounting perspective, but it does recognise that competence in any functional process has a direct influence on managerial decisions of a more general strategic nature. With this in mind, the perspective to be approached in this study has been described and identified as “Mainstream Managerialist” by Rowlinson, Toms and Wilson, who characterise this as the time in which managers rationally craft strategies and then organise their structures and processes to support this, which from subsequent conclusions can then be supported by carrying out appropriate company archival research.¹³

In addition to the identification of the internal processes at work, a wider social and economic viewpoint is also deemed relevant, in which the suggestions by Hopwood in his seminal work are considered here to be appropriate.¹⁴ Hopwood put forward the argument that research into accounting should not merely focus on an analysis of the technicalities involved, but should also include a consideration of the managerial processes underpinning development and how these can be related to broader environmental factors, thereby placing accounting into a societal context.¹⁵ This concept is also supported by Fleischman, Mills and Tyson who also maintained that only with an understanding of context through recognition of the broader society, will the task of a historical study of accounting be complete. In addition they also made the point that in order to understand context, accounting historians should also be prepared to consider knowledge from other disciplines such as economics, philosophy, sociology and political economy.¹⁶ Scapens also concurred with the importance of economic and social trends, but also suggested that there are also

¹² De Jong, Higgins, and Van Driel, “New Business History”, p. 5.

¹³ Rowlinson, Toms and Wilson, “Competing perspectives”, p. 247. The other three alternative perspectives suggested by Rowlinson, Toms and Wilson are ‘Mainstream Anti-Managerialist’; ‘Radical Managerialist’; ‘Radical Anti-Managerialist’.

¹⁴ Hopwood, “The archaeology of accounting systems”.

¹⁵ Ibid, pp. 207-208.

¹⁶ Fleischman, Mills and Tyson, “A theoretical primer”, p. 62.

factors which are unique to particular organisations which may have influenced the way in which cost accounting was introduced and developed.¹⁷ He concluded that a clear understanding of the forces at work within the organisation are required in order to make sense of what occurred when interpreting company archives.¹⁸ However, as Boyns and Edwards pointed out, care needs to be exercised in how terms were used then and how they may differ from current practice. They provide the example of the use of the term “budgetary control” as an illustration of the many ways this technique was perceived and understood by different people working in disparate companies prior to World War II.¹⁹

In the light of the approaches discussed above, the method adopted in this thesis is firstly to carry out literature reviews to establish the broad external environmental forces at play during the period under scrutiny, the issues relating to the UK Confectionery Market during this period in order to establish the currently accepted version of events and finally to establish the contemporary and business history explanation of the development of cost accounting and the methods surrounding financial performance appraisal. Once the extant evidence surrounding the development of cost accounting and its wider environmental context has been established, the existing company archives for both Cadbury and Rowntree are interrogated, and to report on these findings. In addition to the internal company documents studied, any other appropriate written material will also be sourced, both published and unpublished. Following the examination of archival and other material, a consideration of the published financial statements will be carried out to apply contemporary performance measurement techniques to both companies to identify any perceived superiority. Finally, conclusions are drawn from the evidence derived from the process of this thesis and the context as to how the original research questions have been answered.

Structure

Having outlined the methodology the thesis is divided into four logical sections: literature review, fieldwork and data collection, data analysis and conclusions.

¹⁷ Scapens, “Understanding management”, p. 10.

¹⁸ Ibid.

¹⁹ Ibid., p. 8.

Chapters within each section provide the evidence to support the thesis and the research questions identified above.

Section 1 – Literature Review

Chapter 1. This chapter considers and describes the wide-ranging contemporary external environmental forces that impacted on the UK Confectionery Market and the individual manufacturers who supplied and competed in this market. The environmental factors that are identified include: a) Economic Factors (Economic Growth & Industrial Development, Living Standards, Unemployment, Transport, Retail Trade); b) Socio-Cultural Factors (Population & Demographics, Consumerism, Diet, Advertising & Branding); c) Technological Factors (Technological Development, Confectionery Manufacturing Processes, Packaging Technology).

Chapter 2. This chapter focuses on the extant published reports surrounding the establishment and evolution of the UK Confectionery Market and how it was affected by the complex external forces described in chapter 1. Although the scope of this dissertation is primarily the interwar years, this chapter discusses events prior to this period in order to provide appropriate background. To provide some context to this chapter, a discussion on raw materials prices, is followed by comments on the structure of the market, including the identification and explanation of terminology. Having established a framework to the industry, a detailed analysis of the key timeframes establishes the evolution of the UK confectionery market. The analysis covers the origins and early developments up to 1870, the period of growth and expansion from 1870 to 1914, the impact of the Great War from 1914 to 1918 before concentrating on the years concerning this project, from 1919 to 1938 which was an era of maturity and mass market.

Chapter 3. The circumstances surrounding the development of cost accounting, financial performance measurement and the level of sophistication are examined. This is achieved by examining the contemporary literature and the perspective of business and accounting historians. The chapter commences by placing cost accounting into context by examining its relationship with systematic and scientific management, as well as the interface with traditional financial accounting. From this platform the contemporary literature on cost accounting is examined divided into the three important elements of costing, distribution costing and budgeting will then

discussed in the business and accounting history literature along with a review of some alternative interpretations on the development of cost accounting by some commentators. In the same vein, the review of the literature on financial performance measurement is also divided into the contribution from the contemporary as well as the business and accounting history works.

Section 2 – Fieldwork and Data Collection

Chapter 4. Archival and other data collection work on cost accounting at Rowntree's is presented in this chapter. This was obtained principally from the official Rowntree corporate archive stored at the Borthwick Institute, University of York. The records that were scrutinised date from 1869 and coincide with the arrival of Joseph Rowntree at the business. Prior to this date, no record of cost accounting activity was found. The chapter therefore commences by examining the beginnings of cost accounting activity at the company between 1869 and 1918. Having established the impact of Joseph Rowntree on the development of cost accounting, the progress made after the Great War is examined by placing the subject in an organisational context which emphasised efficiency that was a paramount objective of the business. The circumstances regarding the establishment of a functional cost office in 1918 are reviewed, which permits a detailed assessment of the company's achievements in costing procedures and budgeting for the time period under scrutiny and coincides with the establishment of Seebhom Rowntree as chairman elect. The cost office is placed in context of the wider organisational changes that took place as a response to the acceptance of the concept of functionalisation following the end of the Great War. The achievements in the progress made in cost accounting during the interwar period are identified.

Chapter 5. This chapter summarises the archival record for Cadbury, held at Cadbury HQ in Bournville, Birmingham. Similar to the approach taken at the Rowntree archive, the natural starting point for the research was 1861 to coincide with the arrival of George and Richard Cadbury at the business. Prior to this date no record of cost accounting activity was found. The chapter commences by examining the foundations of cost accounting activity at the company from 1861 to 1902 and the establishment of a functional cost office in 1903. Following this, the period from 1903 to 1918 is considered in which the overall organisational context is considered

that led to the formalising of costing procedures based on the early quest for efficiency at the company. The years of progress following the Great War, 1919 to 1938, are then scrutinised specifically in the role that cost accounting had on the relentless quest for efficiency by the company. The extent of the achievements in costing procedures, distribution costing and budgeting during the interwar years are presented.

Section 3 – Data Analysis

Chapter 6. Based upon the published financial statements of Cadbury and Rowntree, an examination of their respective financial performance in the years 1919-38 is conducted, based on reconfigured income statements and balance sheets to ensure compatibility of measurement. The measurement of performance is divided firstly into what might be described as ‘absolute performance’ in terms of a comparison of actual reported sales revenues, gross profit, operating profit and market share. Secondly, performance is also considered in terms of relationship or financial ratios which were known and mentioned by the majority of the contemporary commentators. These are current ratio, gross profit ratio, operating profit ratio, operating profit to net worth ratio, sales to net worth ratio, sales to inventory ratio, sales to receivables ratio, debt to net worth ratio, sales to fixed assets ratio and the net worth to fixed assets ratio. Combining the absolute and relationship ratio measures, the comparative performance of Cadbury and Rowntree is evaluated for the entire period from 1919 to 1938 before making a more detailed interpretation in five-yearly time frames to provide a more comprehensive study. The analysis provides an insight into the consequences of the strategies that were being followed by both companies. The principal strategy for Cadbury, that of sales revenue growth driven by a policy of market price reductions, that were enabled by cost savings due to mechanisation efficiencies, failed to achieve the expected growth in profits, return on investment or market share. In addition, this failure was combined with serious deficiencies in working capital management. The performance for Rowntrees is also characterised by disappointing profitability, return on investment and market share. But unlike Cadbury, there was much less volatility throughout the period, and additionally the company also achieved superior working capital management, ensuring a less risky proposition for investors.

Chapter 7. Having established and reported the overall and detailed financial performance of both Cadbury and Rowntree, the extent to which cost accounting techniques contributed to this performance is examined. Following the interrogation of the company archives at both Cadbury and Rowntree, the capabilities that cost accounting influenced were pricing decisions, the application and measurement of efficiency, the recognition and control of overheads and finally with regard to budgeting and forecasting. The extent to which these factors were supported by cost accounting competence at both companies is scrutinised together with suggestions as to where a lack of sophistication may have adversely affected performance. For Rowntree's, their adoption of marginal costing techniques meant that they could vie for business that they would otherwise have rejected under total cost configurations, thereby embracing niche markets. Cadbury's lack of sophistication in the interpretation of cost accounting information saw their low price high volume strategy stutter in the face of an ignorance regarding the level of sales volume that would be required to compensate for revenues lost through the reductions in price. It is also suggested that failure to apply price elasticity of demand principles contributed to Cadbury's deficiency in achieving superior returns. In addition, for both companies, an assessment of the consequence of their inability to implement company-wide budgetary control systems is made to determine the effect this had on overall company performance.

Section 4 – Conclusions

Chapter 8. The conclusions are divided into the way that both companies established a relationship with the environment, the extent of their organisational capabilities, the success in the formulation and implementation of strategy, the pathways to cost accounting, the level of sophistication that was achieved and finally a discussion on the overall implications for both Cadbury and Rowntree. Cost Accounting capability clearly had a profound effect on both company's ability to compete in the UK confectionery market during the inter-war years. The measurement and perception of performance is considered important in the final evaluation, as is the challenging of long-held beliefs in the literature regarding superiority of one company over the other.

Section 1 – Literature Review

Chapter 1

The External Environment

1.1 Introduction

As previously explained in the Introductory chapter, any historical study into the cost accounting developments of two major British companies such as Rowntree's and Cadbury's has to be viewed in relationship to the external factors at the time and how these influenced the development of their businesses. These factors applied to all companies at this time. The two companies under consideration were founded in the middle of the 19th century at a time of great economic, social, cultural, technological and legal change. These external factors all had some effect on why they grew from relatively small enterprises into major multinationals by the outbreak of World War II. Although the specific era of the study is the interwar years (1919-38), it is important to understand the factors that enabled the two companies to emerge and develop in a wider time frame. Therefore, the external environment from the middle of the nineteenth century to the outbreak of World War II will be examined.

1.2 Economic Factors

Economic Growth and Industrial Development

The growth in consumer dependant companies like confectionery manufacturers was linked inextricably to the overall performance and development of the economy as a whole. The UK economy from the middle of the nineteenth century up to the beginning of World War II underwent major structural changes. In terms of economic growth, GDP provides one accepted measure which has been regarded as an indicator of the relative performance of different countries. Crafts has analysed previously published data provided an analysis of UK GDP average percentage growth figures for this period in Table 1.1.

Table 1.1 GDP Annual Growth Rates 1800-1937

Year	GDP Growth Rates
1856-73	2.2%
1873-82	1.7%
1882-89	1.6%
1889-99	2.2%
1899-07	1.4%
1907-13	1.7%
1924-29	2.4%
1929-37	2.0%

Source: Crafts (2004, p. 13).

Previously commenting on the trends in the GDP growth rates during this period, Matthews, Feinstein and Odling-Smee, claimed that whilst the growth rates appear to follow a U-shape, they were consistently lower than most other industrialised nations, particularly from the 1870's onwards by an average margin of 1% per annum. They concluded that as there was a persistent shortfall in the UK growth rate, the level of income also declined relative to other countries. They also pointed out that it is quite difficult to identify long-run phases of growth in the UK economy, due to World War I and the high levels of unemployment during the inter-war period. However, roughly speaking between 1856 and 1913, there was a peak in 1870 and a trough in the 1880's, with another peak around 1900 and a trough in 1913, which provides some supporting evidence for "long-swings" of approximately 20-year periods in the UK economy. These "swings" in the economy had consequences for companies relying on growth in consumption, and would have been a critical factor influencing corporate strategy for many firms.²⁰

In the intervening years there has been a vigorous debate on the real performance of the UK economy, with differing explanations of why the economy did not perform as well as some of the UK's main industrial competitor's like Germany and the USA.

Whilst these explanations seem plausible, Crafts has commented that the situation is not as straightforward as first appears. He put forward the proposition that an alternative way of approaching the situation would be to take account of the TFP

²⁰ Matthews, Feinstein and Odling-Smee, *The Timing of the Climacteric*.

(Total Factor Productivity) which is the weighted average of the growth of productivity of the individual factor inputs such as capital stock, elasticity of output and the contribution of the labour force.²¹ Whilst the TFP allows a different perspective on the measurement of growth in the economy, Crafts demonstrated in Table 1.2 that the annual averages show a not too dissimilar pattern in comparison to that of the GDP figures.

Table 1.2 GDP and TFP Growth Rates 1856-1937

Year	GDP Growth	TFP Growth
1856-73	2.2%	0.8%
1873-82	1.7%	0.4%
1882-89	1.6%	0.2%
1889-99	2.2%	0.8%
1899-07	1.4%	-0.1%
1907-13	1.7%	0.5%
1924-29	2.4%	1.0%
1929-37	2.0%	0.6%

Source: Crafts (2004, p. 13).

Crafts argued that growth in TFP is the consequence of a combination of external forces and the internal dynamics of a country and reflects both the difference in technology and the efficiency of labour and capital.²² McCloskey claimed that the growth in the UK economy was constrained to some extent by the resources and technology available. He went on to cite the inability of UK businesses to embrace technological changes during the nineteenth century, and to adopt modern management techniques, particularly from the USA as being crucial deficiencies. The belief that external factors drive TFP is reinforced by the notion that productivity per capita in the UK was no worse than other industrialised countries.²³ Nelson and Wright have pointed to the fact that there was more innovative technological activity in the USA and elsewhere, and this could have been the driver of relatively poor performance in the UK, particularly as it is suggested that at the time, the transfer of technology between nations was not particularly easy.²⁴ Crafts explained that the different circumstances in the USA for example meant that economic growth was an

²¹ Crafts, *Long Run Growth*, p. 13.

²² *Ibid*, pp. 3-4.

²³ McCloskey, *Did Victorian Britain*.

²⁴ Nelson and Wright, "The rise and fall".

easier proposition than in the UK due to factors such as a larger domestic market, which allowed R&D costs to be spread much further, and crucially the superior education system which provided more skilled scientists, engineers and technicians. He concluded that the USA would perform better overall than the UK was therefore unavoidable, thereby supporting the McCloskey view.²⁵

The overall trends in the UK economy are therefore linked inextricably to the growth and performance of businesses and the rise of industrialisation which gave rise to larger companies²⁶. As has already been suggested the genesis of the modern large corporation was founded in the USA and migrated to other industrial nations like Germany, Britain and Japan during the nineteenth century. According to Boyce and Ville, prior to 1850 most firms were small in scale and constrained by access to capital as well as the limitations of markets at the time. However, after 1850 larger scale enterprises became more prominent across many industries which meant more concentration of producers into oligopolistic structures. They claim that factors such as higher scales of efficiency were driving forces which meant that could sustain and develop the demand at an earlier stage.²⁷ This view is also supported by Hannah (1983), who discusses how efficiencies were achieved through economies of scale via the integration of manufacturing with distribution and retailing.²⁸ Hannah pointed out that the achievement of these efficiencies coincided with the rapid increase in the number of firms in domestic manufacturing with quotations on the London Stock Exchange, claiming that between 1885 and 1907 these had grown from only 60 to over 600 during this period.²⁹ It is worth noting, however, that more than 80% of these firms were private rather than public companies, highlighting the common practice of founding families retaining a major interest in the newly floated company. Hannah also concluded that conditions of competition during the last half of the nineteenth century created the impetus for firms to amalgamate together, forming a greater concentration of output, which he claimed gave rise to more division of labour to accommodate the mass market. This combined with a more standardised approach

²⁵ Crafts, "Forging ahead".

²⁶ Part of the explanation had been put forward by Macrosty, *The Trust Movement*, p. 329, who demonstrated the prevalence of combinations (both horizontal and vertical) during the latter part of the nineteenth and early part of the twentieth century.

²⁷ Boyce and Ville, *The Development of Modern*.

²⁸ Hannah, *The Rise of the Corporate Economy*.

²⁹ Ibid.

to the development of common products led to the increasing propensity for larger scaled production using capital-intensive processes.

The large proportion of family-owned and controlled firms observed to by Hannah, are thought by some commentators to be a reason for the decline in UK competitiveness. Early commentators such as Aldcroft put forward the hypothesis that it is was a failure of entrepreneurs in the UK to adapt to the challenges of the changing conditions of the late nineteenth and early twentieth century's.³⁰ This idea has also been supported by Chandler who criticised the prevalence of the family firm as being an anachronism by the end of the nineteenth century, claiming they were more concerned with current returns in the form of high dividends thereby starving the firm of investment.³¹ Chandler contrasts this with a more 'Managerial' approach to business in the United States, which he claimed was the reason why American economic growth was superior to that in the UK.³² Payne has also contrasted the emergence of large scale enterprises between the UK and the USA but he found no evidence that organisational structures and managerial ability were superior in the USA. He argued that it was more of a benefit from monopoly power in some industries in the USA which gave some companies the time to develop their organisational capabilities.³³ Lazonick also stated that many UK family firms were too conservative and inward-looking in which they failed to invest in new technology and marketing techniques.³⁴ However, the validity of this criticism of the UK family firm has been called into question by some later commentators, notably Church who suggested that whilst some family firms could have been limited in their development by a more conservative approach, there is no convincing evidence that companies who were controlled in a more managerial style, as quoted by Chandler, did perform any better, or were immune from the dysfunctions which affected family firms.³⁵ Church then pointed out the fact that different industrialised countries at the time, notably Germany and Japan as well as the UK, all had a high proportion of family controlled firms. From this he asserted that it is the cultural environment in which the

³⁰ Aldcroft, "The entrepreneur".

³¹ Chandler, *Scale and Scope*.

³² Ibid.

³³ Payne, "The emergence of the large".

³⁴ Lazonick, *Business Organisation*.

³⁵ Church, "The family firm".

family firm operates as being the key factor, rather than the structural forms of the business.³⁶

Living Standards

The impetus for the emergence of consumer-led companies during the nineteenth century was the consequence of rising overall living standards. However, the measurement of living standards in the UK during this time period and the debate on the validity of data has been the paradox of the accepted growth in living standards and high rates of urban poverty and depravation.³⁷ Rather than simply taking a single measure, Boyer suggested that there are two broad areas where any changes in living standards can be measured : Economic (Real Wages, Cost of Living) and Biological (Life Expectancy, Infant Mortality, Weight, Height, BMI).³⁸

Given the suggestion that these measures are important to the understanding of trends in living standards, Boyer has provided data surrounding the growth in real wages during this time (as measured in annual growth rates):

Table 1.3 Growth in Real Wages 1856-1938

Year	Growth in Real Wages
1856-73	1.81%
1873-82	1.02%
1882-99	1.58%
1899-13	0.29%
1913-24	1.28%
1924-38	1.17%

Source: Boyer (2004, p. 284).

A later study comparing the growth in real wages in the UK to that of Germany has shown that during the period 1871 to 1938 the average UK worker was better off than their German counterpart. The study showed that during the period of their analysis, the closest that the German wages came to the UK level was 83% in 1913 and the same in 1937.³⁹ Also from the suggestion that Biological factors are equally important in the measurement of living standards, Woods has analysed the expected

³⁶ Ibid.

³⁷ Hobsbawn, *Industry and Empire*.

³⁸ Boyer, *Living Standards*.

³⁹ Broadberry and Burhup, "Real Wages", p. 5.

life expectancy during this period (as measured in years),⁴⁰ and Mitchell (1988) has identified the infant mortality rate, as measured by infant deaths per 1,000 live births:⁴¹

Table 1.4 Life Expectancy and Infant Mortality Rates 1856-1939

Year	Life Expectancy	Infant Mortality
1856-73	41.1 years	153.1
1861-70	41.2 years	154.1
1871-80	43.0 years	148.8
1881-90	45.3 years	141.8
1891-00	46.1 years	153.5
1901-10	50.9 years	127.3
1920-22	53.5 years	111.0
1922-30	57.6 years	71.8
1933-39	60.8 years	58.9

Source: Woods(2000, p. 297); Mitchell(1988, pp. 57-8).

The data in Table 1.4 demonstrates the dramatic rise in expected life expectancy of the average individual during this period, combined with the steep decline in infant mortality during the same period up to World War II.

In addition to the suggestions of Economic and Biological measures of living standards, there have also been attempts to include what is known as the “Human Development Index” (HDI) as developed in the Human Development Report(1990).⁴² The aim of the HDI is to extend the measures used to include income, longevity and knowledge, and has been extended further by Dasgupta and Weale to incorporate measures of political and civil rights.⁴³ However, Crafts has disputed that a comprehensive all-inclusive measure can be relied upon due to the complexity of the relative weightings which could be given to each component.⁴⁴

The importance of approach using different criteria to measure living standards is highlighted by the fact that during the course of the nineteenth century there was a

⁴⁰ Woods, *The Demography of Victorian*.

⁴¹ Mitchell, *British Historical Statistics*.

⁴² United Nations Development Programme (1990) *Human Development Report*. Oxford: Oxford University Press.

⁴³ Dasgupta and Weale, “On measuring the quality”.

⁴⁴ Crafts, “Some dimensions”.

large migration of the population from rural to urban areas.⁴⁵ This population move to the industrialised sector in some ways helps to explain the significant increases in real wages alluded to above. However, this also meant a deterioration in some other aspects of living standards such as housing. Woods commented that a closer inspection of the life expectancy statistics in terms of the mean average demonstrates that the figure for urban dwellers is much lower than for the rural population, concluding that the move to an industrialised environment in search of wage improvements were at a cost of health and mortality.⁴⁶ For the manufacturers of consumer goods like confectionery, however, it was the urbanisation factor which would contribute more to their growth, rather than a benefit from an overall lengthening of life expectancy.

Unemployment

The spectre of unemployment has been a constant consequence of capitalism from the beginnings of the industrial revolution up to the present day. Despite political posturing, the prospect of full employment, however this can be measured, probably remains hypothetical. According to Hatton the way that unemployment has been perceived by contemporary social commentators has changed over time. In the middle of the nineteenth century unemployment was seen as a conscious choice made by the lazy and work-shy in society. However, by the end of the nineteenth century, unemployment was being viewed as a consequence of an inefficient labour market, where the skills-to-jobs fit was out of balance, and was therefore temporary. The steep rise in unemployment during the inter-war period then called into question the functioning of the whole capitalist economic system.⁴⁷ The notion that unemployment was for the most part beyond the control of the average worker was first recognised by Beveridge, and that the causes and cyclical patterns of unemployment were national and international phenomena. The recognition of this fact by government was reflected in the 1909 Labour Exchanges Act, which attempted to align skills to jobs more effectively.⁴⁸ Additionally in 1911 the National Insurance Act was passed which provided some protection to the unemployed in the form of financial benefits.

⁴⁵ Cairncross, "Internal migration".

⁴⁶ Woods, *The Demography of Victorian*.

⁴⁷ Hatton, *Unemployment and the Labour Market*.

⁴⁸ Beveridge, *Unemployment*.

The rise in the proportion of the unemployed during the inter-war years led to further questions of cause and responsibility, with Keynes laying the blame firmly at the door of government, from whom the remedial action should therefore come.⁴⁹

The absolute number who are unemployed at any given point in time, and how these are reflected in the statistics have been the subject of discussion and controversy over the years. For example, the official Board of Trade unemployment figures for the period 1870 to 1913 vary between just under 1% and 10.7%, with the annual average being 4.5%. However, these figures have been revised by Boyer & Hatton, who have attempted to include more variables into the statistics, which consequently provide a higher average annual figure than originally calculated of 5.8%.⁵⁰ However, despite the different methods of calculation, what the consensus provides is a distinct cyclical trend up to 1913 with periods of high unemployment and also periods of relatively full employment. What became clear is that the mass unemployment experienced after World War I had no parallel in terms of scale, pattern or volatility that had previously been experienced historically.

Whilst unemployment and its average statistics can be studied in general terms, this can blur the reality in terms of how unemployment is spread between geographical regions, industries and time. This is especially true when the exceptionally high unemployment rates of the inter-war period are considered, and the conclusion could be drawn that this was a period of depression where there was universal poverty and deprivation on a national scale.

Hatton provided a more analytical view of unemployment during the crucial inter-war period, claiming that it was the structural decline of the old Victorian industries such as shipbuilding, mining and heavy engineering, and their traditional geographical locations of concentration such as Northern England (particularly the North-East), Wales and Scotland.⁵¹ An example of these regional differences in unemployment statistics is demonstrated if we compare the South-East with Wales, the North-East and Scotland in Table 1.5:

⁴⁹ Keynes, *The General Theory*.

⁵⁰ Boyer and Hatton, "New estimates of British".

⁵¹ Hatton, *Unemployment and the labour market*.

Table 1.5 UK Regional Unemployment Rates 1929-1936

Region	1929	1932	1936
South-East	3.3%	12.0%	5.0%
Wales	18.1%	37.3%	29.0%
North-East	12.6%	29.8%	17.5%
Scotland	10.9%	25.9%	15.8%

Source: Hatton T.J. (1986) 'Structural aspects of unemployment in Britain between the world wars. *Research in Economic History* 10: 55-92.

Hatton claimed that response by the population during this period to shifts of distribution in industries and geography was slower than had been previously experienced during the urban growth of the nineteenth century, although as we can see in Table 1.5, by 1938 the industrial and regional differences of unemployment began to gradually dissipate. There had been, however, a major shift in prosperity of the UK regions towards London and the South-East during the inter-war period; a major factor being the legacy of munitions factories established during the Great War which were converted to modern facilities for the expanding consumer goods industries utilising the available skilled and semi-skilled workforce and good road communications⁵². These regional variations in prosperity would have a significant effect on the potential sales for those companies relying on consumers having sufficient disposable income to purchase non-essentials, which in turn would influence their strategies.

A further insight into the unemployment statistics is provided by Thomas who demonstrated that whichever time period is studied, it was always the unskilled workers who suffer the most during periods of economic downturn, irrespective of the industry or region to which they belong.⁵³ Unfortunately, during the high levels of employment during the inter-war years, this fact was amplified. Thomas cited the example of three categories of skill for the year 1931 and their respective unemployment figures to highlight this fact: Clerical & Supervisors (5.4%), Skilled Workers (12.0%), Unskilled Workers (21.5%).⁵⁴

A further facet of the nature of unemployment was observed by the Pilgrim Trust which found that not only were the unemployed likely to be more unskilled, but that

⁵² Scott, *The Triumph of the South*.

⁵³ Thomas, *Labour Market Structure*.

⁵⁴ *Ibid*.

age was a major factor: with those over 50 years old are far less able to maintain employment due to obvious failing health and physical capabilities.⁵⁵

Despite the overall increases in total average unemployment, especially during the 1919-39 period, the living standards for those in work rose during this period, as has been demonstrated previously which had the effect of polarising the population into those who reaped the benefits of the expanding consumer society, and those who struggled to merely survive. How this was interpreted by companies in terms of their strategies will be discussed in due course.

Transport

The role transport in the economic development of the UK has long been recognised in the literature. Early writers in the field such as Smith saw transport as the mainspring of economic development through its ability to provide a market-widening effect, thus providing the scope for growth.⁵⁶ Youngson also claimed that the link between transport and economic development is one of the few economic truths that is universally accepted.⁵⁷ Indeed, Fitzgerald also claimed that this overall expansion of the transport infrastructure was a key driver in the expansion of the consumer society as it provided companies with the distribution capabilities to reach customers quickly and economically.⁵⁸ The original city centre locations of Rowntree, Cadbury and Fry during the nineteenth century provided access to inland waterways for the transporting of raw materials and finished goods, but the decision to move to green field sites was to incorporate rail and road links into the factory designs.

Although internal transport systems of road and waterways had been developed throughout the period of the industrial revolution, Freeman has dated the application of steam to transport in the mid-nineteenth century as the most significant driver of growth and expansion of the economy.⁵⁹ Similarly, it can be argued that the application of oil and its by-products give a further stimulus to this economic growth and expansion in the early twentieth century. Cootner however, claimed that the

⁵⁵ Pilgrim Trust, *Men Without Work*.

⁵⁶ Smith, *An Inquiry into the Nature*.

⁵⁷ Youngson, *Britain's Economic Growth*.

⁵⁸ Fitzgerald, *Marketing and Distribution*, pp. 396-398.

⁵⁹ Freeman, *Transport in the Victorian Age*.

diffusion of transport systems was a gradual process, which was delayed and handicapped by conservatism and the unreliability of some of the new technologies.⁶⁰

Duckham has concluded that the development of the UK's inland waterway network system was as a direct consequence of the industrialisation process and the need to transport a range of industrial goods. He suggested that the growth period for improvement of the internal waterways system was between 1660 and 1880, and that no new canals were built after 1830, coinciding with the expansion of the railways.⁶¹ Duckham provided evidence that most waterway traffic consisted mostly of bulky low-value cargoes such as industrial raw materials and agricultural produce, and the output of waterway services continued to grow throughout the nineteenth century despite the competition from road and rail. He then argued that the main advantage that inland waterways had at this time was that it was more cost-effective, especially in long-haul services with access to and from ports.⁶²

At the same time as the development of inland waterways, the UK's road system was also expanded, and Ville claimed that roads were important in the shaping of industrialisation in the forward-linking consequences, particularly in the linking of markets.⁶³ He argued that more extensive road links encouraged the evolution of more standard tastes and fashions onto a national scale. Therefore it was in the receipt of information, and particularly commercial intelligence, that road systems provided the greatest effect on society and for economic development. However, Ville conceded that in the carriage of large quantities of bulky goods, road transport remained relatively inefficient.⁶⁴

It was, however, the development and expansion of the rail network during the nineteenth century which perhaps had the greatest effect on economic development, not only in the UK, but throughout the world.

⁶⁰ Cootner, "The role of railroads".

⁶¹ Duckham, *Transport in the Victorian Age*.

⁶² Ibid.

⁶³ Ville, *Transport and Development*.

⁶⁴ Ibid.

Data provided by Mitchell has shown that there were three stages in the growth of railways: a mid-Victorian boom (1850-70), followed by a gradual deceleration to 1910, and stagnation between the wars.⁶⁵

This growth in the railways during the nineteenth century as demonstrated above was also matched by average annual gains in productivity of around 2% during this time due mainly to technological developments and better utilisation.⁶⁶ Caron also measured the market growth of railways claiming that their share of volumes moved from around 11% in 1851 to over 73% by 1913, mainly at the expense of the inland waterways.⁶⁷

Overall, it has been suggested that by 1860, as a general consequence of the diffusion of railways, the GNP of the UK was 10% higher than what it would have been without the railway.⁶⁸

The Retail Trade

An important element in the expansion of the consumer society during the latter half of the nineteenth century and the beginning of the twentieth century was the transformation of the retailing landscape in the UK during this time. Indeed, Fraser called this transformation more of a “revolution”, as new forms of retailing began to appear as the old-established trades gave way to the new.⁶⁹ Fraser argued that these developments began as a direct response to the major social, economic and cultural changes.⁷⁰ He also pointed out that the general rise in the living standards, particularly amongst the working class, produced a demand for a wider range of goods and services, but relatively cheaply.⁷¹ He concluded that these changes in demand were then matched and satisfied by technological changes in manufacturing and transport systems. Fraser also argued the point that it was the power of the retailers who were instrumental in forcing the changes in production methods because when adequate supplies were not readily available, it was the retailers who went out

⁶⁵ Mitchell, “The coming of the Railway”.

⁶⁶ Caron, *Railways and Economic Development*.

⁶⁷ Ibid.

⁶⁸ Hawke, *Railways and Economic Growth*.

⁶⁹ Fraser, *The Coming of the Mass Market*.

⁷⁰ Ibid.

⁷¹ Ibid.

and found them, and in doing so created new production units.⁷² The conclusion was that the retailers ‘amplified’ the demand from consumers, thereby accelerating the consumer society.

According to the literature, there are essentially four theories of retail institutional change, which have been summarised in Figure 1.1 by Shaw & Benson:⁷³

Figure 1.1 Theories of Retail Institutional Change

<u>Theory</u>	<u>Basic Characteristics</u>
General-specific-general cycle	Retail institutions widen (general) and narrow (specific) their range of goods over time. First noted by Hower (1943) and Hollander (1966)
Retail life-cycle	Based on the product life-cycle, retail life-cycle maintains institutions evolve through stages of birth, growth, maturity and decline. First noted by Davidson (1970)
Economic natural selection	Environmental factors determine the introduction, acceptance and survival of retail institutions through a process of ‘natural selection’. First noted by Alchain (1950) and Gist (1968)
Wheel of retailing	Begins as a cut-price, low-cost operation which subsequently ‘trades-up’. First noted by McNair (1939)

Source: Shaw & Benson (1992, p. 13).

Whilst all these theories have provided evidence of an on-going change in the retail sector, the explanation for these changes has been given by Bucklin.⁷⁴ His model of structural changes in the retailing system firmly links variations in retail operations

⁷² Ibid.

⁷³ Shaw and Benson, *The Evolution of Retail Systems*, p. 13.

⁷⁴ Bucklin, *Competition and Evolution*.

with changes in consumer demand, with strong emphasis being placed on the idea that retail change was most influenced by changes in the level of income and the rise in living standards.⁷⁵ This original model has been further developed by Shaw & Wild who introduced the notion of a broader link between levels of industrialisation, urbanisation and the stages of retail development in the UK. This model suggested that the British retail system moved through a recognisable sequence of changes, with particular emphasis on development in terms of average retail operating costs.⁷⁶

The role of socio-economic forces had also been stressed previously by Simmons, who attempted to identify these forces and how this has impacted on retailing evolution.⁷⁷ Simmons initially identified the stimulus for change: levels of income/expenditure, levels of transport/technology, levels of product technology, growth of population and urban systems.⁷⁸ From these stimuli he then suggested the controlling forces of these: ecological, consumer preferences, consumer mobility, speed of transport, economics of scale, product mobility.⁷⁹ Finally from these controlling forces he charted the retailing evolution: Distribution of different consumers, structure of retail type, grouping and location of retail types.⁸⁰

One of the major developments of the changes in the retailing landscape at this time was the growth in what we now refer to as ‘Multiple Retailers’. Mathias charted the rise of the early multiple retailers such as Liptons, Maypole, Meadow, Massey, Templetons and Brouchs, and claimed that there are similarities in the way in which they all were established. In the first instance they were all born at the heart of the industrialised cities which created a new urban society spawned by the process of industrialisation.⁸¹ Mathias also claimed that they all shared the commercial vigour and elemental social standards always associated with the early stages of this economic transformation.⁸² Indeed the multiples established themselves in the more high-density central districts of the cities rather than in the suburbs, as the founders were themselves of working-class origin and therefore had much in common with

⁷⁵ Ibid.

⁷⁶ Shaw and Wild, “Retail patterns”.

⁷⁷ Simmons, *Changing Patterns*.

⁷⁸ Ibid.

⁷⁹ Ibid.

⁸⁰ Ibid.

⁸¹ Mathias, *Retailing Revolution*.

⁸² Ibid.

their customers and understood their situation. Perhaps it was this closeness and affinity with their customer-base that enabled the multiple retailers to interpret their desires and communicate this to the manufacturing producers of consumer goods.

An important contributor to the rise of the multiple retailer was the role of the Co-operative movement, which was important as it stressed the importance of the ‘moral economy’ of co-operation in a society and as a reaction which was rapidly being formed which seemed to only emphasise the notion of profit. However, Gurney pointed out that the ideologies of the founders of the movement were perhaps not fully aligned to their concern which was mainly to maximise dividend on their purchases.⁸³

Jeffreys provided a detailed account of how the changing retailing dynamics during the latter part of the nineteenth century and the beginning of the twentieth century influenced the confectionery market.⁸⁴ According to Jeffreys, by the turn of the century there were four broad types of retail outlet: grocers, confectionery shops, bakers and what he describes as ‘other outlets’ such as newsagents and tobacconist’s, and by 1939 the combined number of such outlets was estimated to be around 300,000.⁸⁵ In terms of the economic type of retailer, Jeffreys provided further evidence in Table 1.6 of the importance of the multiple retailer in confectionery sales, as already indicated above:

⁸³ Gurney, *Co-operative Culture*.

⁸⁴ Jeffreys, *Retailing Trading in Britain*.

⁸⁵ *Ibid.*, p. 254.

Table 1.6 Growth in the number of multiple shop firms and branches in the confectionery trade 1905-1939

Year	10 or more branches Totals		25 or more branches Totals	
	No.Firms	No.Branches	No.Firms	No.Branches
1905	5	163	2	116
1910	10	308	4	242
1915	15	496	6	374
1920	14	565	6	445
1925	19	780	7	630
1930	22	1,051	10	912
1935	22	1,225	8	1,052
1939	24	1,427	12	1,271

Source: Jeffreys (1954, p. 257).

This provided evidence of the rate of growth of multiple shop trading during this period and suggests that manufacturers had to modify their product, distribution and marketing strategies to accommodate these changes in the retailing environment. Jeffreys also made the point that the increasing demand for nationally advertised brands, especially during the inter-war period, meant that for the multiple retailers this meant the decline their ‘own label’ offerings, and by 1938 the proportion was about 50/50, whereas prior to 1914 some multiples were 100% own label.⁸⁶

Another major difference in the retailing landscape before and after the Great War was increased attractiveness of the retail outlets, from largely a ‘back-street’ operation to being more ‘main street’. Jeffreys also identified the emergence of the shopping centre as a key factor in this change, which inspired a revolution in shop design, giving rise to a range of point-of-sale advertising opportunities for the major manufacturers of branded consumer goods (see later).⁸⁷

A direct consequence of the growth in the multiples was the way in which competing retailers adopted pricing policies, and how this was to develop into what was to become known as Resale Price Maintenance (RPM), which was an attempt to curb

⁸⁶ Ibid., p. 259.

⁸⁷ Ibid.

the increasing power of the multiples in their attempts to cut prices. Yamey argued that the pressure for some kind of resale price maintenance came at the latter end of the nineteenth century from small retailers who felt threatened by competition from the expanding multiple retail trade.⁸⁸ Resale price maintenance therefore provided small retailers with some protection against the multiples which had grown to 36% of total retail sales by 1939. Multiples had the power of economies of scale in which they could potentially use to reduce their prices, but resale price maintenance limited their ability to do so. This essentially meant that smaller retailers were shielded from competition, which could be argued on one level to be against the public interest. However, Mercer also claimed that in addition to the motivation for resale price maintenance being driven by retailers, this was also largely driven by the manufacturers themselves in many industries, particularly the confectionery industry because he suggests that this was a key component of their marketing strategies, where a large and diverse number of outlets was important.⁸⁹ This being the case, then the application of resale price maintenance to retailers secures this policy, and could be enforced through mechanisms such as loyalty rebates or the withholding of supplies from price-reducing retailers through stop-lists. Mercer made the point that resale price maintenance grew alongside the evolution and development of the 'branded' product and there was common force behind both the tendency to mass-marketing, uniform production, concentration and centralisation of production and distribution, and hence the tendency to the large scale unit.⁹⁰ Mercer therefore concluded that resale price maintenance represented an alliance of small retailers alongside the large manufacturers of branded goods.⁹¹

The importance of small retailers must not be overlooked, despite the increasing relevance of the multiples. Jeffrey's acknowledged the fact that the number of small retailers had between 1900-1950 decreased by an estimated 10,000 units, but he also pointed out that the number of outlets selling a variety of goods such as fancy goods, tobacco, newspapers and other consumables had increased, and these became an important outlet for sales of confectionery.⁹²

⁸⁸ Yamey, *Resale Price Maintenance*.

⁸⁹ Mercer, *Constructing a Competitive Order*.

⁹⁰ *Ibid.*

⁹¹ *Ibid.*

⁹² Jeffrey's, *Retail Trading in Britain*, p. 263.

1.3 Socio-Cultural Factors

Population and Demographics

The absolute growth and the migration of the UK population from rural to urban areas during the latter half of the 19th century, has been alluded to above, but requires further analysis to provide a better understanding of the consequences to the economy of this shift.

Anderson reported that between 1851 and 1911 the population of Great Britain nearly doubled from 20.8m. to 40.8m, and by 1939 had increased further to 50.0m.⁹³ This increase can be further analysed as in Table 1.7 to provide a more detailed understanding of the changes by decade:

Table 1.7 Growth in UK Population 1851-1941

Year	Population (m.)	%change
1851	20.8	
1861	23.1	11.1%
1871	26.1	13.0%
1881	29.7	13.8%
1891	33.0	11.1%
1901	37.0	12.1%
1911	40.8	10.3%
1921	42.0	2.9%
1931	44.8	6.6%
1941	50.0	11.6%

Source: Mitchell B.R.(1988, p. 7-10) *British Historical Statistics*.

The double-digit percentage increases each decade were only arrested temporarily by the advent of the Great War and the subsequent flu epidemic.

The overall increase in population provides evidence of a nation which was beginning to benefit from the rise in living standards already described, and which can be further supported by an analysis of the shifts in social class towards the end of the nineteenth century and the early part of the twentieth century. These changes in the distribution of social classes provided evidence of a better educated and more skilled workforce, and also the emergence of the middle classes in society:

⁹³ Anderson, *British Population History*.

Table 1. 8: Changes in social classes 1861-1911

Social Class	Prop.1861	Prop.1911
I Professional	2%	3%
II Managerial/Technical	15%	15%
III Skilled (non-manual)	40%	43%
IV Skilled (manual)	30%	29%
V Unskilled	13%	10%
Total	100%	100%

Source: Banks J.A. (1978, p. 197) *The social structure of 19th century England through the census*, in Lawton R. (ed.) (1978) *The Census and Social Structure*.

The data in Table 1.8 reinforces the notion that it was the middle classes which grew fastest in which they grew more wealthy and prosperous as a consequence of receiving higher and more secure incomes. This was especially true of the lower middle class.⁹⁴

Evidence for a movement in the social status of the population is also as a direct consequence, and reflection of, the physical migration of the population from rural to urban environments during this period. This movement can be demonstrated from the data in Table 1.9:

Table 1.9 Changes in Rural/Urban Population 1856-1911

Year	Rural Pop.	Urban Pop.
1851	46%	54%
1861	41%	59%
1871	35%	65%
1881	30%	70%
1891	26%	74%
1901	22%	78%
1911	21%	79%

Source: Law C.M. (1967, p. 130) Growth of urban populations in England & Wales, *Transactions of the Institute of British Geographers* 41: 125-143.

The trend in the decline in agricultural employment as demonstrated above by Law (1967), further emphasises the fact that by 1911, Britain was an overwhelmingly urban country in which large commercial and industrial cities predominate.⁹⁵

⁹⁴ Benson, *The Rise of Consumer Society*.

⁹⁵ Law, "The growth of urban populations", pp. 125-143.

The consequence of these dramatic changes in the population and demographics of the UK population were to provide the foundations for the economic and social conditions that enabled the confectionery and other consumer markets to develop and thrive in the years prior to the Great War.

Consumerism

The increase in the population of Great Britain and the shift in demographics to a more urban and better skilled workforce which ultimately improved overall living standards, increased demand for what has been called “consumer goods”. However, whilst it is natural to conclude that increased personal wealth and status would lead to increasing demand for goods and services, Benson suggested that it was the increased purchasing power of the individual which lies at the heart of the rise of consumerism, or putting it another way it was the increase in disposal income which was the key driver.⁹⁶ Indeed Benson claimed that not only were the lifestyles of the middle classes enhanced during this time due to the increase in their purchasing power, but for the majority of the working class this was also true.⁹⁷ This conclusion is also supported by other commentators such as Halsey (1988) who claimed that the increase in wage earnings of manual workers in the years 1900-1981 increased by over 400%.⁹⁸

Whilst the rise in consumerism can be viewed in strictly economic terms, there is also a sociological viewpoint on how society reacted to a shift in economic conditions. With this in mind this concept of the growth in consumerism being a function of the changing status and wealth of different social groups has been taken up by Bourdieu (1984) who attempted to map the difference in the range of consumer goods to the differences between the social groups.⁹⁹ He argued that differences in tastes of individuals are directly related to their position within each social group.¹⁰⁰

The notion of the way in which goods are perceived by individuals and the broad economic approaches to consumption are challenged by Miller, who claimed that nature of demand and the actual relationship between goods and people is merely a

⁹⁶ Benson, *The Growth of Consumer Society*.

⁹⁷ *Ibid.*

⁹⁸ Halsey, *Trends in British Society*.

⁹⁹ Bourdieu, *Distinction*.

¹⁰⁰ *Ibid.*

function of the symbolic equation of price, however unsatisfactory this measure can be.¹⁰¹

Another alternative view of consumerism is that of Cross who claimed that the rise of the consumer society was linked to the uses and meaning of time.¹⁰² He suggested that the triumph of consumerism meant that this was at the expense of increased leisure time, and gave rise to the “work-and-spend” culture that many of us recognise today.¹⁰³ This means that there was a social decision to direct industrial and commercial innovation towards producing more and different quantities of goods rather than leisure.

The date when consumerism first began is contentious, but the first evidence of demand for an increasing range of alternative goods is probably from around the middle of the eighteenth century, and grew slowly until the middle of the nineteenth century when the pace accelerated. Stearns has cited that a single product such as sugar could be a metaphor for consumerism, and claimed that it is in fact the first mass consumer good as it suggests a new taste for indulgence in a food that is not necessary from a health or dietary point of view.¹⁰⁴

Whilst there was a growing demand for increasing the quantity and quality of consumer goods available, this did not happen overnight and the progress of consumerism and the advent of a mass market was slow.¹⁰⁵ One of the reasons for this was the way in which the supply side of the consumer equation was developed. Benson argued that the increasing demand for more consumer goods had to be matched with a major shift in the restructuring of the economy, the introduction of mechanisation and the adoption of changing organisational capabilities.¹⁰⁶ Fitzgerald has taken this further by claiming that changes in distribution, marketing and other forms of communication were essential in meeting the needs of the consumer.¹⁰⁷

The emergence and development in earnest of the consumer society in the latter half of the nineteenth century and the beginning of the twentieth century marked a major

¹⁰¹ Miller, “Accounting and the construction”.

¹⁰² Cross, *Time and Money*.

¹⁰³ Ibid.

¹⁰⁴ Stearns, *Consumerism in World History*.

¹⁰⁵ Fraser, *The Coming of the Mass Market*.

¹⁰⁶ Benson, *The Rise of Consumer Society*.

¹⁰⁷ Fitzgerald, *Marketing and Distribution*.

shift in the development of society in Britain. But following the Great War, Fitzgerald claimed that the mass market matured into a more sophisticated and developed phase as markets became bigger and consumers became more educated, fickle and conscious of choice, cachet and lifestyle.¹⁰⁸

During the crucial inter-war period there was a significant increase in expenditure on a wide range of consumer goods being offered by an increasing number of suppliers. Bowden and Higgins have provided evidence that it was the growth in both durable and non-durable goods during the inter-war period which accounted for the highest growth in any sector, especially on food, transport and other non-durable household goods. They went on to claim that the rise in consumer-related goods and their respective industries was matched by a similar decline in the old traditional Victorian industries such as shipbuilding, textiles, mining and engineering.¹⁰⁹

A key factor in the provision and supply of consumer goods is the formation and development of basic infrastructure. The development and expansion of transport systems as described above was a key factor in this provision as was the actual availability of goods through the rapid and diverse changes in the retailing landscape of Britain during the late nineteenth and early twentieth centuries.

In addition, although consumerism is sometimes seen as a reflection of the relative prosperity of a particular society, Hilton perceived it to be more of a mobilising force for social and economic change which lies at the heart of socialist thinking.¹¹⁰ Hilton argued that this is manifested in organisations such as the labour movement, the Co-operative, the Women's Cooperative Guild and others who campaigned strongly for the availability of reasonably priced and good quality everyday household necessities which would benefit those in society who needed it most.¹¹¹ He went on to demonstrate the use of official governmental responses of the need to protect the interests of consumers in the introduction of the Consumer Council in 1918 which was established to encourage the working together of working-class movements, especially pertaining to food.¹¹² However, Hilton also pointed out that this official response by government was seen by some as a cynical attempt by politicians to

¹⁰⁸ Ibid.

¹⁰⁹ Bowden and Higgins, *British Industry*.

¹¹⁰ Hilton, *Consumerism in Twentieth Century*.

¹¹¹ Ibid.

¹¹² Ibid.

contain the growing unrest among the working-class after the end of the Great War rather than a positive step to provide real benefit in a purely social sense.¹¹³

Diet

Any study of the UK confectionery industry is linked inextricably to the overall diet of the population, and how this changed during this time. Specifically, the factors surrounding the way in which the diet of the new urban working-class was changing in relation to the overall family budgets. This is important in how spending shifted into the new consumables such as tea, biscuits, confectionery, *etc.*

Oddy provided evidence that the diet of the majority of the UK population in the mid nineteenth century was based largely on starchy foods; bread and potatoes in particular.¹¹⁴ This diet was very unpalatable and as it changed little from day-to-day, proved quite boring, and consequently Oddy concluded that many were under-nourished.¹¹⁵

Drummond & Wilbraham also supported the notion of a narrow-based and unpalatable diet by claiming that in studies of the period, the majority of the population expressed prejudice against foods such as fruit, vegetables and milk until the beginning of the twentieth century.¹¹⁶

Given this lack of variety in the daily diet, Mintz argued that it was the increasing availability of sugar to the general working class population which proved to be the catalyst for a dietary revolution.¹¹⁷ Mintz pointed out that price of sugar fell by 55% between 1840 and 1870, making a previous luxury that once was the privilege of the wealthy now within the reach of a good proportion of the rest of the population.¹¹⁸ This price reduction was the greatest margin of any food commodity at this time, and it was this single factor which enabled sugar to become an important part of the British diet. This meant that the average per capita consumption of sugar rose from 29kg in 1880 to 43.5kg by 1930.¹¹⁹

¹¹³ Ibid., pp. 55-67.

¹¹⁴ Oddy, "Working class diet".

¹¹⁵ Ibid.

¹¹⁶ Drummond and Wilbraham, *The Englishman's Food*.

¹¹⁷ Mintz, *Sweetness and Power*.

¹¹⁸ Ibid.

¹¹⁹ Ibid.

Oddy also provided the explanation of why sugar, given an increasingly lower price, increased so dramatically in the latter half of the nineteenth century. He argued that sugar provided the main, and cheapest, relief from a stodgy, starchy diet, in addition to providing a stimulating addition of much-needed calories to an under-nourished working class population.¹²⁰

Mintz went on to argue that the consequence of the lower price, and a population which had begun to become ‘hooked’ on sugar, was the increasing prevalence of processed foods in which sugar was the main ingredient. These sugar-based products included jam, treacle, custard, biscuits, cakes and confectionery. The response by manufacturers in creating a market of new food consumables provided a revolution of eating and dietary habits where prepared foods could now be consumed outside the context of the home. This revolution is still being developed and refined by manufacturers to a slightly more sophisticated and demanding population even at the beginning of the twenty-first century.¹²¹

This new consuming phenomena was as Mintz claimed, the catalyst for a shift in lifestyle, in that prepared sugar-based products provided instant energy for an increasingly mobile population, and it was therefore the epitome of the opening up of what we now regard as ‘mass consumption’.¹²²

Fine, Heasman & Wright examined the organic properties of sugar, and they suggest that it was these which enabled certain foods to be ‘invented’ around sugar as the main ingredient, including confectionery, cakes and biscuits. They therefore claimed that sugar was the ‘enabler’ which allowed mass-produced industrial food products to be developed, thereby allowing new and innovative kinds of products to be introduced to satisfy the new consumer demand.¹²³ Fine et al, however, provided a link of this provision of sugar on an industrial scale to the vested interests of the sugar producers which dates back to the seventeenth and eighteenth centuries when the sugar trade was predominately from the Caribbean.¹²⁴ The sugar trade was an important component of the world political system, which was unfortunately deeply

¹²⁰ Ibid.

¹²¹ Mintz, *Sweetness and Power*.

¹²² Ibid.

¹²³ Fine, Heasman and Wright, *Consumption in the Age of Affluence*.

¹²⁴ Ibid.

involved in the slave trade. How this was reconciled by religious entrepreneurs, such as the owners of confectionery company's, will be discussed in due course.

An important facet of the changes in the British diet was the growing consumption of beverages such as tea, coffee and cocoa, all of which were sourced as the direct consequence of the extent of British Empire during Victoria's reign. Similar to sugar, it was the fall in the commodity prices of these beverages which led to their increased consumption, especially amongst the working class. Indeed some commentators such as Othick suggested that it was the increase in these non-alcoholic beverages which accounted for a corresponding decrease in the consumption of alcohol during the last half of the nineteenth century.¹²⁵ Dingle however, claimed that the answer was actually more complex than this simplified explanation,¹²⁶ and Mintz also casted doubt on this 'substitution effect', suggesting that tea, coffee and cocoa never displaced alcoholic drinks, but only vied with them.¹²⁷

Advertising & Branding

The rise of a more urban population, the establishment of a new middle-class and the advent of the mass market meant, that for the manufacturers of consumer goods the issue of how to inform your potential customers of your product became a new challenge. From the mid nineteenth century onwards the onset of a competitive market environment ensured that the managers of consumer goods companies would have to be more informed about how people behave as consumers and how to pursue them of the superior merits of your product over those of the competition.

Although 'Advertising' as a generic notion for the means of communicating something to somebody had been in existence for centuries, it was the conditions that arose from about the mid nineteenth century which saw the 'art' of advertising being viewed more as a 'science', and how effective you were at its prosecution had a profound impact upon the success or failure of a company.

The expansion of the retail trade and the number of outlets serving the new urban communities, as already discussed, provided the opportunities for new ways of communicating products and brands in ways which had previously been unheard of.

¹²⁵ Othick, *The Cocoa and Chocolate Industry*.

¹²⁶ Dingle, "Drink and working-class living".

¹²⁷ Mintz, *Sweetness and Power*.

Indeed, Loeb (1994) suggested that the emergence of the new retail environment meant that this was a blank canvas for innovative companies who could take advantage that this provided.¹²⁸ The consequence of this was that suddenly advertising became an increasingly visible feature of the Victorian consumer culture in that retail outlets were to become awash with displays, posters and other point-of-sale materials enticing the consumer to purchase.

The embracement of advertising as a ‘necessary evil’ was a difficult transition for Victorian society in the mid-nineteenth century. Loeb made the valid point that for the average Victorian at the time, the reason for having to stoop to having to advertise had connotations of quackery, promoting products of poor quality and the advancement of fraudulent claims. Turner described the accepted Victorian attitudes of doing business as to surrounding yourself with your key customers and then to establish personal relationships with them, supported by the excellence of your goods.¹²⁹ This, it was thought, would then ensure that your reputation would be enhanced by satisfied customers passing on their fulfilment by word of mouth. With this mind it is no surprise that there was some reticence on the part of some manufacturers to advertise their products with any great vigour, and this would have direct consequences on sales, market share and profitability.

Although the drive for advertising was being established in mid-nineteenth century Britain as a way of establishing a company’s competitiveness, Nevett pointed to the fact that it was a series of other factors at the time which actually enabled the rise of advertising to occur.¹³⁰ He cites the rapid advancement and increasing professionalism of the artistic and technical expertise at the time which gave rise to the establishment of the new graphic arts as important. This coupled with the rise of the popular press and the obvious opportunities in terms of the amount of column inches available that this provided.¹³¹ The advertising revenues were obviously important revenues to fledgling periodicals for their survival, and thus were instrumental in the establishment of an important relationship that is still valid today.

¹²⁸ Loeb, *Consuming Angels*.

¹²⁹ Turner, *The Shocking History*.

¹³⁰ Nevett, *Advertising in Britain*.

¹³¹ *Ibid.*

Turner also suggested that another obstacle in the way of the growth of advertising in mid-nineteenth century Britain was the tax and stamp duties imposed upon it and also on the press itself by government, which was further interpreted as being evidence of advertising being frowned upon by the establishment. However, public pressure saw the abolishing of the Advertising Tax in 1853, the abolishing of stamp duty on newspapers in 1853, and finally the lifting of tax on paper in 1861.¹³²

The development of advertising during the latter part of the nineteenth century coincided with dramatic advances in the quality of artwork and illustrations which were matched by the improvements in reprographic representation. Loeb described these developments as a dramatic visual representation of the myriad of products of the industrial age that were now available, thereby shifting society from one of requiring basic needs, to one of the desire of fantasies.¹³³ This changing emphasis is further explored by Loeb who goes on to speculate that the target for the new advertising revolution was that of the woman, and indeed ‘Advertising World’, a leading trade journal in 1913 reported that 90% of the advertisers that they had sampled felt that the man was no longer considered in the design of their advertisements.¹³⁴

However, as Wilkins pointed out, Advertising *per se* does not make sense unless there are differentiated products, that is goods that are branded or have trade names, although there are instances of generic product advertising such as the Milk Marketing Board and British Beef that occurred post-1945, for example.¹³⁵ Therefore, if the consumer wished to buy the advertised product, the consumer has to be able to differentiate that product, and the brand name performed that service. Wilkins therefore concluded that advertising and branding went in tandem, and that for foods and beverages this was particularly important as it allowed consumers to make choices of predictable standard goods, especially as repeat purchase was important.¹³⁶ There are some exceptions to this notion, however, as Horst cited the example of the large American confectionery company Hershey who never advertised, preferring instead to use their brand name to forge strong relationships with distributors via a

¹³² Turner, *The Shocking History*.

¹³³ Loeb, *Consuming Angels*.

¹³⁴ *Ibid.*

¹³⁵ Wilkins, *When and Why Brand Names*, p. 19.

¹³⁶ *Ibid.*, pp. 19-25.

large and dedicated sales team.¹³⁷ In addition Casson has argued that branding can also be an important barrier to entry, particularly so for the food and drinks industry in which the perception of longevity by consumers provides more evidence of competence than in their newer rivals.¹³⁸

The rise in branding during the nineteenth and twentieth centuries can be viewed as beneficial both to the producer and the consumer. Wilkins argued that branding, particularly for food and drinks products, multiplies as incomes and living standards rise, because buyers purchase not only basics but extras in order to satisfy social and emotional needs. The brand is therefore crucial because it introduced efficiencies in production, distribution and provided the link between supply and demand. For this reason it therefore provided the consumer with savings in time in the preparation of meals, with greater choices and with more possibilities of satisfaction.¹³⁹

1.4 Technological Factors

Technological Development

One of the key drivers of an industrialised economy is the ability to create, develop and utilise technology in an optimum way, which would then lead to industrial competitiveness. The lag in economic progress throughout the nineteenth and early twentieth centuries as described earlier, have been viewed by Mokyr as a failure in the UK of the adaptation to technological change.¹⁴⁰ He pointed out that the failure was one of a lack of innovation and creativity in the first place, and also one of a slow reaction to embrace technologies developed elsewhere.¹⁴¹

Different suggestions have been made as to why the UK lagged behind other major industrial nations in the development and use of available technology. Crafts asserted that a lack of technical and scientific training was the reason,¹⁴² whereas Lazonick put forward the theory that the increase in unionisation of many industries in the UK

¹³⁷ Horst, *At Home and Abroad*, pp. 21-22.

¹³⁸ Casson, *Economic Ideology*, pp. 43-57.

¹³⁹ Wilkins, *When and Why Brand Names*, pp. 36-37.

¹⁴⁰ Mokyr, *The Lever of Riches*.

¹⁴¹ Ibid.

¹⁴² Crafts, "Revealed comparative advantage".

compared to other countries, acted as a barrier to new technologies because this could have affected their members working arrangements.¹⁴³

Magee suggested that the in the UK, old industries like iron and steel, textiles were based on traditional craft skills, and as industries relied less on R&D capabilities, but the newer industries were more in tune with the growth in the consumer society and were based on mass production techniques, and this became especially true of the confectionery industry.¹⁴⁴

Confectionery Manufacturing Process

The development of the UK confectionery industry during the nineteenth century was formed and influenced by the improvements and progress of the manufacturing processes which enabled the industry to expand, especially during the final decade of the century. It is maybe significant to note that the majority of the breakthroughs of the manufacturing processes which occurred during the nineteenth century were outside the UK, predominantly in mainland Europe. This particular industry example supports the earlier notion that a crucial factor in the slower rate of UK economic growth was the fact that most technological advances occurred overseas, and that the transfer of this knowledge was slow and difficult.

It could be argued that the growth in the UK confectionery industry grew as a consequence and as an ‘off-shoot’ of the beverage industry, and particularly cocoa, which originally was consumed as a drink. The consumption of cocoa as a drink was originally perceived to be a ‘healthy’ option, as the consistency of cocoa was thick and almost akin to a gruel. Indeed, the sale of cocoa was originally made through apothecaries and other health-related outlets. However, Othick claimed that a technological breakthrough in 1828 by a cocoa producer, C.J. Van Houten of Weep in the Netherlands revolutionised the industry.¹⁴⁵ This new process meant that the high cocoa butter content of the cocoa bean could be removed which minimised the need to add starch or some other ingredient to off-set the high fat content. This process enabled cocoa to be produced in the powder form we recognise today, which provided a more convenient form to which liquid could be added to form a drink.

¹⁴³ Lazonick, “Industrial relations”.

¹⁴⁴ Magee, *Manufacturing and Technological Change*.

¹⁴⁵ Othick, *The Cocoa and Chocolate Industry*.

This 'new' form of cocoa is described as 'pure cocoa essence' because it negates the need for 'adulteration' of the product by having to add other ingredients to make it palatable. Othick went on to make the point that the removal of the cocoa butter as a direct by-product of the Van Houten process, meant that this provided the main ingredient for the manufacture of block chocolate for eating, rather than as a beverage as originally intended for the cocoa bean.¹⁴⁶ Thus the whole concept of 'eating' cocoa as chocolate was stumbled upon almost by accident, as a need to find an economic use for the residue of the Van Houten technological process for producing a superior form of drink.

Whilst the Van Houten process was hailed as a technological success, Othick went on to point out that the diffusion of the process into the rest of the industry, particularly overseas, was painfully slow.¹⁴⁷ Part of the reason was the fact that cocoa, which was seen by consumers as a medicinal drink, persisted for much of the nineteenth century and most manufacturers produced and marketed the traditional form until the early twentieth century. Other reasons for the slow spread of the new process was that Van Houten tried to maintain the new process for himself, and also the fact that the new cocoa was more expensive to produce, and was therefore more expensive to buy for the consumer. This lack of progress has to be viewed within the context of the Chandlerian view of the slow response to new technologies by inefficient family-owned firms in the UK.

Othick also described the second major technological innovation, which was again pioneered by Van Houten during the 1860's. This was the process by which alkali was added to the cocoa powder. The original reason for the development of this refinement was to make the cocoa powder even more soluble, but had the indirect and unforeseen consequence of making the cocoa taste better, as it seemed to become more 'chocolatey' in flavour.¹⁴⁸ Again, this technological improvement was slow to be adopted by many manufacturers, one of the major objections was the reluctance to return to a process where another ingredient was added to what was now regarded as a 'pure' product. The concept of product adulteration and the diminishing of quality were key aspects at the time.

¹⁴⁶ Ibid.

¹⁴⁷ Ibid.

¹⁴⁸ Ibid.

The third key technological development in the industry concerned the improvement in the slowly expanding edible chocolate market. Wey described how in 1875 Peter in Switzerland succeeded in mixing cocoa paste with condensed milk to create the first example of milk chocolate, and this was originally dubbed *Gala Peter*.¹⁴⁹ Clarence-Smith claimed that this innovation was further refined in 1879 by Roderich Lindt, again in Switzerland, by the invention of ‘melting chocolate’, which is the basis of what we now recognise as chocolate today.¹⁵⁰ This method was developed by enriching the chocolate with added cocoa butter and the texture improved by the mechanical ‘conching’ process of the cocoa mass. This innovation allowed manufacturers to pour chocolate into moulds rather than pressing, as had been necessary previously.¹⁵¹

Confectionery Manufacturing Technology

Technological development in manufacturing processes occurred throughout the nineteenth century, with Othick pointing out that the leaders in the design and manufacture of capital equipment for the confectionery industry were based mainly in mainland Europe, with Lehmann of Dresden being perhaps the most important.¹⁵² He also stated out that the key impetus for the development of new confectionery manufacturing machinery was not to reduce costs, as might first be thought, but for improving the quality of the finished product.¹⁵³ Clarence-Smith made the point that it was the hugely impressive performance of the Lehmann machines at a trade fair in Chicago in 1893 which persuaded Milton Hershey to begin manufacturing chocolate in the USA. Hershey have continued to rely on German and Swiss machinery ever since.¹⁵⁴

Another key innovator in the development of confectionery equipment was Anton Reiche, founded in Dresden in 1870, and Clarence-Smith claimed he was by 1910 the largest supplier of moulds to the confectionery industry in the world.¹⁵⁵

¹⁴⁹ Wey, “How Swiss chocolate”.

¹⁵⁰ Clarence-Smith, *Cocoa and Chocolate*.

¹⁵¹ *Ibid.*

¹⁵² Othick, *The Cocoa and Chocolate Industry*.

¹⁵³ *Ibid.*

¹⁵⁴ Clarence-Smith, *Cocoa and Chocolate*.

¹⁵⁵ *Ibid.*

Knapp identified Buhler Brothers of Uzwil, Switzerland as leading innovators in the design of confectionery machinery, having developed the ‘conche’ equipment necessary for the Lindt process of the ‘melting chocolate’ technique.¹⁵⁶ Fitzgerald however, emphasised the point that many British confectionery manufacturers were supplied principally by Joseph Baker & Sons, a UK manufacturer of food processing equipment.¹⁵⁷

Evidence therefore suggested that many companies were involved in the design, manufacture and marketing of capital equipment for the confectionery industry throughout the nineteenth century. The availability of the new technologies was obviously available for those firms who could evaluate the potential benefits of these advances and turn them into competitive advantage.

Packaging Technology

The rise in consumerism and the advent of products designed to appeal to the new found attitudes and demands of the burgeoning middle classes and the urban working classes, meant that goods had to be stored, transported and displayed as they had never done so before. As Paine and Paine have explained, this meant that consumer goods required a means of protection in the first instance, for which the development of packaging technologies was designed to provide this. The direct opportunity that packaging provided was via a new means of communicating the product through design and branding techniques, and also as a means of mechanising the process.¹⁵⁸

The packaging of consumer goods, particularly foods, developed during the nineteenth century in which various materials such as glass, tin, paper and cardboard materials were utilised. Sacharow & Griffin described the historical background to the evolution of the packaging of convenience foods, claiming for instance the introduction of the first cardboard box for this purpose in the UK in 1817.¹⁵⁹ The use of wrappers was first used by French confectioners to wrap individual bonbons in 1847, and with the development of lithography and other graphic arts meant that the branding of products on to wrappers and boxes became commonplace during the last half of the nineteenth century. The introduction of tinfoil towards the end of the

¹⁵⁶ Knapp, *The Chocolate and Cocoa Industry*.

¹⁵⁷ Fitzgerald, *Rowntree and the Marketing Revolution*.

¹⁵⁸ Paine and Paine, *A Handbook of Food Packaging*, p. 1.

¹⁵⁹ Sacharow and Griffin, *Food Packaging*.

nineteenth century provided superior protection properties to convenience foods. Metal tins were also used by confectionery manufacturers amongst others, particularly for some assortment offerings, with the development of printing directly onto the metal being introduced by Lyons Cakes for an even better quality branding opportunity.¹⁶⁰

1.5 Conclusions

The emergence of a confectionery market in the UK during the nineteenth century and its growth and development into the twentieth century was the result of many complex and inter-related factors and circumstances, each of which was important in its own right.

The upward trend in the overall economic situation, albeit with cyclical fluctuations, provided the foundations for the emergence of large companies based on consumerism. The overall living standards of the population improved over time as measured by several key indicators, despite periods of high employment. Indeed for the majority of those in work, this period saw improvements in individual prosperity never experienced before in such a relatively short period of time providing an expanding market for companies providing consumer-led durable goods.

Growth in the economy meant significant progress in the development of basic infrastructures such as the transport systems of waterways, rail and road construction. This provided the basis for rapid communication and the method by which raw materials and finished goods could be moved in large quantities very quickly. As a consequence, retailing could develop within this transport network providing an ever increasing range of material goods to serve a more prosperous population.

Demographically, the period under consideration witnessed massive changes. What had been basically an agrarian population for centuries, suddenly within a short period of time the number of people living in the UK exploded and became an urban population with the majority living in towns and cities. This in turn gave rise to what is now called ‘consumerism’, in that the new urban and more well off individual required outlets for an increasing disposable income in the form of goods which serve

¹⁶⁰ Ibid., pp. 1-16.

a more social requirement, and also for more convenience in terms of the improvement in their everyday lives.

For the confectionery market, this was linked to the changes in the average diet of the working classes, which with the advent of cheap raw materials like sugar suddenly provided taste and variability to the traditional starchy and stodgy diets of the majority of people. The natural properties of sugar enabled several new convenience foods to be developed, which it turn could be packaged and advertised to appeal to a wider range of potential customers. The advent of a wide variety of opportunities and technical advancements for the advertising of the new consumer goods provided the requirement for differentiation in the form of branding for advertising to become effective.

Finally it was the individual technological breakthroughs in both confectionery product development and manufacturing processes, which occurred principally in mainland Europe, linked with the developments of the ability to successfully package the product, which provided the finished product itself that was to provide the stimulus for the eventual demand that led to the growth and development of the market in the UK, and thereby the manufacturers within it.

These factors are important in providing the environmental context from which Rowntree and Cadbury developed their internal competencies, including cost accounting capabilities, that allowed them to compete in the UK confectionery market during the interwar period and from which their respective performances can be measured.

Section 1 – Literature Review

Chapter 2

UK Confectionery Market

2.1 Introduction

The origins, development and maturation of the UK Confectionery Market were a direct consequence of the widely differing and complex external forces which have already been described in chapter 1. The inter-relationship between economic, social, cultural, and technological factors provided the environment in which the market for confectionery products evolved: where demand was driven by these prevailing conditions, and ultimately satisfied. It is important to understand the forces under which the market was created and developed in order to explain the ultimate factors necessary for successfully competing in this market. Consideration of the detailed dynamics from the earliest period is necessary to fully appreciate market conditions between 1919 and 1938.

This chapter therefore considers the fundamental factor underpinning the foundation of the market - the supply, price and availability of basic raw materials: sugar and cocoa beans. In addition, the way that the UK confectionery market was structured is analysed to provide the basic knowledge required for an understanding of its subsequent growth and development. A review is then undertaken of the published literature to provide an overview of the accepted understanding of the UK confectionery market, and how Cadbury's and Rowntree's competed in this environment.

2.2 Raw Materials Foundation of the UK Confectionery Market

Without a continuous and reliable supply of the two main raw materials of sugar and cocoa beans, there would be no UK Confectionery Market, or indeed a UK Confectionery Industry. The role of sugar in the UK diet during the nineteenth century has already been discussed in chapter 1, (particularly amongst the working class). However, the sugar industry was also an important facet of the UK economy

during this period and helps explain the origins and growth of the confectionery industry itself.

Whereas sugar was the facilitator for the creation and development of so many new convenience foods for the mass market, the cocoa bean was a major incubator in which sugar could enhance its consumption, either as a beverage or later as an edible product.

The cocoa bean which is the natural fruit of the *Theobroma Cacao L* tree was first cultivated as a crop by the various cultures of pre-Columbian Mesoamerica, and according to McNeill formed part of their religious rituals as well as being a component of the diet of the various tribes.¹⁶¹ He also suggested that the cocoa bean was a main ingredient in the medicines of these cultures. Following the subjugation of the societies in Mesoamerica by the Spanish conquistadores, the latter adopted the cocoa bean for their own consumption and cargoes of the raw material were shipped back to Spain.¹⁶² Indeed Norton suggested that cocoa's traditional use in rituals by the Central and South Americans transferred to Spain during the seventeenth century, and claims that the word 'Regalo' or 'Gift' was first used in the consumption of cocoa with its connotations of sensual pleasure and social affinity.¹⁶³

The commercial cultivation of the cocoa bean was originally confined to parts of South and Central America, especially Venezuela, Ecuador, Brazil and the Caribbean Islands, but as world demand grew during the nineteenth century, new sources of cultivation were established in other tropical areas of the world such as West Africa, notably the Gold Coast, Nigeria, Ivory Coast and Cameroon and also in South East Asia, especially Java. Consistent with other raw materials, there are differences in the quality (and taste) of cocoa beans depending upon where they are sourced. This difference in quality can also be measured in price. According to Wickizer the best quality beans are to be found in Venezuela and Ecuador, whilst the poorest quality is from West Africa.¹⁶⁴ The expanding market for confectionery products and the consequence of competitive pressures for cheaper raw materials were some of the reasons for the migration of cocoa bean production from the New to the Old World.

¹⁶¹ McNeill, *Chocolate in Mesoamerica*, p. 1.

¹⁶² Ibid.

¹⁶³ Norton, *Sacred Gifts*, p. 174.

¹⁶⁴ Wickizer, *Coffee, Tea and Cocoa*.

Table 2.1 provides an analysis of the changing sources over time of world cocoa bean production:

Table 2.1 Analysis of Changes in % Share of World Cocoa Bean Production 1895-1939

Production Source	1895 %	1909-13 %	1926-30 %	1935-39 %
Americas	86	62	44	30
Africa	10	35	64	69
Asia	4	3	2	1

Source: Wickizer (1951, p. 264).

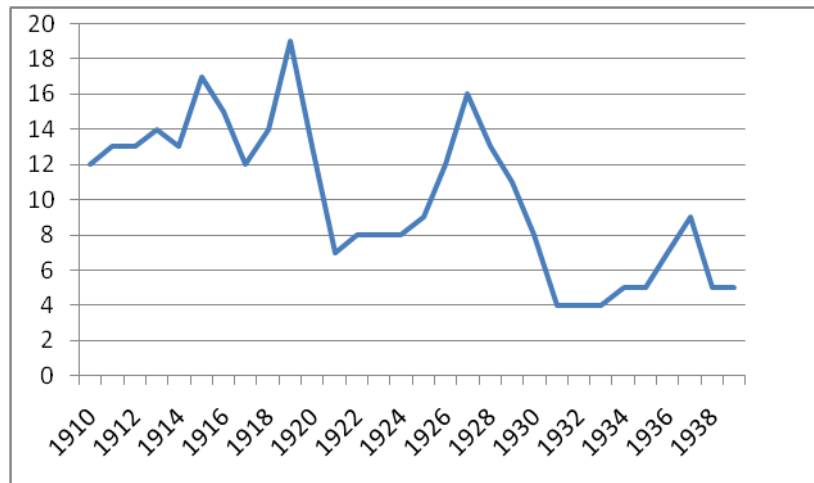
Wickizer also reported that of the 69% accounted by Africa in 1939, by far the largest individual nation producer was Ghana (formerly the Gold Coast), which accounted for some 38% of world cocoa bean production.¹⁶⁵

Unlike some other comparable markets, such as coffee for example, the relationship between the production of the raw cocoa bean and its use in the confectionery industry has been largely synchronised, which meant that there have been few instances of huge stockpiles of the raw material plaguing the industry. Wickizer attributed the steady decline in the price of cocoa beans to the growth of low-cost West African sources, and also from advancements in technology from an end-user perspective which permit use of lower quality beans.¹⁶⁶ Figure 2.1 provides evidence of the trend in the price of the Accra (Gold Coast) grade, which is the bean usually quoted on the New York market, because it reflects world prices.

¹⁶⁵ Ibid., p. 264.

¹⁶⁶ Ibid., p. 270.

Figure 2.1 Accra (Gold Coast) Cocoa Bean Prices: New York Market. (US cents per pound) 1910-1939



Source: US Bureau of Labor Statistics: Wholesale Prices.

The high price level of cocoa beans in the artificial conditions surrounding the Great War was followed by irregular declines, culminating in record lows in 1932-33, when the price averaged only 4.4 US cents per pound. Indeed average wholesale prices for ordinary grades remained at around 5 US cents per pound at the outbreak of World War II. For comparison purposes, by late 1947 the same grades of beans were selling in New York above 50 cents per pound, some ten times higher than previously. Some of this was a direct consequence of a reduction in supply: some growers, particularly in West Africa, who were forced to discontinue their cocoa bean crops because of the consistently low prices in the 1930's, in favour of more productive crops, which had the effect of reducing overall productive capacity in the post-war period thereby forcing up prices. Wickizer claimed that the sharp, if temporary price movements, illustrated in Fig. 2.1 were the result of wildly speculative activity in the markets based on unfound prospects for the industry.¹⁶⁷ However, it is argued here that the low price of cocoa beans during the 1930's in some ways "insulated" the confectionery industry from the world depression at that time and therefore failed to check the overall expansion of consumption.

¹⁶⁷ Ibid., p. 271.

2.3 Market Structure & Definitions

The origins of the UK Confectionery Market need to be seen in the context of the structure of the market alongside a clear definition of what actually constitutes ‘the market’, particularly with the identification of ‘categories’ that form it. Confectionery can be very broadly divided into its two constituent segments: sugar confectionery and chocolate confectionery. Within these two broad segments, sugar confectionery can be further divided into boiled sweets, liquorice, gums and pastilles, mints, toffees, rock and chewing gum. Chocolate confectionery can also be sub-divided into cocoa (as a drink) and chocolate (as an eating product). Within the chocolate segment, there are further categorises such as bars, assortments, biscuits and count-lines.

2.4 Origins and Early Developments up to 1870

The earliest date when confectionery was consumed within the UK is uncertain, and is inextricably related to the way in which sweetness (usually in the form of sucrose) has evolved historically, and then how the consumption of sweetness migrated around the world, to the British Isles. According to Richardson, the origins of confectionery consumption are in the Middle Eastern traditions of using the preserving properties of sugar to enable foods to be transported long distances.¹⁶⁸ He also asserted that the medicinal uses of sugar in combination with plant extracts in the Middle East were an important factor in the broader acceptance of sugar. Richardson traced the gradual migration of the consumption of sugar from east to west (i.e. Europe), beginning with the first real interface of these cultures during the period of the Crusades.¹⁶⁹ The diffusion of sweet consumption in different parts of Europe was relatively slow over the centuries that followed, and due to the high cost of sugar, was usually confined to the wealthy elements of society. As previously stated in chapter 1, it wasn’t until the mid-nineteenth century that the lowest cost of sugar enabled the working-classes to consume it and this has reflected changes to their diet.

Richardson claimed that the first real evidence of a confectionery market in the UK was during the latter half of the eighteenth century, when the few specialist confectioners in London who supplied their wealthy clients, also began to appear in

¹⁶⁸ Richardson, *Sweets*, p. 109.

¹⁶⁹ *Ibid.*, p. 110.

provincial cities like Bristol, Norwich and York.¹⁷⁰ The demand for cheap boiled sweets grew and as a result a ‘cottage industry’ emerged to supply the local needs of consumers. This small-scale operation became the norm for sugar confectionery and as a consequence data on the size and extent of the market during this time is virtually non-existent. Richardson pointed out that in Victorian Britain practically every village had women supplementing their income by boiling sweets to supply their local communities.¹⁷¹

In tandem with the consumption of confectionery in Britain, there was the increasing popularity of non-alcoholic beverages: tea, coffee and cocoa, again initially consumed only by the wealthy members of society. The consumption of cocoa in the form of a beverage was the pre-cursor to its consumption as an edible product, but also an important category in its own right.

According to Norton, the consumption of cocoa spread throughout the rest of Europe from Spain, initially by the clergy, aristocrats and army officers.¹⁷² It is also suggested that the perceived medicinal properties of cocoa helped increase its popularity important factor in its use and popularity.¹⁷³ Clarence-Smith claimed that Jewish communities were also responsible for the spread of the use of cocoa, being constantly on the move due to religious persecution and setting up workshops in many cities such as Amsterdam, Bayonne, Bordeaux and London.¹⁷⁴

According to Clarence-Smith, the consumption of cocoa in the UK was slow, and Churchman’s Chocolates established in 1728 in Bristol and later in St Paul’s Church Yard in London by Walter Churchman, is the first real evidence of the establishment of a manufacturer of any scale.¹⁷⁵ Wagner reported that this company actually patented the manufacture of its cocoa products in 1729, which was claimed to be the first example of the use of mechanisation in the industry.¹⁷⁶ This invention enabled cocoa beans to be ground more finely than by hand, which improved the consistency of the finished product. However, the market for cocoa in the UK at this time was small and almost entirely dominated by the wealthy members of society.

¹⁷⁰ Ibid., p. 214.

¹⁷¹ Ibid.

¹⁷² Norton, *Sacred Gifts*, p. 261.

¹⁷³ Ibid.

¹⁷⁴ Clarence-Smith, *Cocoa and Chocolate*, p. 66.

¹⁷⁵ Ibid.

¹⁷⁶ Wagner, *The Chocolate Conscience*, pp. 12-14.

Probably the first large scale confectionery manufacturer who had a significant impact on the UK market was another Bristol businessman, Joseph Fry, who had trained as an apothecary and practiced in Bristol during the mid-eighteenth century and began to use cocoa in a medicinal context, which was popular throughout Europe at this time. As Daiper pointed out, Fry followed in the tradition of Quakers, or the Society of Friends, by entering business to make a living because their religious beliefs prevented them by law from entering University or practicing any of the ‘learned professions’ due to the Test and Corporation Acts.¹⁷⁷ Daiper further argued that Quakers were ideally suited to business because of their frugality, industry and because they had the support of other Quakers. The importance of Quakers on the development of the UK confectionery industry cannot be overstated: the Fry example was to be repeated by the Cadbury and Rowntree families.¹⁷⁸

The tradition of Quakers entering business as a ‘profession’ was part of a general trend in which other religious ‘non-conformists’ in the UK sought ways of circumventing the restrictions placed upon them by society. Jeremy, however, commented that the actual extent to which the religious beliefs of the non-conformists contributed to the growth of business and the economic progress of the UK has been the subject of some debate.¹⁷⁹ He cited Casson, who forwarded the suggestion that it was the “trust” factor that existed within groups like the Quakers which was their key success factor, because a lack of trust increases transaction costs both within and between firms.¹⁸⁰ This therefore gave those firms dominated by religious groups an economic advantage driven by lower costs and faster transactions. This notion of trust is also supported by Fukuyama who pointed to the success of high-trust societies like Germany and Japan which has been translated into economic prosperity in these countries.¹⁸¹

Network relationships within religious groups and their effect on entrepreneurial success has also been identified by Rubenstein who claimed that it was factors such as risk-sharing, the supply of capital, opportunities, sharing of market information, honest partners and also the provision of long-standing dynasties through inter-

¹⁷⁷ Daiper, *J.S. Fry & Sons*, p. 33.

¹⁷⁸ *Ibid.*

¹⁷⁹ Jeremy, *Religion, Business and Wealth*, p. 16.

¹⁸⁰ Casson, *Entrepreneurship and Business*.

¹⁸¹ Fukuyama, *Trust: The Social Virtues*.

marriage which were important, rather than spurious pious attitudes and beliefs.¹⁸² Credit worthiness and the effective supply of capital within the Quaker community is also deemed to be an important factor in industrial development by Prior & Kirby, who provided the important example of the building of Britain's first commercial railway line between Stockton and Darlington in 1825, which was funded through Quaker connections.¹⁸³

The influence of Quaker beliefs, attitudes and community upon the UK confectionery market and how this influenced the individual and collective behaviour of individual firms, their corporate objectives and how this has manifested itself into financial performance, will be explored later.

Regarding Quaker involvement in the UK confectionery market, Walvin mentioned that the establishment of Joseph Fry as a businessman in 1753 was made with "the assistance of other Friends", as Bristol had a thriving Quaker community at this time.¹⁸⁴ With this support, Fry had the confidence to consider the future expansion of his business by concentrating on cocoa and chocolate. Daiper traced Fry's expansion to the purchase of the Churchman business in 1761, including the patent for the mechanical process of chocolate production, and then deciding to invest in larger premises as well as purchasing a Boulton & Watt water engine to further enhance his firm's capabilities.¹⁸⁵ It is interesting to note here that even after Fry had taken over the Churchman business, which provided the technical expertise, he continued to advertise 'Churchman Chocolate', which obviously meant that Fry recognised the importance of the acquired 'brand' name and the leverage this gave to his own products, which he continued to market alongside. Daiper also suggested that the geographical location of the infant Fry confectionery business was a key factor in terms of a relatively affluent customer base in Bristol, given that cocoa and chocolate were still an expensive luxury, and also that Bristol was also a major port for immediate access to key imported raw materials.¹⁸⁶

Data on the performance of Fry as one of the early manufacturers of confectionery during this period is almost non-existent, though Daiper pointed out, that by 1764 Fry

¹⁸² Rubinstein, *Religion, Business and Wealth*, p. 172.

¹⁸³ Prior and Kirby, *The Society of Friends*, pp. 121-129.

¹⁸⁴ Walvin, *The Quakers*, p. 158.

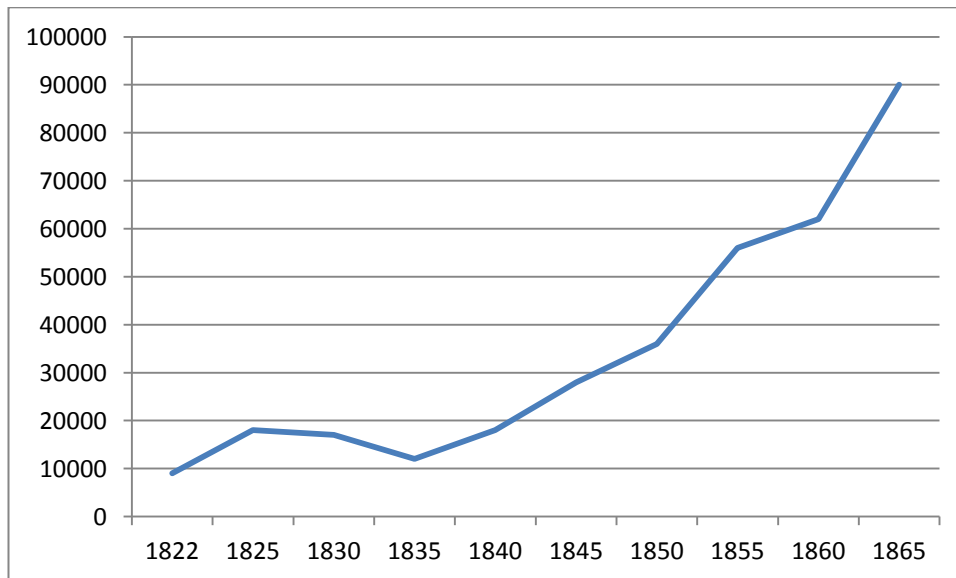
¹⁸⁵ Daiper, *J.S. Fry & Sons*, p. 35.

¹⁸⁶ *Ibid.*

had built up a network of agents in 53 locations throughout the country and had opened a large warehouse in London, providing evidence of a national operation.¹⁸⁷ Also the company moved into larger premises in Bristol in 1777 to cope with the increased demand. Following Joseph Fry's premature death in 1787, the company briefly passed to his wife until his son Joseph Storrs Fry was old enough to take full responsibility for the running of the business in 1795. Almost immediately, J. S. Fry began a programme of expansion and mechanisation in production, using these technical advances as a point of difference in his advertising claims.

Fry's expansion was halted in the general economic slump following the Napoleonic Wars, which lasted until around 1840, and as Clarence-Smith pointed out this was a stagnant market for confectionery in general with few real advances made during this period. He goes on to state that even the major technical breakthrough made by C. J. Van Houten in 1828 and the effective removal of the high fat content of cocoa was insufficient to provide an impetus to the market.¹⁸⁸ Data contained in Figure 2.2 regarding the sales performance of Fry is available from 1822, and clearly shows the effect of the economic depression of 1820-40, but expansion after this between 1840 and 1865:

Figure 2.2. J.S. Fry & Sons: Sales 1822-1865. (In £'s)



Source: Daiper (1988, p. 37).

¹⁸⁷ Ibid., p. 36.

¹⁸⁸ Clarence-Smith, *Cocoa and Chocolate*, p. 69.

Daiper attributed the success of the company during this time to the effect of J.S. Fry's three sons who took control of the business after his death in 1835.¹⁸⁹ The effect of Fry on the market was substantial in the mid-nineteenth century. The demand for cocoa products was increasing due to the external environment already discussed in chapter 1 and Fry's provided additional stimulus by providing new products which would appeal to different ranges of consumers, including a 'healthy options' range. Of course it was working class consumers who grew rapidly during this period and Fry deliberately targeted this section by providing a product designed to appeal to this market, and from which much of the sales expansion was to come.

During the mid-nineteenth century the UK market demonstrated an increasing affinity for edible cocoa products, rather than just cocoa beverage. This demand was stimulated by imports of chocolate 'assortments' consisting of different flavours being produced by French manufacturers. Clarence-Smith offered the examples of Pelletier in Paris, Loutit of Bordeaux and especially Menier of Noisiel.¹⁹⁰ As was usual in the industry, Menier began in business, by manufacturing medicinal products, with chocolate as a side-line, but confectionery quickly became the mainstay of his business after he pioneered the process of the efficient packaging of chocolate and cocoa products. Menier had expanded greatly during this period and invested heavily in new production technologies at their purpose-built factory in Noisiel near Paris, which became known as the "cathedral".¹⁹¹ Indeed, it was claimed that this factory was the largest confectionery manufacturing unit in the world at the time. Daiper pointed out that Fry's along with other British manufacturers attempted to copy the 'French' style by offering individual sweets in an attractive boxed assortment.¹⁹² Clarence-Smith also claimed that individual bars of eating chocolate were introduced by the company as early as 1852, with the Royal Navy being one of the biggest customers.¹⁹³

Whilst the UK confectionery market did expand considerably during the mid-nineteenth century, in contextual terms it was still a small and highly fragmented

¹⁸⁹ Ibid., p. 38.

¹⁹⁰ Clarence-Smith, *Cocoa and Chocolate*, p. 69.

¹⁹¹ Ibid., p. 73.

¹⁹² Daiper, *J.S. Fry & Sons*, p. 39.

¹⁹³ Clarence-Smith, *Cocoa and Chocolate*, p. 75.

industry with Fry's becoming the largest player during this time, with only 193 employees in 1867.

The Cadbury family had been prominent Quakers in the Birmingham area for some years carrying out a number of business operations including draper, tea dealer and coffee roaster. In 1831, John Cadbury began his career as a chocolate manufacturer, and according to Walvin he divided his time between the development of his business and philanthropic duties in the city of Birmingham in his role as a leading Quaker.¹⁹⁴ The focus of John Cadbury was not entirely on the management of the business, and as a result financial problems began to occur, partly as a consequence of their products being inferior in quality to other cocoa manufacturers.¹⁹⁵ It is estimated by Walvin that Cadbury had become one of the smallest of approximately thirty cocoa and chocolate manufacturers in the UK at this time. Consequently, the control of the business was assumed by two of John Cadbury's sons, Richard and George Snr. in 1861, with product quality their first priority in re-establishing their reputation in the market. A key decision in 1866 was to incorporate the Van Houten process for removing the high fat content from the cocoa bean. Their new product *Cocoa Essence*, became key to the company's future prosperity, although in the short term it probably saved the business from liquidation.¹⁹⁶ Again, putting the role of Cadbury as a business into context, Clarence-Smith estimated that the company only employed 30 people in 1860.¹⁹⁷

The other eventual prominent large player in the UK confectionery market was Rowntree of York, another Quaker family. The original cocoa and chocolate business had been established in York during the early eighteenth century by another Quaker family, the Tukes. Mennel stated that like many others, the Tuke business encompassed many Grocery activities.¹⁹⁸ In 1861 Henry Isaac Rowntree purchased the cocoa and confectionery operation of the Tuke business and set up his own factory in York moving into new premises in 1862, and also placing product quality at the forefront of the new business. According to Fitzgerald the business employed about 12 people in 1862, demonstrating that the company was very small indeed in

¹⁹⁴ Walvin, *The Quakers*, p. 166.

¹⁹⁵ *Ibid.*, p. 167.

¹⁹⁶ Williams, *The Firm of Cadbury*, pp. 37-41.

¹⁹⁷ Clarence-Smith, *Cocoa and Chocolate*, p. 74.

¹⁹⁸ Mennel, *The Romance of a Great Industry*.

comparison to other manufacturers.¹⁹⁹ In a situation similar to the Cadbury experience, Henry Isaac Rowntree was more interested in the activities of the Quaker movement in York than in the business, and by 1869 the company was on the brink of bankruptcy. According to Fitzgerald, only the decision by Henry Isaac to bring his brother Joseph Rowntree into the business to provide much needed financial skills, which prevented the looming liquidation of the company.

The confectionery market was, by 1870, gradually increasing due to demand created by the external factors examined in chapter 1. The industry which grew up to satisfy the market was very fragmented, innovation had been implemented at a very slow pace and the individual companies were dominated by Quaker influences.

2.5 Growth & Expansion: 1870-1914

If the foundations of the confectionery market were laid during the early and mid-nineteenth century, then the period from around 1870 to the start of the Great War is when the market grew and expanded to meet the demand created by the factors considered in chapter 1. Published data illustrating the growth and expansion of the confectionery market is only available from 1900, and this information provides invaluable insights into the dynamics of its development during this period (see Appendix 1).

The influence of foreign manufacturers on the UK market during the early part of the nineteenth century has already been alluded to in the form of Van Houten of Holland in the drinking cocoa category and Menier of France in the chocolate assortments category. Indeed, Othick suggested that up to around 1890, Van Houten probably sold more drinking cocoa than any other manufacturer in the UK.²⁰⁰ This influence was further increased by the expansion of the confectionery industry in Switzerland, principally in the chocolate blocks category, which had a profound effect in the shaping of the UK market in the years up to 1914, to technological developments already described in chapter 1, and their exploitation. There were, however, other factors which enabled them to successfully assault foreign manufacturers in the UK market prior to the Great War, and these factors will be discussed in due course.

¹⁹⁹ Fitzgerald, *Rowntree and the Marketing Revolution*, p. 48.

²⁰⁰ Othick, *The Cocoa and Chocolate Industry*, p. 83.

During the early part of the nineteenth century a number of small confectionery manufacturers emerged in Switzerland to serve their domestic market. Wey described the emergence of the Swiss confectionery industry and claimed that F.L. Cailler of Vevey was one of the early pioneers, having learnt the skills of the confectioner in Italy before opening up his own manufacturing facility in 1819²⁰¹. Wey discussed Cailler's contemporaries, including Phillipe Suchard of Neuchatel in 1826, Amadee Kohler of Lausanne in 1830, Rudolf Sprungli of Zurich in 1845, Daniel Peter of Vevey in 1867, Jean Tobler of Berne in 1869, Rudolf Lindt of Berne in 1879 and Henri Nestle in 1905, and suggested that the years 1890-1920 were the heyday of the Swiss chocolate industry in terms of its influence throughout the world: by 1912 the Swiss had cornered 55% of the world's chocolate export market.²⁰² It was only the outbreak of the Great War and the subsequent difficult years that eventually ended Swiss dominance and allowed domestic manufacturers, particularly in the UK, to take advantage of the vacuum left by Swiss companies.

Heer provided some explanation of the reasons why the Swiss were so successful during this period in penetrating export markets, especially in the UK. The root of the technological breakthrough in the creation of a 'milk chocolate' by Daniel Peter, as described in chapter 1, was in the availability of condensed milk, which had in turn been the source of another separate, but successful industry also based in Switzerland.²⁰³ Heer went on to describe the fierce competition between the two main manufacturers of condensed milk in Europe during the latter half of the nineteenth century and the beginning of the twentieth century: The Anglo-Swiss Condensed Milk Company of Cham, and Nestle of Vevey.²⁰⁴ The Anglo-Swiss Condensed Milk Company had been created in 1866 by two American brothers, Charles and George Page, supported by other American and Swiss businessmen. The term "Anglo" in the company was designed to ensure greater acceptance in the UK market, as the new company clearly identified where the potential for sales was going to come from. Their main rival, Nestle had been founded by Henri Nestle, a chemist and inventor who had dabbled in various activities before creating the world's first infant milk formula as a substitute for breast milk in 1867. The company expanded rapidly as

²⁰¹ Wey, "How Swiss chocolate", p. 8.

²⁰² Ibid.

²⁰³ Heer, *World Events*.

²⁰⁴ Ibid., pp. 28-78.

worldwide demand multiplied, but the aging Henri Nestle was not really a businessman and in 1874 he sold the business to three experienced Swiss industrialists, and effectively ceased all contact with the company that still bears his name. Before his retirement, it is interesting to note points out that despite some suggestions for change, particularly in some export markets, Henri Nestle insisted the prominence of the “nest” trade mark in all of his products, thereby creating the brand image still perceived as important today.²⁰⁵

Heer described how the new owners of the Nestle company began to expand the business, moving into the condensed milk sector in 1878 to challenge the Anglo-Swiss Condensed Milk Company. The intense rivalry which followed forced both companies to improve their respective production, distribution and marketing capabilities, especially for Nestle, who were to later utilise these capabilities when they further expanded their scope of operations into the manufacture of confectionery in 1905 which had a profound effect on both the Swiss and the UK market.²⁰⁶

Prior to Nestle entering the confectionery market, the other Swiss manufacturers had been carefully nurturing their own capabilities, based on innovative product offerings founded on the technological advances already identified. One contemporary commentator, Farrer ascribed part of the success of Swiss manufacturers to the quality of local milk coupled with the availability of cheap electricity and investment in the newest machinery.²⁰⁷ In Table 2.2 Farrer also provided some evidence of rapid growth during this period:

Table 2.2 Total Exports of Swiss Confectionery 1890-1906

Year	Export Sales £'s	Index
1890	£85,331	100
1895	£150,509	176
1900	£434,599	509
1906	£1,453,195	1703

Source: Farrer (1908, pp. 111-112).

²⁰⁵ Ibid., p. 43.

²⁰⁶ Ibid., p. 64.

²⁰⁷ Farrer, “The Swiss chocolate industry”, p. 111.

The total export sales described by Farrer were destined for many countries, but Heer suggested that about half went to the UK, encouraged by free trade and increasing consumer demand.²⁰⁸ Such was the attractiveness of the UK market, that a spate of mergers occurred between the leading Swiss confectionery manufacturers to establish formidable businesses capable of further assaults on the UK market. Heer claimed that these arrangements were part of an overall strategy by Swiss companies to provide the capabilities to exploit export markets, particularly within the UK.²⁰⁹

As part of these merger arrangements, Kohler joined with Peter in 1904 to form the Swiss General Chocolate Company, to which Nestle also agreed to a partial merger in 1905. The rationale was that Nestle already had substantial distribution networks in the UK, which would provide the necessary leverage for expansion. In 1911 this alliance was strengthened by the addition of Cailler to establish a large and very dangerous threat to other manufacturers in the UK market.

In addition to the onslaught of the Swiss manufacturers, the UK market also became the target of the German confectioner Stollwercks of Cologne, which Chandler described an example of a company which invested greatly in their organisational capabilities of marketing, advertising, packaging and distribution which enabled them to expand into Europe and the USA. Chandler claimed that this success was achieved through the recruitment of professional managers at a much earlier stage than at Cadbury's; it appeared that foreign companies were much quicker to identify and exploit opportunities than their UK counterparts. Such was the Stollwercks ambition regarding their expansion in the UK market was that they opened a factory in London in 1903.²¹⁰

Although the UK market was greatly influenced by these foreign companies, her domestic manufacturers were also experiencing growth. J.S. Fry, the leading UK manufacturer, undertook an extensive building programme at their Bristol factory to cope with the increase in demand in the years following 1870. Daiper put this into perspective, by indicating that the number of employees increased from 193 in 1867 to around 5,000 by 1914.²¹¹ Despite the investment in new factory premises,

²⁰⁸ Ibid., p. 85.

²⁰⁹ Ibid., p. 84.

²¹⁰ Chandler, *Scale and Scope*, pp. 399-401.

²¹¹ Daiper, *J.S. Fry & Sons*, p. 40.

Clarence-Smith pointed out that the expansion took place over many different sites within the company eventually having to co-ordinate eight different locations in Bristol.²¹² This, combined with the conservative attitude of ageing owner Joseph Storrs Fry regarding product development and advertising, saw the company's market share gradually falling year by year, being finally overtaken by Cadbury's in 1910 (see Appendix 1). Daiper provided another explanation for the demise of Fry's, claiming that it was complacency and a lack of entrepreneurial skills which proved costly, with the main criticism being levelled at Joseph Storrs Fry II, who never relinquished power to more younger and innovative members of the family, right up to his death in 1913 at the age of 87.²¹³

Cadbury's embraced technological advancements in the drinking cocoa category as evidenced by the introduction of their unadulterated *Cocoa Essence*, based on the Van Houten process which, according to Bradley was the principal reason for the gradual erosion of Fry's market position; the latter had steadfastly persevered with their long-standing adulterated cocoa brands.²¹⁴

As briefly discussed in chapter 1, the topic of the adulteration of foods had been a long-standing issue in the UK and it was partly through lobbying by Cadbury's that led to the Adulteration of Foods Acts in 1872 and 1875.²¹⁵ Bradley emphasised the point that the fallout from this legislation was that manufacturers had to state on their labels what had been added to their product, which of course gave the Cadbury offering a unique point of difference, given that their cocoa was "pure" and free from additives.²¹⁶

The success of Cadbury's unadulterated *Cocoa Essence* continued to the end of the nineteenth century and enabled the company to move to a purpose built factory at Bourneville just outside Birmingham in 1879, employing just 230 people, but this rose to 1,193 by 1889 and 2,685 by 1899. Smith, Child & Rowlinson viewed this move by Cadbury as being an important strategic change for the industry which

²¹² Clarence-Smith, *Cocoa and Chocolate*, p. 40.

²¹³ *Ibid.*, p. 49.

²¹⁴ Bradley, *Cadbury's Purple Reign*, p. 12.

²¹⁵ Many food manufacturers including Fry's had opposed the legislation, maintaining that the practice of adding other substances enhanced flavour in their products. See French and Phillips *Cheated not Poisoned*, pp. 35-36.

²¹⁶ Bradley, *Cadbury's Purple Reign.*, p.13.

others had to follow if they were to be able to remain in business.²¹⁷ However, as Smith, et al pointed out, there had already been examples of other UK confectionery firms moving into new modern factories, notably Epps & Co in 1872. This change in the Cadbury ambition was matched by the decision to register as a private limited company in 1899.²¹⁸

However, despite their progress, Cadbury's dominance of the drinking cocoa category was challenged by a new version of the product by Van Houten, who had developed improvements in the taste and texture of cocoa by introducing alkali into the process, as described in chapter 1. The new cocoa was marketed in the UK by Van Houten and immediately began to have adverse effects on other cocoas which were available, and particularly Cadbury's Cocoa Essence. This caused controversy as the addition of alkali was perceived by some as a return to adulteration; indeed Bradley described how Cadbury launched a campaign to try and prove that the addition of alkali was harmful to consumers.²¹⁹ This campaign proved to be counter-productive for Cadbury: the market positioning for 'purity' in the cocoa market had been overtaken by consumer desire for taste and solubility, which Van Houten had identified and was subsequently exploiting. Cadbury's had mistakenly thought that their *Cocoa Essence* was the driver of their success, but perhaps they were simply expanding along with the market in general.²²⁰ Indeed, by the beginning of the twentieth century sales growth of *Cocoa Essence* halted, and then gradually began to decline in line with Cadbury's market share (see Appendix 1).

The response by Cadbury's was to introduce two new products which were eventually to prepare the foundations for their future success. In the drinking cocoa category, they abandoned their initial opposition to the Van Houten alkalized cocoa and developed their own version, *Bourneville Cocoa* in 1906.²²¹ This effectively meant the beginning of the end for their previously biggest selling line, *Cocoa Essence*. The other major product development was in the milk chocolate blocks category, a direct response to the growing threat from Swiss manufacturers. Bradley claimed that the significant insight that was made was that the increasing public

²¹⁷ Smith, Child and Rowlinson, *Reshaping Work*, p. 55.

²¹⁸ *Ibid.*, p. 54.

²¹⁹ *Ibid.*, pp. 21-22.

²²⁰ *Ibid.*, p. 23.

²²¹ *Ibid.*, p.28.

preference for Swiss milk chocolate did not depend on the ‘cocoa’ credentials, but was the ‘milk’ credentials.²²² This realisation provided the foundation for the introduction of *Cadbury Dairy Milk* in 1905, claiming the ‘glass and a half’ of full cream milk as their major selling point. The approach to this product has been largely unchanged to the present day. The initial marketing of Cadbury Dairy Milk emphasised quality and value, as opposed to the Swiss approach of presentation and advertising, and this had the effect of slowly building a notable brand following up to the outbreak of the Great War.²²³

The category of chocolate assortments (or ‘boxed chocolates’), which had been dominated by French manufacturers, notably Menier, who had expanded extensively and also had established a factory in London in 1870 was also challenged by Cadbury’s.²²⁴ This category was more specialised in nature, but as with cocoa and milk chocolate, the company simply copied the market leaders, even to the extent of opening an office in Paris which gave the company certain ‘French’ credentials on their packaging and other promotional materials.²²⁵ The main product developed by Cadbury in this category was *Milk Tray*, introduced in 1915.²²⁶ Overall this meant that by 1914, Cadbury employed around 7,500 people at their Bournville headquarters.²²⁷

The UK’s third major cocoa manufacturers, Rowntree were also trying to compete effectively in the confectionery market during this time. In the drinking chocolate category, they introduced their *Elect Cocoa* brand in 1887, a product version of the Van Houten process which meant it could compete against other premium cocoas like Cadbury’s *Cocoa Essence*.²²⁸ However, Fitzgerald pointed out that the drinking chocolate market included a large segment of cheap unbranded versions, which firms like Rowntree, Cadbury and Fry reluctantly felt they had to engage within order to defend their respective market shares.²²⁹ Although as Goodall explained, it was the innovative marketing techniques used by Rowntrees, including sampling and coupons

²²² Ibid., p. 34.

²²³ Ibid., p. 37.

²²⁴ Clarence-Smith, *Cocoa and Chocolate*, p. 55 and Bradley, *Cadbury’s Purple Reign*, p. 40.

²²⁵ Othick, *The Cocoa and Chocolate Industry*, p. 84.

²²⁶ Williams, *The Firm of Cadbury*.

²²⁷ Fitzgerald, *Rowntree and the Marketing Revolution*, p. 223.

²²⁸ Ibid., p. 59.

²²⁹ Ibid., p. 79.

which allowed the company to compete effectively in a market segment which had been dominated by Van Houten and Cadbury.²³⁰

Nonetheless, it was in the sugar confectionery category which was to be the foundation of Rowntree success following the introduction of *Fruit Pastilles* and *Fruit Gums* in 1881.²³¹ These products were normally imported from French manufacturers, and the folklore suggested that a French confectioner Claude Gaget “called upon the Rowntree factory” offering his services to help develop their product range.²³² After much product development Rowntree firmly established their market position in this category, and as Fitzgerald stated, it was the increase in sales of *Fruit Pastilles* and *Fruit Gums* that inspired the decision to move to purpose built premises on the outskirts of York in 1890, following the earlier decision by Cadbury to move to their Bournville site.²³³ In line with their expansion, Rowntree’s became a private limited company in 1897, chiefly to raise further capital for the company’s plans for further development at their new site.²³⁴

The one category which was proving elusive for domestic manufacturers at the end of the nineteenth century, and the start of the twentieth century was in chocolate blocks, in which the Swiss were the dominant competitors. Rowntrees’ own development of milk chocolate was uninspiring, and their offerings at the time bore ‘Swiss’ sounding names like “*Alpine*” and “*Mountain Milk*” to try and emulate the market leaders, but the quality of their offerings was inferior to Swiss products.²³⁵ Consequently, in this period Rowntree were unable to mount a successful challenge in the chocolate blocks category.

In addition to the three main UK manufacturers of Fry, Cadbury and Rowntree, and the plethora of foreign companies, the UK confectionery market was extremely fragmented, and other manufacturers vied for market share. Clarence-Smith, mentioned Terry’s of York, another Quaker company founded in 1767, Taylor Brothers of London, who had once claimed to be ‘the largest manufacturers of cocoa

²³⁰ Goodall, *Marketing Consumer Products*, pp. 26-36.

²³¹ Fitzgerald, *Rowntree and the Marketing Revolution*, pp. 56-57.

²³² Goodall, *Marketing Consumer Products*, p. 24.

²³³ *Ibid.*, p. 76.

²³⁴ *Ibid.*, p. 69.

²³⁵ *Ibid.*, p. 79.

in Europe', and also Carsons of Scotland.²³⁶ However, the firm of Mackintosh's of Halifax was probably the most important 'other' UK confectionery manufacturer. Fitzgerald described Mackintosh's, founded in 1890 and incorporated in 1899 by a leading Methodist John Mackintosh, as a major influence on the UK market because they manufactured and marketed a range of distinctive products, concentrating initially on the sugar category.²³⁷ Their early competence was in the development a range of toffee products, building on the popular American caramels, but with a softer, more chewy texture which appealed to UK taste. Fitzgerald also suggested that the company was a leader in the marketing of their products evidenced by the quadrupling of their overall market share in the years from 1900 to 1914 (see Appendix 1).²³⁸

In summary, the UK confectionery market experienced significant growth during the years leading up to the beginning of the Great War, fuelled by: technological developments, chiefly from the continent, which greatly enhanced the quality of the products being marketed; increasing use of advertising and marketing techniques; falling costs (both raw material and manufacturing costs), and an increasing level of affluence which allowed for the development of consumer goods. In value terms, the UK market almost doubled in the years 1900 (£16.25m.) to 1914 (£31.04m.) - see Appendix 1. In this period competition was not merely between the leading UK manufacturers, but also involved aggressive European firms who wanted to exploit the commercial opportunities. It is also worth pointing out that the three major UK manufacturers, Fry, Cadbury and Rowntree were not particularly innovative companies, but imitated the technologies and ideas that had been invented elsewhere in Europe.²³⁹

2.6 Impact of the Great War: 1914-1918

It is widely accepted that the Great War had a significant impact upon the UK confectionery market, both during the war itself and in the conditions that existed in the post-war period.

²³⁶ Clarence-Smith, *Cocoa and Chocolate*, p. 81.

²³⁷ Fitzgerald, "Markets, management and merger", p. 555.

²³⁸ *Ibid.*, p. 561.

²³⁹ See Othick, *The Cocoa and Chocolate Industry*, p. 88, Smith et al, *Reshaping Work*, p. 60 and Bradley, *Cadbury's Purple Reign*, p. 68.

The data in Appendix 1 shows that there was no increase in the total market shares of the UK manufacturer's in the years prior to the Great War, confirming the increasing encroachment of foreign competition. Heer acknowledged that the outbreak of war posed significant problems for Swiss confectionery companies who relied heavily on a thriving export trade, but who encountered raw material supply shortages and an ever increasing blockade for finished products to export destinations like the UK.²⁴⁰

Bradley claimed that the war reduced the imports of Swiss chocolate to a trickle, thereby eliminating the biggest competition to Cadbury's *Dairy Milk* brand in the block chocolate category.²⁴¹ Bradley also suggested that the war decimated Van Houten's sales in the drinking cocoa category, which never recovered once hostilities were over,²⁴² whilst Chandler reported the fact that the London factory premises of the German company Stollwercks was appropriated by the UK government at the start of the hostilities, with the result that the company never recovered its UK market position.²⁴³

A key effect of the war was the acute shortages of raw materials, in addition to labour, following mobilization. According to Fitzgerald, this was the catalyst for placing greater emphasis on greater efficiency, standardisation and longer production runs, combined with a new approach to marketing based on the sudden mismatch between supply and consumer demand.²⁴⁴ Bradley also echoed the point, claiming that the war had forced Cadbury to significantly reconfigure their product range and methods of manufacture, making production efficiency the new priority.²⁴⁵

Prior to the war there had been some collusion between the three major UK manufacturers of Fry's, Cadbury's and Rowntree's, and as Clarence-Smith pointed out this was based on the fact that all were connected by their Quaker affiliations.²⁴⁶ But this collusion was limited to giving discounts to retailers and fixing minimum prices, especially in the chocolate blocks category. Othick also claimed that collusion

²⁴⁰ Heer, *World Events*, p. 115.

²⁴¹ Bradley, *Cadbury's Purple Reign*, p. 39.

²⁴² *Ibid.*, p. 29.

²⁴³ Chandler, *Scale and Scope*, p. 515.

²⁴⁴ Fitzgerald, *Rowntree and the Marketing Revolution*, pp. 131-138.

²⁴⁵ Bradley, *Cadbury's Purple Reign*, p. 74.

²⁴⁶ Clarence-Smith, *Cocoa and Chocolate*, p. 80.

in the UK confectionery industry included agreements on raw material supply, railway freight costs, trade-marks and advertising.²⁴⁷

One direct consequence of the war was that these informal arrangements generated more serious discussions regarding a formal merger of the three main Quaker-controlled companies, which would provide a stronger entity to defend against any possible renewed onslaught from foreign competitors.²⁴⁸ Fitzgerald described more formal arrangements between Fry and Cadbury were instigated in 1915, which were to become known as the “Cheltenham Conferences”, although Rowntree’s declined participation at that point.²⁴⁹ As the war progressed, Daiper claimed that Cadburys made a formal merger offer to Frys in 1918 in arguing that such a merger would reduce the wasteful elements of competition, better serve the community, as well as providing a more robust adversary for any foreign manufacturers.²⁵⁰ Daiper maintained that this suggestion from Cadbury came at a time of anxiety for the Frys because of its falling market share, its inability to compete effectively, and they therefore agreed to a formal merger.²⁵¹ Unfortunately the advisors to the firms could not agree upon a basis for merger, so a holding company was formed - the British Cocoa & Chocolate Co (BCCC), in which Cadbury members dominated the board. The two companies traded separately following this arrangement, until official amalgamation in the form of a takeover took place in 1936. As Fitzgerald mentioned, although Rowntree’s agreed to participate in the Cheltenham Conferences in 1918, the rationale for not wanting to join the merger with the BCCC was that it was at variance with company principles of fair trading and fair employment.²⁵² This opinion was, however, to change within a short period of time following the cessation of hostilities.

The Great War therefore changed the landscape of the UK confectionery industry. Some of the major competitive threats had been removed, giving opportunities for domestic manufacturers to consider how to compete in the new world environment.

²⁴⁷ Othick, *The Cocoa and Chocolate Industry*, p. 88.

²⁴⁸ Fitzgerald, *Rowntree and the Marketing Revolution*, pp. 131-138.

²⁴⁹ *Ibid.*

²⁵⁰ Daiper, *J.S. Fry & Sons*, p. 50.

²⁵¹ *Ibid.*

²⁵² Fitzgerald, *Rowntree and the Marketing Revolution*, p. 137.

2.7 Maturity & Mass Market: 1919-1938

1919-1923

Analysis of the total UK confectionery market provided in Appendix 1 shows that in sales value the market grew by 190% between 1900 and 1914, stimulated greatly by the availability (up until 1914) of a range of superior product offerings in various categories from European manufacturers. As we have seen, the Great War temporarily reduced these foreign products in the UK almost to zero, providing the opportunity for domestic manufacturers to fill the vacuum that this created. Indeed as Corley has indicated, the inter-war period saw a 30% rise in consumer's real expenditure which created enormous opportunities for domestic producers of consumer goods in a range of "Buy British" initiatives during this time.²⁵³

Within the confectionery market, it has already been demonstrated that Cadbury had successfully replicated the quality of the pre-1914 foreign offerings with the introduction of *Dairy Milk* block milk chocolate in 1905, *Bournville Cocoa* in 1906 and *Milk Tray* in 1915. Bradley argued that these pre-war initiatives provided Cadbury with a competitive advantage in terms of product offerings, enabling them to control the direction of the market in the years immediately following the war.²⁵⁴ However, as Bradley pointed out, Cadbury had no idea at the time that the substantial threat from the pre-war foreign manufacturers would **not** return in earnest once hostilities were ended.²⁵⁵ Therefore, as a possible defence against this eventuality, Cadbury passed on the reductions in raw material prices that occurred between 1920 and 1924 to the consumer. This meant that for Cadbury, by 1924 the retail price of their biggest sellers *Bournville Cocoa* and *Dairy Milk* were back at their pre-war price levels.²⁵⁶

Cadbury attempted to understand the nature of the UK confectionery market in the years following the Armistice. Fitzgerald has pointed out that the company introduced sales planning by collecting information on regional sales patterns, which provided data on the efficiency of its distribution systems.²⁵⁷ However, whilst this

²⁵³ Corley, "Consumer marketing", p. 70.

²⁵⁴ Bradley, *Cadbury's Purple Reign*, p. 45.

²⁵⁵ *Ibid.*, p. 74.

²⁵⁶ *Ibid.*

²⁵⁷ Fitzgerald, "Products, firms and consumption", p. 516.

new use of data provided information that the company was increasing its sales, Fitzgerald suggested that it was the success of *Dairy Milk* that was providing the expansion: the market for cocoa beverages had peaked, and would remain unchanged for the next fifty years.²⁵⁸

Whilst Cadbury appeared to be in a more fortunate position following the end of the Great War, having already established their CDM brand in the block chocolates category, Rowntree's suffered as a consequence. However, as Appendix 1 illustrates, the market share for both companies was in decline during this crucial period when significant opportunities presented themselves to UK domestic manufacturers. The explanation why Rowntree's suffered in terms of sales immediately after the war came from Joseph Rowntree who blamed the deterioration of the quality of their products on the inferior raw materials available during the conflict. Terry's of York had become one of the leading manufacturers in the assortments category, and Rowntree's saw their opportunity to introduce lines which could challenge this position.²⁵⁹

One of the key categories in which Rowntree's had a dominant position was in the sugar category, especially so with their *Fruit Gums* and *Fruit Pastilles*, but as Fitzgerald commented, it was the new sales in toffee products which were increasing within the sugar category, not the products that Rowntree's were offering.²⁶⁰ In a later study Fitzgerald claimed that it was Mackintosh's who were at the forefront of the development of toffee lines in the years after the war, even though the founder of the company John Mackintosh died in 1920, and the company passed to his sons who continued to manage the company as before.²⁶¹ Fitzgerald stated that the overall company strategy was of promoting product quality and differentiation through advertising campaigns, rather than price, believing that price-cutting was detrimental to manufacturers, retailers and consumers.²⁶² Fitzgerald went on to comment on the opinion of the company that confectionery should remain a "luxury" for which a demand had to be created.²⁶³ Despite this position, events made the board of Mackintosh's re-consider its strategy in the light of the price-cutting atmosphere

²⁵⁸ Ibid., p. 517.

²⁵⁹ Fitzgerald, *Rowntree and the Marketing Revolution*, p. 148.

²⁶⁰ Ibid., p. 149.

²⁶¹ Fitzgerald, "Markets, management and merger", pp. 566-568.

²⁶² Ibid., p. 571.

²⁶³ Ibid., p. 572.

created by its rivals. One of the options considered by the company was to develop products in the chocolate category following the establishment of their own laboratory in 1922. Because the company considered that its name was synonymous with toffee products, Mackintosh's also considered some form of partnership in the development of chocolate lines with Terry's of York and Whitfield's of London, but without success.²⁶⁴

During the early 1920's Rowntree's efforts to compete were thwarted by the efficiencies that the merger between Cadbury and Fry had provided, particularly in distribution, and consequently in 1921 they decided to extend its own distribution network.²⁶⁵ However, despite these efforts, it was the inability to challenge the success of Cadbury in the key category of milk chocolate blocks that prevented Rowntree from improving their position any further. Fitzgerald estimated that by 1922, Cadbury's sales of milk blocks were some twenty times greater than that of Rowntree.²⁶⁶ Rowntree's decision to cut advertising expenditure at a time when Cadbury's were increasing their own, exacerbated the problem.

Depressed economic conditions during the early 1920's meant that any attempt to enforce resale price maintenance on branded goods was doomed to failure, and as Fitzgerald pointed out this provided the first evidence that the larger multiple retailers were beginning to exert their power and influence on the market.²⁶⁷ Also smaller retailers saw some benefits during this period as wholesale prices fell, but their own margins stayed the same.

Compelling evidence for falling prices is provided by Bradley who stated that between 1920 and 1924, the price of a half-pound block of Cadbury Dairy Milk fell from two shillings to one shilling (modern decimal equivalent = 10p down to 5p).²⁶⁸ The company felt that the prevailing economic conditions provided no alternative but to continue with this strategy.²⁶⁹

In 1923 the long-standing chairmanship of Joseph Rowntree passed to his son Seebohm, bringing with it radical changes to the company's operations, particularly

²⁶⁴ Ibid., p. 572.

²⁶⁵ Fitzgerald, *Rowntree and the Marketing Revolution*, p. 150.

²⁶⁶ Ibid., p. 152.

²⁶⁷ Ibid.

²⁶⁸ Bradley, *Cadbury's Purple Reign*, p. 75.

²⁶⁹ Ibid.

in labour management, production and administration, although Fitzgerald claimed rather unflatteringly, that marketing was not one of his business talents.²⁷⁰ However, circumstances forced the company into reducing their prices in line with the market, these being forced through by Cadbury-Fry via the ‘Cheltenham Conferences’, which were a series of meetings of the large confectionery manufacturers designed to discuss matters of mutual interest, or to facilitate collusion. These decisions were seen by some members of the Rowntree management as a deliberate ploy by the new combine to restrict their ability to advertise to any great extent. Confident of its own position as the dominant force in the market, and under the direct influence of the Cadbury management, Fry’s re-located from cramped city centre premises to new purpose-built facilities on the outskirts of Bristol.

In terms of the overall UK confectionery market during this period, Appendix 1 reveals that sales value was £102.70 million in 1920, but had reduced to only £68.10 million by 1924, reflecting severe price-cutting policies of the major manufacturers. Fitzgerald contrasted this decline in relative sales value with the absolute increase in volume between over the same period: 295,000 tons in 1920 and 322,000 tons in 1924.²⁷¹ This meant that the overall sales value per ton fell from £348 in 1920 to only £211 by 1924, a reduction of some 40%.

1924-29

Despite the price reduction strategies of the major manufacturers in the years following the war, overall sales of confectionery began to falter, and as Bradley noted, for Cadbury this meant a reduction of 9% in sales revenue between 1925 and 1928, and halving of trading profits. This was despite a 50% increase in advertising over the same period. Failure in the various advertising campaigns led the management of Cadbury to conclude that it was the perception of ‘value for money’ by the consumer which was the over-riding factor determining any future growth in sales; the selling price was key in any strategic considerations.²⁷² Fitzgerald described how the company embarked on a substantial investment programme in plant and machinery beginning in 1924 at their Bournville factory with the sole purpose of increasing mechanisation to reduce unit product costs, the savings of

²⁷⁰ Fitzgerald, *Rowntree and the Marketing Revolution*, p. 154.

²⁷¹ Fitzgerald, “Products, firms and competition”, p. 516.

²⁷² Bradley, *Cadbury’s Purple Reign*, p. 75.

which would then be passed on to the consumer.²⁷³ The company predicated this decision on the belief that per capita consumption of confectionery in the UK was far lower than that of say Germany or the USA, so they believed that there was still more scope for the UK market to expand further, driven by the Cadbury concept of value. Bradley made the point that Cadbury decided to embark on this capital investment programme because management wanted to have more internal control of their ability to reduce unit costs, rather than depend on the uncertainty of further falls in the price of raw materials, particularly cocoa beans, which had risen temporarily during this period (see Figure 2.2).²⁷⁴ Wagner claimed that the capital investments made by Cadbury meant that they had the most modern confectionery manufacturing factory in the world, capable of producing enormous outputs.²⁷⁵ It is also worth noting here that Bradley pointed out that a closer inspection of the advertising campaigns conducted by Cadbury's during this period was to focus principally on the fact that prices were indeed being reduced.²⁷⁶ The only exception to this was the introduction of the "Glass and a Half of Full Cream Milk" slogan in 1928.²⁷⁷

By virtue of these strategies, Cadbury's determined the dynamics of the whole UK confectionery market and other manufacturers had to find ways of competing, either by following the price reduction avenue, or by some alternative means. For Mackintosh, their plans for expansion into other categories were thwarted, as we have already noted above. As Fitzgerald commented, the company also began to invest in capital equipment designed to reduce their overall cost base, but also to improve and then maintain quality, with products also being heavily promoted through various advertising campaigns.²⁷⁸ Consequently during this difficult period the company seemed content to try and survive on much smaller profits, and to try and have at least some control over price-setting with the acquisition in 1927 of some confectionery retail outlets. In a further attempt to diversify its product range and to pre-empt the threat posed by chewing gum to its chewing toffee, Mackintosh acquired Anglo-American Chewing Gum Ltd. in 1929.²⁷⁹

²⁷³ Ibid., p. 517.

²⁷⁴ Bradley, *Cadbury's Purple Reign*, p. 75.

²⁷⁵ Wagner, *The Chocolate Conscience*, p. 119.

²⁷⁶ Bradley, *Cadbury's Purple Reign*, p. 81.

²⁷⁷ Ibid.

²⁷⁸ Fitzgerald, "Markets, management and merger", p. 574.

²⁷⁹ Ibid., p. 575.

The overall market conditions during the second half of the 1920's also impacted upon Rowntree's, and the priority appeared to be that a stagnant market share position had to be arrested. Fitzgerald noted that the company decided upon the prioritization of categories, with support for the cocoa beverage category being withdrawn and increased effort devoted to block chocolate with the development and advertising support of new lines in this category.²⁸⁰ Nonetheless plans to launch an alternative to *Cadburys Dairy Milk* in 1927 were postponed because further price reductions by Cadbury prevented Rowntree's from competing on price. Rowntree's did have some success in its product range in the plain chocolate block category. However, as Fitzgerald conceded, the company's decision in 1927 to launch its *Fruit Gums* and *Fruit Pastilles* products in the now familiar single tube format in the sugar category proved to be a resounding success, reinforcing Rowntree's dominant position in this sector. Despite Rowntree's long-standing stance on quality as a major part of its core competence, the company conceded that there was a large market for lower quality confectionery, and it decided that it would enter this market via the acquisition of subsidiary companies like Epps, Whitfield's and Duncan's, who operated in different parts of the country, because this market was very regional. Fitzgerald also pointed to the attempt by Rowntree's to challenge the assortments category, with new initiatives developed during 1927 and 1928 to launch new offerings in this market.²⁸¹ The sum effect of the actions by the management at Rowntree's was to improve the company's market share by 1929 from its 1924 (see Appendix 1).

Overall, in a trend which repeated the early 1920's pattern, the UK confectionery market during the second half of the 1920's experienced declining sales value terms from £68.1 million in 1924 to £66.4 million by 1929. In terms of volume growth the market did grow by almost 19% from 322,000 tons in 1924 to 382,000 tons in 1929, supporting the Cadbury proposition that there was potential growth in the per capita consumption within the UK market.

These figures once again reflect the overall situation of the market as being one of price cutting, resulting in declines in sales revenues for the individual manufacturers from £211 per ton in 1924 to £174 per ton by 1929. This obviously had the effect on

²⁸⁰ Fitzgerald, *Rowntree and the Marketing Revolution*, p. 169.

²⁸¹ *Ibid.*, p. 171.

the squeezing of margins, unless manufacturers reduced their cost bases to compensate for the reduction in revenues. Cadbury's were at the forefront of this policy and they continued to drive the direction of the overall UK market as they improved their production, distribution and marketing capabilities. It is perhaps worth noting here that despite strong organisational capabilities which enabled Cadbury to dictate the course of the market during the 1920's, its main product offerings had been developed before the Great War; failure to build upon these by further product development during the post-war period would affect the company in the future. Past evidence suggests that success in its products was derived from the imitation of technological innovations made by others, and then improved the processes via mass production techniques which made them better and more cost efficient.

1930-34

The global economic consequences of the 1929 financial crash were to be felt throughout the early 1930's and had direct effects on all markets as unemployment reached record proportions, particularly in some regions of the UK, as has already been identified in Chapter 1.

For the UK confectionery market, the dawn of the 1930's continued to follow the direction already instigated by Cadbury throughout the whole of the 1920's. The new order of austerity dovetailed with the policy of further reductions in prices in order to try and maintain or indeed increase demand during these difficult times.

For Cadbury the strategy was simple: continue to make further price reductions on the company's leading brands thereby making the product accessible to more consumers. Bradley confirmed that the price of a half-pound block of *Dairy Milk* was reduced in stages from one shilling in 1926 down to 8d by 1934 (decimal equivalent = 5p to 3.3p), and had by 1933 achieved its '2d. for 2oz.' objective.²⁸² This was used as a slogan extensively in subsequent advertising campaigns by Cadbury. This caused a five-fold increase in sales of *Dairy Milk*, and by 1934 chocolate was being consumed by 90% of the population, thereby transforming what had been a luxury product consumed on infrequent occasions before the Great War, to a food for the masses - a candidate for basic expenditure - and arguably made possible by Cadbury strategy.

²⁸² Bradley, *Cadbury's Purple Reign*, pp. 81-82.

However, as Fitzgerald explained, despite the success of the company during this time, Cadbury were always conscious of possible threats from other competitors in what was still a very fragmented market with a multitude of UK manufacturers (see Appendix 2), vying for market share.²⁸³ Fitzgerald went on to make the point that Cadbury sought to consolidate its position as market leader by investing heavily in improvements to the company's distribution systems, especially through its depot system and extensive use of lorry transport to complement its railway links.²⁸⁴ The net effect of this initiative was not only to provide the necessary infrastructure to make sure that its products were distributed as widely as possible to ensure optimum sales, but between 1922 and 1938 the company almost halved its per unit distribution costs, despite the 250,000 retailers that the company supplied.

Attention to the production efficiency, administration and distribution capabilities enabled them to prosecute their price reduction strategy which influenced the way that Cadbury perceived the market and the consumer at this time. Bradley confirmed that the company's sales representatives were instructed by senior management to direct their customers towards those products that the company could manufacture efficiently, rather than establishing what the customer actually wanted.²⁸⁵ This provides evidence that the company was a 'production-orientated' rather than 'market-orientated'. The company's rationale for this stance was that the harsh economic climate of the inter-war period meant that affordability was the key driver of success. However, Bradley drew attention to the way that Cadbury also communicated to the UK public: a 'bond' was created to convince the way that the company was a good employer with high principles, using the Bournville factory and village as a clear example by arranging factory visits and tours.²⁸⁶ However, Smith, Child & Rowlinson pointed out that in reality most of the ordinary workers at Cadbury could not afford the rents in the Bournville village, and that the company simply wanted to promote themselves as 'model employers' using this as simply a marketing tool.²⁸⁷

²⁸³ Fitzgerald, "Products, firms and consumption", p. 519.

²⁸⁴ Ibid., p. 522.

²⁸⁵ Bradley, *Cadbury's Purple Reign*, p. 85.

²⁸⁶ Ibid., pp. 86-94.

²⁸⁷ Smith, Child and Rowlinson, *Reshaping Work*, pp. 56-57.

Cadbury's product development in the early 1930's was limited to extensions in the milk chocolate blocks category which had proved so successful to the company, all using the 'Cadbury' house name to promote the brand, although a few other minor innovations in the stagnant cocoa beverage category were also introduced, principally to challenge the increasingly popular *Ovaltine* brand which had stolen market share.

For Mackintosh's the disappointments of the 1920's were not alleviated during the early 1930's as prices and sales continued to decline, and as Fitzgerald argued, the management of the company became fearful that this trend would associate the company's products with the cheap goods end of the market, thereby reversing the message of quality and distinctiveness that the company had been trying to get across for years.²⁸⁸ During 1932, their toffee range was in the 3d. per quarter pound market, which was dangerously close to the 2d per quarter threshold which was the consumer perception of poor quality, which would obviously result in total loss of prestige for the company. This situation coincided with an approach from Rowntree's for merger discussions to take place, but as Fitzgerald noted, the management of Mackintosh rejected the offer, and sought instead to purchase outright A.J. Caley & Son, an established confectionery business based in Bristol and Norwich, which had previously become part of the Unilever empire, but had ceased to become part of their future plans.²⁸⁹ Unilever therefore offered the company to Mackintosh at a bargain price, and suddenly they had access to an established chocolate producing operation which would provide them with the capability of entering the various expanding chocolate categories. This partnering of toffee and chocolate making expertise proved extremely beneficial to Mackintosh's future.

For Rowntree's the dawn of a new decade also posed the same issues that the company had tried to overcome in the 1920's, principally one of trying to compete in a market which was being driven by the price-cutting strategy of the leading manufacturer. As a possible solution to their dilemma, the senior management at Rowntree made the decision in 1930 to approach the Cadbury-Fry partnership with a view to a merger, but as Fitzgerald discovered, there was little incentive on the part of

²⁸⁸ Fitzgerald, "Markets, management and merger", p. 575.

²⁸⁹ *Ibid.*, p. 576.

Cadbury-Fry to the proposal given that they considered that Rowntree had little to offer the existing partnership, and the approach was formally rejected.²⁹⁰

Following the rejection of the merger, the problem for Rowntree of trying to compete with Cadbury, especially in the milk chocolate blocks category was back on the agenda. Fitzgerald painted a gloomy picture of a company in crisis unable to find answers on how to compete effectively in the market, and was facing the fact it was facing the possibility of going out of business altogether, the rationale for this suggestion being that by 1934 the Rowntree share of the total market was still only 5.0%, which was the same as it had been in 1920 (see Appendix 1).²⁹¹ Bradley succinctly explained that it was a futile prospect for Rowntree even to attempt to compete with Cadbury in the categories in which it dominated, therefore the simple answer was to try and find out what alternative products would the consumer prefer in addition to what was already on offer on the market?²⁹² There was to be an untapped mass market for other types of chocolate confectionery, and Rowntree's, through a systematic and highly imaginative method of intelligence gathering and market research, put in place the mechanics of finding out this information.

The clues to these new alternative ways of satisfying consumers came in the shape of innovation from a foreign manufacturer. Unlike the overseas competition from European manufacturers before the Great War, the new threat originated from the USA in the form of Mars. Brenner provided the background for the Mars company, established in Chicago by Frank Mars in 1923, producing simple to manufacture confectionery products which had become known as “count lines”, a practice that had become popular in the USA during the Great War because they were sold to service personnel by the number or “count”, rather by weight as was the tradition with chocolate blocks and assortments.²⁹³ According to Brenner Frank Mars had brought his son Forrest into the business, but they soon clashed over the direction that the business should go in, and in 1933 Forrest left the family business for Europe, where having spent short spells as an employee with Swiss confectionery manufacturers, set up his own version of the ‘Mars’ company in Slough, England with the intention of

²⁹⁰ Fitzgerald, *Rowntree and the Marketing Revolution*, p. 180.

²⁹¹ *Ibid.*, p. 182.

²⁹² Bradley, *Cadbury's Purple Reign*, p. 118.

²⁹³ Brenner, *The Chocolate Wars*.

challenging the UK market.²⁹⁴ The company introduced the *Mars Bar* and *Milky Way* brands to the UK, thereby introducing the new category of “count lines” onto the UK market which provided almost instant success. The key to the success of count lines was the ability to manufacture them in vast quantities principally using the same machinery, making them ideal for a market where value and the propensity to manufacture products cheaply and efficiently was paramount.

Bradley claimed that Cadbury in the first instance did not perceive the new Mars challenge to be of significance,²⁹⁵ however Wagner pointed out that the newly appointed Marketing Director at Rowntree’s, George Harris, was a personal friend of Forrest Mars, and wanted to bring some of his business philosophy to the company.²⁹⁶ Wagner goes on to point out that the appointment of Harris by Rowntree in 1931 coincided with the death of their long-standing advertising advisor Philip Benson. It was at this point that Rowntree opted to assign J. Walter Thompson (JWT) as their new advertising agents with the brief of making a challenge to the Cadbury domination.²⁹⁷

Fitzgerald suggested that the early attempts by Rowntree’s in the early 1930’s were to have mixed results.²⁹⁸ A further attempt to challenge *Cadbury Dairy Milk* in the milk chocolate block category was in the development and eventual introduction of *Extra Creamy Milk* in 1933, but despite consumer preference for the new product, the Cadbury response was to simply reduce prices once again, and by 1934 the new initiative had to be withdrawn having made no impact on Cadbury sales. The other new product that had been developed by Rowntree in the assortments category, *Black Magic*, also launched in 1933 was more successful, with the development of the product being made using the new market research techniques that newly-appointed advertising agents JWT brought to the company.²⁹⁹ Ward provided evidence that these new techniques were also being used by some of JWT’s other clients, including the Horlicks brand to great effect.³⁰⁰

²⁹⁴ Ibid., pp. 56-57.

²⁹⁵ Bradley, *Cadbury’s Purple Reign*, p. 117.

²⁹⁶ Wagner, *The Chocolate Conscience*, pp. 120-121.

²⁹⁷ Ibid.

²⁹⁸ Fitzgerald, *Rowntree and the Marketing Revolution*, pp. 298-314.

²⁹⁹ Ibid.

³⁰⁰ Ward, *Marketing Convenience Foods*, pp. 274-275.

The trend during the period 1930-34 was for the market to grow in terms of volume, from 382,000 tons in 1929 to 455,000 tons in 1935 (increase of 19.1%), but value once again declined from £66.4 million to £55.7 million during the same period, resulting in a £/ton reduction from £174 in 1929 to £122 in 1935. This reflected the continuing trends of the UK market, driven by the Cadbury strategy of continuous price reduction. However the changes that had begun during the early 1930's began to have a more profound effect on the market in the later part of the decade up to the outbreak of the Second World War.

1935-38

More than any other, the years 1935-38 were to lay the foundations for the UK confectionery market which were to change very little for the next fifty years, finally transforming it into a truly mass market which had influence on the lives of the majority of the population.

By 1935, the 'loose' partnership between Cadbury and Fry was re-examined, and as Bradley noted, Fry had continued to decline during the inter-war years, despite their modernisation plans, and therefore a formal takeover by Cadbury was accepted.³⁰¹ The original merger which had first taken place in 1918 had proved to be a mistake, given that the rationale to provide a stronger challenge to foreign competition proved to be unfounded in that the post-war surge from either the Swiss, or from the USA in the form of Hershey, never materialised, and Bradley claimed it had actually weakened the Cadbury business.³⁰²

Cadbury was by no means ignorant of the emergence of the new count lines category, and had in fact wanted to launch its own version of an Australian product called *Crunchie*, but decided that it was so insignificant that they gave it to Fry to try out, with limited success. This seemed to be evidence to the company that the new category would be too small to worry about, and Cadbury therefore continued with their existing brands.

For Rowntree, however, under their new marketing management team had by 1935 several new product offerings in development, believing that unlike Cadbury, it was

³⁰¹ Bradley, *Cadbury's Purple Reign*, p. 112.

³⁰² *Ibid.*, p. 113.

the new count line category which offered scope for market development. As Fitzgerald, the first of these new products was *Aero*, an aerated milk chocolate, which offered some of the count line novelty appeal, but also challenged the milk chocolate block category at the same time, and was launched in late 1935, with spectacular success, being the most universally accepted new line that Rowntree had ever produced.³⁰³ The second of these new products was the introduction of *Chocolate Crisp* (later to be re-named *Kit Kat*), which created another new category, that of chocolate biscuit count lines (or CBCL's as they were to be known later).³⁰⁴ Bradley however, claimed that it was Cadbury who first launched a product in this new category back in 1902, but failed to promote effectively and the line was withdrawn soon afterwards.³⁰⁵

The introduction of *Aero*, and subsequent marketing that it was superior to other milk chocolates on the market caused unrest at Cadbury who obviously saw the new product as a threat to their market position. Wagner described how Cadbury took offence to the Rowntree marketing stance and made representations at the regular Cheltenham Conference in 1936, and veiled threats were made by Cadbury as to the consequences, including direct response in the marketplace and also legal action.³⁰⁶ The conflict rumbled on into 1938, when compromises were eventually made and settlements reached between the two companies. But as Wagner observed, it proved to be a watershed in that finally Cadbury's market dominance was being challenged and that Rowntree were now a major force to be reckoned with.³⁰⁷

Despite the fierce conflicts surrounding the introduction and marketing of *Aero*, it was *Kit Kat* which proved to be the most effective in the challenge for the UK market, becoming a large selling line despite receiving minimal advertising support, with brand names being prominent on the wrappers, and not the 'house name' as was the principal method used by Cadbury in its marketing. The new found winning formula as Fitzgerald described of coming up with product offerings to challenge the Cadbury brand and to convince consumers of a credible alternative.³⁰⁸ The increases in sales which the new products had provided, produced an immediate effect on

³⁰³ Fitzgerald, *Rowntree and the Marketing Revolution*, p. 320.

³⁰⁴ Ibid.

³⁰⁵ Bradley, *Cadbury's Purple Reign*, p. 45.

³⁰⁶ Wagner, *The Chocolate Conscience*, p. 121.

³⁰⁷ Ibid., p. 122.

³⁰⁸ Fitzgerald, *Rowntree and the Marketing Revolution*, p. 329.

Rowntree's market share position, increasing from 5.5% in 1935, to 7.6% in 1936. To further increase the pressure on Cadbury, Rowntree's also launched a competitor product to *Cadbury Milk Tray* in the assortments category in 1937, which was in addition to the successful launch of their *Black Magic* brand in 1933. The new assortment *Dairy Box* proved another immediate success, prompting a problem for Rowntree in its ability to be able to hire enough workers to cope with the demand.³⁰⁹

Another new product had also been under development at Rowntree and was introduced to the market in 1938, based on a French dragee-style product of small chocolate beans covered in a sugar shell. This new product was named *Smarties*, and again was well received by the trade and consumers, and straggled the chocolate/sugar category classifications. The last of the important Rowntree product launched before the outbreak of the Second World War, was *Polo Mints* in 1939, which was as Fitzgerald admitted was a direct copy of the *Lifesavers* product, popular in the USA, and which further expanded the Rowntree presence in the sugar category to complement its *Fruit Gums* and *Fruit Pastilles* ranges.³¹⁰

These product launches now meant that Rowntree had by 1938 significant brand offerings in all the key confectionery categories, and its market share had risen correspondingly to 8.5%.

In addition to the Rowntree advancements made in the final years of the 1930's, the Mars company also made significant inroads in the UK market during this time, predicated on their strategy of focusing on the new count line category, and Brenner claimed that as a result of their success, Mars had become by 1939 the third largest player in the UK.³¹¹

The new Mackintosh-Caley combine were also productive in their product development, and as Fitzgerald comments the company were keen to establish a presence in the lucrative chocolate market. The result was the introduction of a chocolate/toffee assortment in 1935, which they named *Quality Street*, sales of which were boosted by the Hollywood film of the same name in 1937, starring Katharine Hepburn. Mackintosh also noted the growth in the new count line category and as a

³⁰⁹ Ibid.

³¹⁰ Ibid., p. 399.

³¹¹ Brenner, *The Chocolate Wars*, p. 68.

result developed and launched its *Rolo* line in 1937, again utilising its existing chocolate and toffee credentials.³¹²

In addition to the efforts by the various confectionery manufacturers in changing the dynamics of the market, it is also worth mentioning that whilst the pre-Great War activities of the Swiss manufacturers had been virtually curtailed by the conflict, as Heer suggested, with the amalgamation of Nestle, Cailler and Kohler in 1929, a slow but increasing presence from the new combine did make inroads into the UK market during the 1930's.³¹³ This provided an additional facet to a market, which although clearly still very fragmented was being formed and controlled by the main big players.

The overall effect was that by 1938, the total UK confectionery market had again grown by nearly 6% in volume terms, from 455,000 tons in 1935 to 481,000 tons by 1938, and also more significantly in value terms for the first time during the inter-war period, from £55.7 million to £60.9 million during the same period. This change reflected the shift in the market away from the price cutting regime of the previous twenty years as espoused by Cadbury.

2.8 Conclusions

Prior to the outbreak of World War II, the UK confectionery market had grown from a very small niche market, originally based on a beverage, and also low level crude sugar-based confections into a multi-million pound industry catering for a truly mass market, with practically every member of the population indulging in confectionery products.

The market itself had been formed by the complex external influences described previously in chapter 1, but it is the way in which these factors were embraced and moulded by the various confectionery manufacturers, combined with the crafting of strategies which enabled them to compete effectively. Indeed, Fitzgerald commented that as an industry, many governance structures had become apparent and that the success of an individual company derived from a number of different approaches, revoking the Chandler hypothesis of British manufacturing being identified with

³¹² Fitzgerald, "Markets, management and merger", p. 580.

³¹³ Heer, *World Events*, pp. 157-170.

‘personal capitalism’.³¹⁴ Fitzgerald went on to comment on the key capabilities which were crucial within the UK confectionery market, these being quoted as product development, branding, production and advertising: whilst this is true, it is suggested that other capabilities, notably in cost accounting were also important in supporting the decisions taken by the management of these companies, and the subsequent effect that these decisions had on performance.³¹⁵

Whilst the reporting of performance by Cadbury and Rowntree has been provided in the business history literature, with the consensus being that Cadbury enjoyed a superior performance over Rowntree during the interwar period.³¹⁶ It is suggested that this perception is founded on superficial and unstructured data that has not been verified as comparable, and the measures that have been used are narrow in their scope. Consequently, subsequent comments of superiority of one company over another cannot be adequately supported or justified. This thesis addresses these shortcomings by presenting an empirical study of performance by using a wide range of measures based on information for the two companies that is of a comparable nature to ensure efficacy of the results.

³¹⁴ Fitzgerald, “Markets, management and merger”, p. 601.

³¹⁵ Ibid.

³¹⁶ Notably by: - Fitzgerald, *Rowntree and the Marketing Revolution*, p. 182 and p. 606; Fitzgerald, “Products, firms and consumption”, p.517; Bradley, *Cadbury’s Purple Reign*, pp. 84-86; Cadbury, *Chocolate Wars*, pp. 254-255.

Section 1 – Literature Review

Chapter 3

Development of Cost Accounting and Financial Performance Analysis

3.1 Introduction – Cost Accounting

The realisation that manufacturing companies were evolving into large complex organisations during the latter half of the nineteenth century necessitated management restructuring. Indeed, Epstein³¹⁷ suggested that Charles Babbage³¹⁸, as early as 1832, had put forward some of the basic ideas and principles which were later to become known as “Scientific Management”. However, the credit for the articulation and diffusion of these principles is usually given to F.W.Taylor, an engineer by profession from Philadelphia.³¹⁹

Taylor had refined some earlier principles of what was known as “Systematic Management” that Litterer described as an attempt to replace traditional “rule of thumb” methods of management, with a more structured approach based on engineering principles which would identify and reduce waste and inefficiency by the introduction of management systems, thereby transferring power from front line supervision to the plant manager.³²⁰ In a separate article, Litterer³²¹ cited Alexander Hamilton Church as a key advocate of the development of systematic management, a belief also supported by Jelinek³²² whereby he identified two main areas that Church contributed: cost accounting and general management theory, which Church claimed are dependent on each other to facilitate planning, coordination and control³²³. In addition, Dale and Meloy also claimed the significance of the contribution to systematic management by the Du Pont company, and particularly of Hamilton MacFarland Barksdale during the period 1893-1914 when he held various executive

³¹⁷ Epstein, *The Effect of Scientific Management*, p. 72.

³¹⁸ Babbage, *On the Economy of Machinery and Manufacture*.

³¹⁹ Taylor, *Shop Management and Principles of Scientific Management*.

³²⁰ Litterer, “Systematic Management”, p. 476.

³²¹ Litterer, “Alexander Church”.

³²² Jelinek, “Towards systematic management”, p. 71.

³²³ Church, “The Meaning of Commercial Organisation”, pp. 391-395.

positions in the company, emphasising the human relations aspects of systematic management developed at the company.³²⁴

Nelson suggested that the metamorphosing of systematic management into what became widely known as “scientific management” came about during the 1890’s through the practical work being carried out at the time by F.W. Taylor, especially in his role as a consultant to the Bethlehem Steel Company, and by 1901 Taylor had developed his ideas as published in the 1903 seminal work cited previously.³²⁵ Nelson made the point that a key aspect of Taylor’s work as a consultant, both at Bethlehem Steel and other companies during the 1890’s, was to introduce cost accounting procedures as an important component in the successful implementation of production control systems and piece work arrangements.³²⁶

This revolution in management theory and practice emphasised the need for more information and although the practice of financial record-keeping had been utilised by organisations dating back into the Middle Ages, the use of financial data by managers for decision-making, planning and control in what is now collectively known as cost and management accounting is a more recent development, driven by the new approaches to management. Consequently from the end of the nineteenth century, the subject of accountancy had been primarily divided into the function of Financial Accounting³²⁷ and Cost Accounting³²⁸. The collection and reporting of internally generated cost data in a primitive format probably originated in the United States around the middle of the nineteenth century, thereby anticipating the rise of the scientific management movement. The subject of cost accounting was originally mentioned by Metcalfe who described his experiences in the US military ordnance corps, in which rudimentary costing techniques were employed in the manufacture of munitions.³²⁹ The inclusion of costing in addition to general accounting techniques

³²⁴ Dale and Meloy, “Hamilton MacFarland Barksdale”,

³²⁵ Nelson, *A Mental Revolution*, pp. 8-9.

³²⁶ Ibid.

³²⁷ The traditional method of recording transactions and summarising these into the financial reports of Profit & Loss Account and Balance Sheet (a legal requirement), used primarily for external stakeholder consumption.

³²⁸ The method of recording and reporting cost information, used primarily for internal management purposes.

³²⁹ Metcalfe, *The Cost of Manufactures*.

began to appear in some general accountancy textbooks, for example in Dicksee, a standard work at the time for accountancy students.³³⁰

3.2 Development of Cost Accounting: Contemporary Literature

Costing

The first practical theories surrounding the production and application of cost accounting data to appear in the contemporary literature is generally accepted as Garcke & Fells, who suggested that the newly produced cost data should be integrated into the established double-entry financial accounting systems.³³¹ They also alluded that costs behave in different ways, the precursor to the concepts of fixed and variable costs. Within specific industries, Norton emphasised cost analysis in mechanised production, specifically within the textile industry.³³² Church expanded the boundaries of cost accounting by advocating the use of product cost information to trace a company's overall profitability to the profits earned on individual products, thereby introducing the use of cost accounting information as a decision-making device in the consideration of the firm's product portfolio.³³³ Unlike the suggestions by Garcke & Fells, Church believed that methodologies for the systematic linking of overheads to individual products was essential in the consideration of individual line costs, and devised quite complex methodologies for doing so.³³⁴ Lane, as a practicing engineer, used this logic when first articulating the suggestion of "standards" in a business whereby at the end of a period managers can be presented with the comparisons of these standards against realised costs for the same period.³³⁵ Longmuir, another American engineer, also suggested "standard" levels of output from which actual costs could then be compared to these standards. This would then identify any differences between standard and actual performance; this idea being the first reference to the technique of variance analysis.³³⁶

³³⁰ Dicksee, *Book-Keeping for Accountants*.

³³¹ Garcke and Fells, *Factory Accounts*.

³³² Norton, *Textile Manufacturer's Book-Keeping*.

³³³ Church, "The proper distribution".

³³⁴ *Ibid.*

³³⁵ Lane, "A method of determining selling prices".

³³⁶ Longmuir, "Recording and interpreting foundry costs".

The use and objectives of the emerging science of cost accounting were discussed by Arnold, in which he illustrated his thoughts with examples of current practice from a range of American companies.³³⁷ The original ideas that had been put forward by Church, were considered by Whitemore, who attempted to simplify some of the complex ideas of Church, especially the treatment and allocation of indirect overhead costs to products.³³⁸ In a similar vein, Emerson developed the idea of having a “standard” level of efficiency from which the measurement of actual performance could be made and reported in the variances, as first suggested by Longmuir.³³⁹ Harrison identified different degrees to which variances could be calculated, and sought to propose a framework whereby the terminology could be properly defined; indeed he is often credited with using the term “standard costs” for the first time in the literature.³⁴⁰

After the end of the Great War, a range of commentators (including Elbourne³⁴¹, Nicholson and Rohrbach³⁴², Newman³⁴³, Hazell³⁴⁴, Scott-Maxwell³⁴⁵ and Ainsworth³⁴⁶ provided further foundations for cost accounting in terms of data gathering, recording and processing. However, one of the most significant contributions to the development of cost accounting was Clark, who examined in detail the issues surrounding overhead costs, and, more importantly, how these can influence management decision-making.³⁴⁷ Clark also described for the first time some of the concepts still in use by practitioners today including avoidable costs, sunk costs, opportunity costs and incremental costs. In addition, Clark discussed the categorization of costs into their variable and fixed elements, advocating that by utilising this knowledge, managers are able to practice “price discrimination”, whereby a company could exploit its product range by offering different versions to different consumers at differing prices according to the market being served.³⁴⁸ Clark concludes that by adopting a price discrimination policy, a company could solve the

³³⁷ Arnold, *The Factory Manager*.

³³⁸ Whitemore, “Factory Accounting”.

³³⁹ Emerson, “Efficiency as a basis for operations and wages”.

³⁴⁰ Harrison, “Cost Accounting”.

³⁴¹ Elbourne, *The Marketing Problem*.

³⁴² Nicholson and Rohrbach, *Cost Accounting*.

³⁴³ Newman, *The Theory and Practice*.

³⁴⁴ Hazell, *Costing for Manufacturers*.

³⁴⁵ Scott-Maxwell, *Costing and Price-Fixing*.

³⁴⁶ Ainsworth, *Cost Accounting*.

³⁴⁷ Clark, *Studies in the Economics of Overhead Costs*.

³⁴⁸ *Ibid.*, pp. 23-24.

issue regarding unused capacity and the consequential effect this has in under-absorbed overheads.³⁴⁹

Being an economist, Clark approached the concept of overheads from a wider perspective than a purely accounting viewpoint, later demonstrated by his theoretical work on the business cycle. The path which Clark took in trying to understand the nature of overheads in a business came from the basic economic premise that value had to be balanced against cost and therefore ‘economic efficiency’ is achieved when a product is worth more than its cost. Given this basic economic premise, it should be the duty of business to produce and sell everything it can without driving value below cost. Clark approached the question of how to arrive at an acceptable overall total cost of a product in three different ways: the accounting method, the statistical method and the operator method. In the accounting method, costs in the traditional accounting financial ledgers are charged against the various products used, the overheads being allocated on some predetermined basis.³⁵⁰ This method ensures that the sum of all product costs equals the total costs in the financial accounts. The statistical method provides information on how costs behave under different levels of output, and builds upon the generally accepted notion that costs can be divided into their variable and fixed elements. Finally, the operator method is where the production manager or engineer provides cost data based on their ‘hands-on’ experience of the actual job, providing the evidence of what actually drives cost as a method of allocation. Clark advised that best practice would be to combine all three methods to provide a holistic approach, where information is being gathered and processed from different sources of the organisation. This led him to conclude that cost accounting may not be accounting at all, and may evolve into “cost statistics” or “cost analysis”.³⁵¹

Commenting on the significance of the identification and growth of overheads through transcripts of lectures given on the University of Birmingham’s commerce degree course, Ashley concluded that the increasing importance of overhead expenses provided the direct impetus for executives to consider business policy in a more

³⁴⁹ The identification of marginal costs (and thereby marginal contribution) is the enabler for the consideration by managers in the development of short-term business which would otherwise be rejected using full-cost measures

³⁵⁰ *Ibid.*, pp. 216-232.

³⁵¹ *Ibid.*, p. 232.

structured way.³⁵² In other words, the suggestion by Ashley that a key component of the development of business policy -- and hence strategy -- was driven by the dilemma facing senior managers of how to deal with those costs in the business not directly related to output. Ashley warned against the accepted belief that a policy of increasing sales volume will automatically reduce costs per unit (given that overheads are generally fixed costs in nature), because he argued that to obtain these cost benefits, the level of additional sales had to be substantial, otherwise the cost per unit could possibly increase in the short-term.³⁵³ Indeed, Sanders added a cautionary note to any policy whereby the additional volume that is stimulated by price-cutting measures requires "extreme care and foresight".³⁵⁴ Moreover, Sanders also guarded against a policy of marketing a wider range of products simply to absorb overheads that would otherwise be unabsorbed by a reduction in sales of standard products. Such a policy, he argued, could only be successful if cost computations provided by the cost office were divided into their fixed and variable elements, thereby requiring any new lines to be costed on a marginal basis.³⁵⁵

Babbage had originally suggested the significance of how different types of costs behaved in different ways, generating the concept of variable and fixed costs.³⁵⁶ This original concept was developed further in Garcke and Fells' seminal work in 1887, which Chatfield observed, were probably the first to explore the significance of the distinction of costs being either variable or fixed.³⁵⁷ Not surprisingly, given the early contribution made by engineers in the genesis of cost accounting techniques, one of the original descriptions of how this knowledge could be useful to managers was published in the *Engineering Magazine* by Hess, who described how a company could calculate the sales volume required to "break-even"; that is when total revenues equals total cost.³⁵⁸ However, the first practical demonstration of cost-volume-profit analysis was provided by Williams via the medium of the *Bulletin of the Taylor Society*.³⁵⁹ This article was published in a series following the appointment of Williams as chairman of a special committee of the Taylor Society convened to

³⁵² Ashley, *Business Economics*, p. 13.

³⁵³ *Ibid.*, p. 40.

³⁵⁴ Sanders, "Overheads in economics and accounting", p. 18.

³⁵⁵ *Ibid.*, pp. 17-18.

³⁵⁶ Babbage, *On the Economy of Machinery and Manufacture*.

³⁵⁷ Chatfield, *A History of Accounting*, p. 177.

³⁵⁸ Hess, "Manufacturing : Capital, costs, profits and dividends".

³⁵⁹ Williams, "A technique for the chief executive".

address the functions of the chief executive. The remit of this committee was to identify and develop techniques that could be available to assist in decision-making. In his article Williams stated that the difference between revenues and variable costs equates to the “contribution to fixed costs and profit”, thereby articulating the idea of “marginal contribution”.³⁶⁰ By establishing the marginal contribution per unit, in combination with the knowledge of total fixed costs, Williams concluded that by dividing total fixed costs by the marginal contribution per unit will provide managers with the number of sales unit required to break-even. By establishing these principles, Williams uncovered a Pandora’s Box of possibilities for providing important insights for managers: evidence of how the profitability of similar companies can vary significantly should sales volume rise or fall, depending on the individual level of fixed costs in each business. In an assessment of the “best business”, Williams put forward the following proposition:

“The best business is the business with the lowest Variable Cost consistent with the breaking point below the smallest volume of business which there is a reasonable probability of doing”.³⁶¹

This knowledge enabled managers to assess the impact of the variability of sales volumes, production capacity, individual product costs, product pricing decisions and total fixed cost in an infinite number of scenarios, all of which could be modelled to establish optimum profitability. In addition, Williams also suggested that responsibilities within the organisation should be assigned to individuals whereby the achievement of objectives should be measured and reported, giving rise to the notion of “responsibility accounting”, whereby managers can be called to account.³⁶²

Wheldon provided a wider rationale for the preparation of cost accounting data including its relevance to the consideration of business policy, for example in the examination of different methods of manufacture or procedure, and also for providing essential information for an organisation in coping with the different phases of the business cycle, particularly during a trade depression.³⁶³ Wheldon also pointed out the importance of cost information in key price fixing decisions, taking into account

³⁶⁰ Ibid., p. 51.

³⁶¹ Ibid., p. 53.

³⁶² Ibid.

³⁶³ Wheldon, *Cost Accounting*, pp. 2-6.

economic conditions and competitor pressure.³⁶⁴ The relationship between costing and the external market and its behaviour was also explored by Coase, who developed “opportunity costs” - the consequences of the management of a company deciding to pursue one course of action rather than another.³⁶⁵

Distribution Costing

In addition to senior managers’ concerns regarding the internal operational costs of a business, there was also recognition that external costs existed, especially as Castenholz pointed out that these costs had risen dramatically relative to other company costs as business became more complex.³⁶⁶ These external costs were principally in transportation, selling and marketing and were collectively regarded as the ‘distribution’ costs of a business. The literature prior to the Great War is bereft of any consideration of distribution costs. Frazer discounted their serious analysis because they do not lend themselves to ‘standardisation’.³⁶⁷ Lawrence is regarded as being the first commentator to focus on distribution costs. He suggested improved methods of distribution cost measurement and allocation to product, alluding to an early form of cost driver identification still used in modern day activity based costing (abc).³⁶⁸ This innovation of tracing and measuring the ultimate factors which govern cost, rather than simply the production of the information was also examined by Dunnigan who thought this the most essential role of the cost accountant.³⁶⁹ Indeed Mazur provided evidence that manufacturers collected statistics showing that a product’s cost doubled or tripled in its journey from producer to consumer.³⁷⁰ Copeland also provided empirical evidence of a wide variation in the proportion of distribution costs to their sales revenue for a sample of manufacturers of between 16.79% and 56.26%.³⁷¹

Whilst there was some references in the contemporary literature from a theoretical perspective regarding the approach and treatment of distribution costs, the experience of practitioners is perhaps the most relevant of contemporary evidence. Once again,

³⁶⁴ Ibid.

³⁶⁵ Coase, *The Nature of Costs*.

³⁶⁶ Castenholz, *The Control of Distribution Costs*.

³⁶⁷ Frazer, “The prorating of distribution expenses”.

³⁶⁸ Lawrence, *Cost Accounting*.

³⁶⁹ Dunnigan, “The measurement of economic factors”.

³⁷⁰ Mazur, “Is the cost of distribution too high?”, p. 7.

³⁷¹ Copeland, “Some present day problems”, p. 299.

the Dennison company was among the first to identify the importance of distribution, and of suggesting ways in which this information could be gathered and used by managers. Other practitioners who developed and shared ideas relating to distribution costing were Union Carbide, The Institute of American Meat Packers, Norton Co., Kellogg Co., Wahl Co. and R.H. Macy & Co. The *NACA Bulletin* was the favoured media through which to diffuse this information.

Although Henry Dennison was himself concerned and interested in the growth of distribution costs, the principal architect in the formulation of detailed and workable costing procedures within the Dennison Company was its chief statistician, E.S. Freeman. Initially writing on the issue of distribution costing³⁷², Freeman then went on to provide further detailed evidence of the ways in which he approached the problem and suggestions for their solution.³⁷³ In his introduction to this work, Freeman stated that the principles of scientific management had to be adhered to in providing the empirical evidence for marketing costs in the same way as for traditional manufacturing costing procedures.³⁷⁴ Freeman rejected the traditional assumption of the division between manufacturing and distribution, and advocated instead the concept of two “factories” within a company: a goods factory which buys goods with money and a money factory which buys money with the goods. In this new way of looking at distribution, the finished product is the ‘raw material’ of the money factory.³⁷⁵ This concept meant that the whole function of a manufacturing company becomes cyclical in the sense that money is used in the first instance to buy raw materials and labour required to make the product, which are in turn sold to the consumer for money to enable the cycle to be continually repeated. For the Dennison company, this was a different way of viewing distribution, so that the all of the costs incurred in the ‘money factory’ were identified as ‘order-getting’ costs and as a consequence were deemed to be speculative in nature.

Freeman proceeded to describe the way in which total distribution costs were divided into two distinct categories: order-getting (advertising and selling expenses) and order-filling (expenses incurred once an order was received).³⁷⁶ Order-filling costs

³⁷² Freeman, “Methods of determining distribution costs”.

³⁷³ Freeman, “Distribution cost analysis”.

³⁷⁴ *Ibid.*, p. 3.

³⁷⁵ *Ibid.*, p. 7.

³⁷⁶ *Ibid.*, pp. 8-9.

were often repetitive in nature, and therefore could be ‘standardised’ just like manufacturing processes. The Dennison company identified twenty-six different functions which could be dealt with in this systematic fashion. Importantly, this meant that Dennison could relate the relative demand of a particular product to a particular function thereby correctly allocating correct distribution costs. According to Freeman, this level of sophistication enabled swift calculation of the standard costs of an order and facilitated the immediate quotation of a price to the customer, facilitating effective decision-making.³⁷⁷ Indeed, as Freeman noted, the benefit of having calculated such detailed cost information provides the wherewithal to consider business strategy in a more effective manner.³⁷⁸

However, whilst the order-filling expenses could be accurately allocated to product, Freeman conceded that the order-getting costs are more generic in nature, and no attempt was made for their allocation to product, although a form of customer costing was in place as a way of trying to optimise salesman’s time.

In addition to the sophisticated distribution costing processes employed by the Dennison company, another example of best practice in this field was at Union Carbide and Carbon Corporation of New York, also described in the *NACA Bulletin* by McNeice.³⁷⁹ The systems devised at Union Carbide were similar to those at the Dennison company in that distribution costs were divided into two separate elements: cost of operations (advertising and selling expenses) and cost by product (the expenses incurred in processing orders of each product).³⁸⁰ However, in addition to the important data provided by extensive distribution cost analysis which provides more meaningful product and customer costs, McNeice also claimed that breakeven analysis can also be incorporated into the results, providing for an additional layer of sophistication.³⁸¹

Greer of the Institute of American Meat Packers, provided additional evidence of best practice in the field of distribution costing by concurring that these expenses could not only be attributed to products, but also to other cost objects such as customers, territories or orders, thus providing a greater variety of information than that provided

³⁷⁷ Ibid., p. 25.

³⁷⁸ Ibid., p. 27.

³⁷⁹ McNeice, “Measurement and control”.

³⁸⁰ Ibid., p. 822.

³⁸¹ Ibid., p. 840.

by manufacturing . Writing later Greer advised the subdivision of distribution costs into five functional areas: creating demand, obtaining orders, storing, handling and delivery, extending credit and finally market research.³⁸² Greer’s main contribution to this debate was to recognise the relationship between distribution costs and standard financial books of accounts and how these could be reconciled.³⁸³

Preparation of cost information for use in evaluating a company’s customers is suggested by Dohr, et al, who explained how distribution costs could be analysed by territory, customer account size and types of orders which could be analysed in a number of different ways to generate data which could support a range of managerial decisions.³⁸⁴ Alternative methods of assessing distribution costs are also discussed by Van Sickle who suggested that automated methods of data collection are the most efficient way of ensuring that the relevant information is captured, and also pointed out that both accounting and non-accounting records should be the source of the data.³⁸⁵ Van Sickle also claimed that the analysis of distribution costs should be performed outside the normal books of accounts, although Neuner provided an explanation of how this could be performed within the existing financial recording systems.³⁸⁶ Stewart, et al, provided empirical evidence that those companies engaging in product differentiation strategies would also experience a spiralling of distribution costs, relative to other companies.³⁸⁷

Budgeting

In addition to the development of cost accounting techniques in the first quarter of the twentieth century, there was also recognition that accounting data could be used for management control purposes. Indeed, McKinsey stated:

“Business Administration is largely a matter of control – control and direction of the various factors involved in the conduct of a business enterprise”.³⁸⁸

³⁸² Greer, “Distribution cost analysis”, p. 137.

³⁸³ Ibid.

³⁸⁴ Dohr, et al, *Cost Accounting*.

³⁸⁵ Van Sickle, *Cost Accounting*.

³⁸⁶ Neuner, *Cost Accounting*.

³⁸⁷ Stewart, et al, *Does Distribution Cost Too Much?*.

³⁸⁸ McKinsey, “Accounting as an administrative aid”, p. 759.

McKinsey also suggested that the whole basis of this control was the provision of information.³⁸⁹ He then proposed that this information would enable the executives of a business to:

1) determine the policy of the business, 2) enable functional managers to carry out this policy and 3) enable the executive to ascertain whether the functional managers have fulfilled these responsibilities.

Given these requirements, McKinsey proposed that the information required by the executive should be based on accounting data, but importantly should not only be concentrating on the past, but should be used a basis for planning future operations, especially for the forecasting of future profits from which control can be exercised.³⁹⁰ In his later work, McKinsey began to consider the important of the market-organisation feedback loop and the ways in which the organisation structure is a key component in establishing the relevant flows of information required to take these into account.³⁹¹ Later, he provided what is almost a manual aimed at executives on what information can be obtained from achieving effective controls through the budgeting system.³⁹²

The concept of management control as alluded to by McKinsey, became one of the most important considerations for executives of large and increasingly complex organisations in the first quarter of the twentieth century. The development of budgeting as an accounting aide to control was enabled by the principles of costing, particularly in the setting of standards of performance. The development of budgeting was, therefore, an exercise in planning and forecasting in relation to the organisational environment, from which control could then be obtained. Theiss pointed out that ‘budgeting’ originated in public administration when the British Government first presented a national programme of revenues and expenditure for the fiscal year in 1760, and as he went on to argue, this was introduced for control purposes.³⁹³ Theiss proposed that the migration of the principles of budgeting in public administration to the business world took place gradually during the last quarter of the nineteenth century, and was enabled by the growing scientific approach

³⁸⁹ Ibid., p. 762.

³⁹⁰ Ibid., p. 763.

³⁹¹ McKinsey, *Budgetary Control*.

³⁹² McKinsey, *Managerial Accounting Vol. 1*.

³⁹³ Theiss, “The beginnings of business budgeting”, p. 43.

within business.³⁹⁴ These scientific approaches included the standardisation of operations by engineers and the ensuing measuring of efficiency, coupled with the techniques of cost accounting in terms of measurement, recording and reporting were the building blocks of budget preparation. However, despite the detailed work required in the preparation of business budgets in terms of the scientific production of data for operations, processes, *etc.*, Theiss pointed out that it is the achievement of objectives (particularly profit objectives), based on a rational plan, which is the whole basis of having budgets in the first place.³⁹⁵ This notion of budgeting as being the vehicle for the planning of profitability has also been supported by Rose.³⁹⁶ One of the other consequences and reasons for budgeting during these early years surrounded the notion of being better placed to foresee problems, as suggested by Coonley,³⁹⁷ whilst McGladrey³⁹⁸ saw budgeting as an expression of how the organisation was to accomplish planned results, and Perry³⁹⁹ envisaged budgeting to be part of the development of the whole business programme which would then assist management to control its operations. These commentators recognised that the purpose of the budget was to provide a more balanced role between the requirements for planning and the need for control.

As chairman of a sub-committee of the Taylor Society, Williams, argued that cost accounting information would be best used when the policies and objectives of the business were co-ordinated. Williams provided extensive calculations regarding the construction of flexible budgets with the additional focus on forecasting profit and loss, cash and credit position, which Williams argued is made feasible by the use of management standards.⁴⁰⁰ Williams also recognised that that whilst costs are usually divided into their fixed and variable elements, he forwarded that most costs actually contained both elements, thereby introducing the notion of ‘semi variable costs’, and by interpolating between the amounts of semi variable expense appropriate to a firm’s maximum and minimum outputs, it was possible to predict how much individual costs should be at different production levels.⁴⁰¹ From this, Williams pointed out that

³⁹⁴ *Ibid.*, p. 49.

³⁹⁵ *Ibid.*, p. 48.

³⁹⁶ Rose, *Higher Control*.

³⁹⁷ Coonley, “The development of business budgeting”.

³⁹⁸ McGladrey, “Budgetary control”.

³⁹⁹ Perry, “The control of business”.

⁴⁰⁰ Williams, “A technique for the chief executive”, pp. 50-67.

⁴⁰¹ *Ibid.*, p. 59.

it is feasible to develop detailed budgets for a range of different output levels.⁴⁰² In a later work, Williams stated that budgeting principles are uniform for all industries and should be used for three purposes:

“1) policy determination; that is, budgets should be made up on various hypothetical conditions as a means of determining policies, e.g. methods of selling, different levels of sales volume, etc. 2) allocation; that is, where you have a total sum of money for a total purpose and you need to allocate it to different persons to carry out different phases of the work involved. 3) comparison of performance with forecasts; that is, for determining the effectiveness of the business as a whole and its various departments”⁴⁰³

In addition, he advocated that the person responsible for performance should also be responsible for the preparation of the initial budget, which should not be based on past performances, but based on the best estimate of future conditions. Writing later, Williams suggested that the budget was the ideal vehicle for the articulation of leadership by senior executives in the way that policies can be communicated and understood.⁴⁰⁴ Blake also suggested that the principal advantage of a budget is to affect the co-ordination of the different parts of the organisation in order to achieve their objectives.⁴⁰⁵ However, Blake also drew attention to the fact that the overall success of any budget system was to forecast their activities by taking proper account of outside influences.⁴⁰⁶

Parallel to theoretical academic outpourings, the development of budgeting was also being undertaken by practitioners, determined to mould the technique into their own organisations. For example, Frazer of Frazer and Torbert of Chicago, writing in the *Bulletin of the Taylor Society*, detailed the difficulties facing his company with regard to the organisational structure.⁴⁰⁷ Based on the experiences within his company, he claimed that a budgetary control system can only be introduced if true accountability is performed, and this can only be achieved if there is strict accounting classification

⁴⁰² Ibid., pp. 60-61.

⁴⁰³ Williams, “Top Control”, p. 206.

⁴⁰⁴ Williams, “The budget as a medium of executive leadership”.

⁴⁰⁵ Blake, “Experiences with budgets”.

⁴⁰⁶ Ibid.

⁴⁰⁷ Frazer, “Budget control”.

of sales, purchases and expenses according to the organisation that the budget is designed to serve.⁴⁰⁸

Similarly, Brooks of the Dennison company, provided further evidence of the way in which practitioners approached budgetary control within their organisations. As alluded to above, Dennison's believed that individual companies could adopt policies which might mitigate the effects of external economic turbulence, and particularly with reference to the business cycle. Brooks provided a clear example of this approach whereby the company budgeted increases in sales force personnel in anticipation of a downturn, based on the belief that during this time every sale had to be hard won. This had the additional benefit of being able to forecast actual sales of individual products with more reliability than hitherto.⁴⁰⁹

Debate on the internationalisation of budgetary control resulted in International Management Institute (I.M.I) instituting a major conference being held in Geneva in 1930, during which papers were presented and discussed by delegates from major academic institutions and representatives from leading industrial organisations, with the hope of arriving at a consensus on best practice. The conference did agree on an accepted definition:

“Budgeting is not merely control, it is not merely forecasting, it is an exact and rigorous analysis of the past, and the probable and desired future experience with a view to substituting considered intention for opportunism in management. It is a method of scientific management of which estimates are drawn up covering an agreed period for everything connected with the undertaking which it is possible to express in figures”⁴¹⁰

The development, dissemination and diffusion of budgeting in the UK was further enabled by the Management Research Groups (MRG's) founded by Seebohm Rowntree, and in a series of conferences in 1933 and 1934, the application of budgeting in various UK industries was discussed. Dunkerley provided a summary of the findings of these conferences and concluded that of the industries represented (including confectionery, hosiery and motor vehicles), the process of budgeting by

⁴⁰⁸ Ibid.

⁴⁰⁹ Brooks, “Master budgets”, p. 231.

⁴¹⁰ IMI Final Report (1930) vol. 1, section 3, p. 1.

the use of sales, production, stock and financial budgets was similar, whilst emphasising the profit objectives of most businesses and the directing of executive attention to this important aspect.⁴¹¹ Dunkerley also drew together a common set of rationales made by various companies as to the main reasons why they operate budgeting systems, and how it supported their businesses:

“1) To assist in the formulation of policy, and an indication as to what those policies will deliver in the future, thereby reducing the risk. 2) To provide a series of managerial objectives, and to measure against these to highlight weaknesses for effective action to be taken. 3) To provide a co-ordination of effort towards the central objectives of the company as a whole, rather than the objectives of individual executives and their own sphere of responsibility”.⁴¹²

In conclusion, Dunkerley stated that budgeting was a natural part of the scientific management approach, but stressed that it is an “aid to managers”, and should not be used as the only component of the decision-making process.⁴¹³

In his extensive treatise on the production and use of budgets, quoting practice from a range of industries in both Europe and the United States to support his assertions, Dent introduced wider implications in the study of external factors such as economic conditions, changing buyer habits due to social and cultural shifts, which in turn affects the forecasting ability for a business.⁴¹⁴ Dent was writing in a period of economic depression and conceded that markets in certain sectors such as luxury goods would be the most difficult to plan for. He advocated the use of cost-profit-volume analysis to model scenarios for different expectations regarding possible changes in the external environment. This, he argued would require extensive research into the prevailing economic conditions.⁴¹⁵

The contemporary literature on cost accounting provided evidence of the emergence of a sub-division of the accountancy profession which parallels and supports the concept of scientific management, which was viewed as a structured and systematic methodology for coping with complex organisations. Although initially employed as a way of measuring (and thereby ensuring) internal efficiency, specifically within production, the remit of cost accounting techniques expanded into those areas

⁴¹¹ Dunkerley, “Budgetary control”.

⁴¹² *Ibid.*, p. 72.

⁴¹³ *Ibid.*, p. 73.

⁴¹⁴ Dent, *Management Planning & Control*.

⁴¹⁵ *Ibid.*, pp. 183-189.

external to the firm known collectively as ‘distribution’. Concerns about control of increasingly complex organisations encouraged senior managers to assess budgeting to compliment other executive functions such as policy-making and planning.

3.3 Development of Cost Accounting: Business History Literature

The Business History Context of Cost Accounting

In the post-1945 period, accounting historians have attempted to provide evidence of the development of cost accounting as a logical consequence of the professionalism of management from the late nineteenth century, and the extent to which these executives viewed the new techniques as integral to their role of decision-makers.

Costing

The first major work on the development of costing was by Solomons who used engineering journals rather than accounting, economics or business publications, to conclude that the genesis of what we now know as cost accounting emanated from engineers.⁴¹⁶ Shortly afterwards, Garner, supporting Solomon’s interpretations, also concluded that early British theorists on cost accounting were overtaken by American commentators, and a greater emphasis on the problem of dealing with overheads emerged.⁴¹⁷ Garner also made the point that the challenges posed by the depression of the inter-war years forced a greater creativity to take place in the development of new and complex cost accounting techniques to deal with these challenges.⁴¹⁸ According to Garner, the reason why cost accounting evolved at all was as a product of the industrial landscape, and especially by the increasing complexity of manufacturing processes.⁴¹⁹ Chandler’s interpretation was grounded in the role of the US railroads in 19th century United States, and he claimed that these railroad companies developed accounting systems to aid them in their planning and control procedures.⁴²⁰ Chandler went on to argue that the initial costing techniques originally developed by the railroad companies were adapted by companies in the mass production and mass

⁴¹⁶ Solomons, *The Historical Development of Costing*.

⁴¹⁷ Garner, *The Evolution of Cost Accounting*.

⁴¹⁸ Ibid.

⁴¹⁹ Ibid.

⁴²⁰ Chandler, *The Visible Hand*.

distribution industries.⁴²¹ Johnson cited the example of the Du Pont company in the United States as being the precursor in the innovation of modern managerial control systems.⁴²² The Du Pont company was the first to introduce the vertically integrated, multi-activity organisation essential for efficient mass production and thereby provided for dramatic breakthroughs in efficiency. Johnson went on to claim that the centralized accounting system allowed Du Pont to formalise a central measure, Return on Investment (ROI), to serve as an indicator of individual operating departments and the company as a whole, which informed the overall strategy of the business.⁴²³

Writing on the reasons why costing developed during the last quarter of the nineteenth century, Chatfield suggested that falling prices alongside the growth of increasingly complex and large-scale corporations at the time were the driving forces.⁴²⁴ He went on to argue that the increasing number of subsidiaries required management to have more central control of scattered operations, and that production costs became more of a factor in determining price rather than inter-firm comparisons.⁴²⁵

Commenting on Fayol's contribution to the debate on the importance of costing techniques, Chandler and Daems⁴²⁶ pointed out that Fayol⁴²⁷ is silent regarding the need to adjust cost to volume or the importance of the measure of return on capital employed, but is clear regarding systematic allocation of resources within a business, and also the benefits of long-range plans. Chandler and Daems concluded that European accounting practices were more suited to the careful planning of resources than the potential of administrative coordination.⁴²⁸

Kaplan supported the view that it was the rapid growth of increasingly complex organisations between 1880 and 1925 which provided the stimulus for the development of innovative costing practices, but claimed it was engineers and industrialists who pioneered these new techniques on an individual company basis,

⁴²¹ Ibid., pp. 109-120.

⁴²² Johnson, "Management accounting".

⁴²³ Ibid., pp. 186-187.

⁴²⁴ Chatfield, *A History of Accounting Thought*.

⁴²⁵ Ibid., p. 160.

⁴²⁶ Chandler and Daems, "Administrative co-ordination".

⁴²⁷ Fayol, H. (1916) *General and Industrial Management*. London: Pitman.

⁴²⁸ Ibid., p. 12.

rather than dissemination and diffusion through contemporary academic research and publication.⁴²⁹ Kaplan therefore suggested that inter-company pressures led to rapid adoption of costing techniques as a way that individual businesses could remain competitive.⁴³⁰ Kaplan went on to claim that there has been little in the way of further development in cost accounting since 1925, and this was taken upon further by Johnson and Kaplan in their seminal work, who believed that despite the early optimism that costing techniques provided companies with the ability to plan and control their businesses more effectively, the subject lost its way, and again they claimed that no improvements were made to knowledge after 1925, placing the subject into an evolutionary dead-end.⁴³¹ Scapens also painted a depressing picture of the failure of cost accounting to progress during the inter-war years, and he claimed that the subject was backward looking and only concerned with the production of accurate costs, which he suggested was the case up to the outbreak of World War II. Scapens believed that the potentially useful techniques to aid management such as standard costing and budgeting techniques were not widely adopted by organisations until the 1950's.⁴³²

The rapid growth and then apparent stagnation of cost accounting is also supported by Chatfield who claimed that the period 1885-1920 witnessed the essentials of methodology being devised, including integration with financial records, the formulation of overhead allocation procedures and standard cost procedures being developed. Outside of this time-frame Chatfield proposed that little had been done to further the subject apart from refinements of the existing techniques, whilst also suggesting that the outstanding problems of the inter-war periods regarding cost accounting have yet to be resolved.⁴³³

The suggestion that cost and management accounting techniques failed to develop significantly after the mid 1920's is challenged by Vollmers who provided evidence that the science did progress after this time, citing works which included the expansion of the scope of costing to areas outside the normal production

⁴²⁹ Kaplan, "The evolution of management accounting".

⁴³⁰ Ibid., p. 401.

⁴³¹ Johnson and Kaplan, *Relevance Lost*.

⁴³² Scapens, *Management Accounting*.

⁴³³ Chatfield, *A History of Accounting Thought*, p. 172.

environment, to include other facets such as transport and distribution.⁴³⁴ She also claimed that the role of the cost accountant within an organisation also developed from one of merely producing cost information, to one of recognizing the purposes for which costs could be used and exploring areas of managerial decision-making where the techniques could provide insights not previously recognised or understood.⁴³⁵

An alternative rationale why cost accounting developed during the early part of the twentieth century is provided by Loft who analysed the legislation passed during the Great War to curb profiteering (especially where government contracts were concerned, based on 'cost-plus' pricing), and concluded that the legal requirements encouraged companies to develop their ability to define and control their costs as a reaction to the social and political pressures that existed between 1914 and 1925.⁴³⁶ This suggestion is also supported in some degree by Armstrong who pointed that professional accountants, who were recruited into the ministries to oversee government contracts, had to learn the techniques of cost accounting in order to discharge their duties.⁴³⁷ Armstrong goes on to state that following the end of the war these accountants returned to private business with these additional skills of cost accounting. Armstrong claimed that the slump of the 1920's also had an effect on the development of cost accounting as shareholders of businesses turned to the accounting profession to solve the financial issues that lay behind organisational failure, for which the implementation of control systems were meant to remedy.⁴³⁸ Later, Loft added further weight to the argument that the effect of the Great War had significant implications for the development of cost accounting practice by pointing out that the post-war reconstruction initiatives by the Government brought about an emphasis on efficiency, whereby uniform costing systems could be beneficial to this end.⁴³⁹ Boyns challenged the view that the Great War provided the impetus to development of cost accounting practice. Using archival evidence from several British companies he noted that there is little to indicate that there were any

⁴³⁴ Vollmers, "Academic cost accounting".

⁴³⁵ Ibid.

⁴³⁶ Loft, "Towards a critical understanding", p. 165.

⁴³⁷ Armstrong, "The rise of accounting controls".

⁴³⁸ Ibid., p. 432.

⁴³⁹ Loft, *Coming Into the Light*, p. 2.

significant changes to practice comparing the post-war period with the pre-war one.⁴⁴⁰

Boyns et al, having reviewed the contemporary costing literature covering the period 1887-1952, also agreed with Armstrong in the notion that the role of professional accountants had a significant role in the development of cost accounting, as opposed to the alternative view put forward that it was engineers who were largely responsible for its development.⁴⁴¹ Boyns and Edwards suggested that the accountancy profession in the UK had a major role in improving cost accounting techniques, much more than in the United States, and they question whether the accepted notion of the US having developed and implemented these techniques more rapidly than the UK.⁴⁴²

An attempt to put the development of cost and management accounting into a wider historical context has been made by Fleischman and Tyson who put forward the idea that the earliest motives for managers to introduce some form of costing systems into their organisations was for contract bidding and the setting of prices. However, as companies became more complex, standard costs were used for the measurement of waste and efficiency, but more importantly, they argued that it facilitated control by being able to gauge the performance of subordinate managers.⁴⁴³

Distribution Costing

The limited business history literature on distribution costing centres mainly on the work of Vollmers, who put forward the proposition that a company's production policy should be driven by supply, which if accepted would also mean high distribution costs to stimulate consumption. However, if demand should be the driver, production would be almost "to order" by the customer.⁴⁴⁴ The case study that Vollmers used to describe the role of distribution costing in a historical context was the example of the Dennison Company, and indeed in a later work concluded that the management team carefully used this additional information to inform key pricing decisions.⁴⁴⁵

⁴⁴⁰ Boyns, *Illuminating the Darkness*, pp. 121-122.

⁴⁴¹ Boyns, et al, *British Cost Accounting*.

⁴⁴² Boyns and Edwards, "British cost and management accounting theory", p. 460.

⁴⁴³ Fleischman and Tyson, "A guide to the historical controversies".

⁴⁴⁴ Vollmers, "Accounting for distribution costs", pp. 84-85.

⁴⁴⁵ Vollmers, "Using distribution costs", p. 143.

In addition to the work by Vollmers, Usui also examines distribution and the role of costing from the perspective of an innovative and forward-looking company like Dennison, which for them meant “a coordinating force between the job of selling goods and the job of manufacturing the goods to be sold”, especially so when identifying selling prices for regular and special orders.⁴⁴⁶

Budgeting

Control in the early development of cost and management accounting is discussed by Parker (1986) who reflected on the classical accounting view of control which is congruent with the scientific approach as espoused by engineers in the latter part of the nineteenth century.⁴⁴⁷ Parker argued that the accounting control model was used by companies to replicate and support the classical management control models of Taylor and Fayol: accounting controls were by definition, authority based, with the objective of total control.⁴⁴⁸ This total control could be sub-divided into coordinative control, disciplinary control and exception control. Parker claimed that this version of the accounting control model was a ‘ready-made’ solution to contemporary managers of the inter-war years as it was seen as reinforcing the classical management control model’s perception of certainty and simplicity.⁴⁴⁹ In a later work, Parker and Lewis suggested that the concept of the classical management control model had persisted to the present day because it supports the notion of having strategic plans and objectives, internal control systems, external accountability and a focus of measuring and reporting efficiency. They then argued that cost accounting systems therefore perpetuate this form of control.⁴⁵⁰

The role of the ‘budget’ as the cost accounting technique used by organisations as the method by which management control could be executed has been the focus of many historical commentators. In the first instance the definition of what is actually meant by budgetary control is not entirely clear. Whilst budgeting is considered to be a management accounting technique, as Quail has pointed out, senior managers during the first quarter of the twentieth century saw it as a way of planning and coordinating activities, particularly given the rise in functional departments and therefore a desire

⁴⁴⁶ Usui, *The Development of Marketing Management*, pp. 74-76.

⁴⁴⁷ Parker, “The classical model of control”.

⁴⁴⁸ Ibid.

⁴⁴⁹ Ibid.

⁴⁵⁰ Parker and Lewis, “Classical management control”, p. 231.

to maintain some form of central control.⁴⁵¹ In addition, Quail has guarded against using the term ‘budgetary control’ in a generic sense, as he pointed out that certain characteristics of such a system are necessary for its correct utilisation:

- “1) budgets are used to integrate activity across an organisation by the setting of targets, based on for example the anticipated sales performance, which determines production, inventories, purchases, labour, overheads and capital equipment.
 - 2) budgets integrate activity down an organisation, by sub-dividing the targets into divisional, departmental and individual targets, requiring an effective line of authority and levels of responsibility.
 - 3) targets are used to achieve control by the monitoring of performance against targets with appropriate remedial action being taken by management via feedback loops.
 - 4) budgets are used to make an organisation responsive to market conditions, in which changes in demand can be translated into changes in targets.
- Feedback loops are established between markets and targets”⁴⁵²

Quail elaborated that unless these characteristics are present then the benefits of a budgetary control system would not only the improvement in production techniques, but also in the improvements of information flows and performance of different parts of the organisation, will not be forthcoming. Importantly, Quail concluded that a budgetary control system which includes all of the necessary characteristics performs a dual role as both a planning technique and as a framework which can be used to integrate and drive the organisation. It is therefore in this context that the formulation of best practice during the inter-war period has to be judged.⁴⁵³

Given the uncertainty regarding the definition of ‘budgeting’, Boyns has attempted to throw some light on the extent to which companies in the UK had introduced some form of budgeting techniques into their organisations by 1945.⁴⁵⁴ Boyns pointed out the fact that in an era of rapid corporate expansion at the beginning of the twentieth century, many new techniques were being developed to cope with the increasing complexity of organisations, of which budgeting was one.⁴⁵⁵ The other consideration was that these techniques were still being developed, and not readily available ‘off-the-shelf’, or indeed that they would be suitable for every circumstance, and Boyns suggested that this could be a reason for modest levels of adoption by UK businesses

⁴⁵¹ Quail, “More peculiarities”.

⁴⁵² *Ibid.*, pp. 617-618.

⁴⁵³ *Ibid.*, pp. 629-630.

⁴⁵⁴ Boyns, “Budgets and budget control”.

⁴⁵⁵ *Ibid.*, pp. 289-290.

at the time, especially in untried industries not mentioned in the literature describing successful implementation.⁴⁵⁶ Boyns therefore went on to suggest that many companies introduced techniques such as budgeting in a more piecemeal fashion rather than as a comprehensive all-encompassing, company-wide system, which would be developed into something more complex over a period of time as the benefits accrued were realised and appreciated more and more by senior management. This period of experimentation with a particular technique would therefore seem to be the most accepted way in which dissemination was carried out within companies, with this process being far from smooth and straightforward as individual issues and problems had to be resolved. Boyns has, however, provided some archival evidence from a range of different industries that budgeting in various forms of sophistication was being practiced by many companies in the UK by 1935.⁴⁵⁷

Other factors which influenced the development of budgetary control systems have been suggested by Berland and Boyns who put forward the proposition that firm-specific factors were an important factor as to the exact form of control that managers wished to exercise, and also that factors external to the firm are major influences, particularly economic, social and political themes.⁴⁵⁸ Citing the findings of an earlier work by Hopper and Armstrong⁴⁵⁹, they also point to the evidence that companies developed budgeting systems in the 1920's as an attempt to mitigate the effects of economic downturns, especially in decisions such as the decision to move costs away from capital and towards labour. Berland and Boyns therefore claimed that the reason why, within individual firms, the budgetary control system evolved over a period of time was to take into account changing company objectives and also were adapted to cope with the changing environmental conditions. They then suggested that these factors which were considered by individual companies and the process by which these changes occurred, is a key question in trying to understand the nature of the diffusion of budgeting in the inter-war period, and how this was linked to the establishment of competitive advantage of an individual company.⁴⁶⁰ The understanding the underlying processes at work within organisations in the development of accounting techniques, and its significance in the wider economic

⁴⁵⁶ Ibid.

⁴⁵⁷ Ibid.

⁴⁵⁸ Berland and Boyns, "The development of budgetary control", pp. 333-334.

⁴⁵⁹ Hopper, T.M. & Armstrong, "Cost Accounting, controlling labour", pp. 405-438.

⁴⁶⁰ Berland and Boyns, "The development of budgetary control", p. 344.

and social setting was first suggested in a seminal work by Hopwood, who suggests that accounting has played a key role in the shaping of organisational governance and management.⁴⁶¹

The significance of the external factors and also the extent to which companies deal with environmental turbulence is dealt with by Berland who claimed that budgeting as a technique is particularly useful in times of economic certainty, where the planning process enables efficient resource allocation mechanisms and the ability to optimize production. However, this becomes more problematical when economic conditions are harder to predict, making forecasting increasingly difficult.⁴⁶²

Alternative Interpretations of the Business History Perspective on Cost Accounting

In addition to what has become known as the ‘economic rationalism’ approach to the development of cost accounting made by the majority of historical commentators discussed previously, there have also been some alternative views put forward by others.

The accepted fact that economic necessity was the key driver in the development of cost accounting techniques has been challenged by Hoskin and Macve, who claimed that this is an insufficient, simplistic explanation for its subsequent expansion. They then argued that the view put forward by economic rationalists of cost accounting being developed to support decision-making is flawed in that the measures of ‘cost’ and ‘profit’ are arbitrary and are themselves by-products of an accounting double-entry system designed to do something else. This in itself means that decisions based on this information are, as a consequence, of little value in such strategic considerations such as pricing, output levels or the appropriate scale of investment.⁴⁶³

An alternative view of why cost and management accounting emerged at the end of the nineteenth century centres on the work of Foucault⁴⁶⁴ whose premise is that individuals seek to gain control over other individuals and put in place mechanisms which will enable them to achieve this aim. Taking this idea into an organisational

⁴⁶¹ Hopwood, “The archaeology of accounting systems”, pp. 207-208.

⁴⁶² Berland, “Environmental turbulence”.

⁴⁶³ Hoskins and Macve, “Knowing more or knowing less?”, pp. 101-105.

⁴⁶⁴ Foucault, *Discipline and Punish*.

environment, in an earlier work, Miller and O’Leary made the analogy between Foucault’s stance and that of the management of a business, claiming that cost accounting is merely a tool used for the purpose of power, control and ultimate subjugation of their respective workforces.⁴⁶⁵

Whilst this alternative view of is a valid position from which to interpret the events of the past, it is proposed that a traditional ‘economic rationalist’ approach be used in this study given the general hypothesis that cost accounting evolved fairly quickly into being that of a tool of strategy. However being that as it may, it is also accepted that the Hoskins and Macve point of the wisdom of attempting to identify the reasons why particular routines such as cost and management accounting were adopted in a broader organisational, social or economic context is also valid.⁴⁶⁶

3.4 Conclusions

Both contemporary and business history literature conclude that one of the key components of the philosophy of scientific management is the science of cost accounting. It is therefore no coincidence that in the early years of the twentieth century, when managers were looking for a more structured approach to management, that cost accounting provided some key attributes which were deemed to fulfil key aspirations, especially in the area of control. As confidence in these techniques grew, and more companies embraced them, the scope and sophistication of the skills of cost accounting widened to include the whole company and its operations, thus providing increasingly useful information to inform management on a range of decisions.

Whilst there has been some debate on the slow progression of the basic principles of cost and management accounting since the mid-1920’s by historical commentators, it is also suggested that the techniques provided companies with the ability to plan and control more effectively, and also importantly to provide methods of measurement which in turn could be developed into some form of competitive advantage.

There is, therefore, clear evidence in the literature that the senior managers of companies in the early years of the twentieth century increasingly viewed their businesses from a strategic viewpoint, and the provision of accurate, timely and

⁴⁶⁵ Miller and O’Leary, “Accounting and the construction”.

⁴⁶⁶ Hoskins and Macve, “Knowing more or knowing less?”, pp. 104-105.

relevant information provided the basis from which executives could think strategically. The role of cost accounting in this process is also alluded to in the literature, but it is suggested here that different companies in different industries approached this in different ways as to the way it was utilised and the level of influence it had on performance.

From the point of view from the confectionery industry, a strong example of the burgeoning non-durable consumer goods market, it has already become clear that progressive companies in this sector such as Rowntree and Cadbury, embraced and contributed to the evolution of new management thinking. However, the ways in which these two competing organisations formulated and developed their cost accounting techniques as a consequence of these innovative approaches, and the effect it had on competitive position and performance will be discussed in due course.

3.5 Introduction - Financial Performance Analysis

The development and popularity of the scientific management movement, including techniques such as cost accounting, during the first part of the twentieth century, was the direct consequence of the need by managers to be able to understand and subsequently control their increasingly large and complex organisations. The competitiveness of the market, particularly in the durable consumer goods sector, meant that efficiency of operations became the 'holy grail' for companies, where it was felt that management effort should be concentrated in achieving this goal. However, 'efficiency' in itself is a broad description and its measurement is a key factor in being able to judge whether or not it has been achieved, particularly in the overall context of organisational performance

As a consequence of this desire to be able to provide a yardstick by which to ascertain the efficiency, and thereby the performance of a business, there emerged a series of metrics by which a company could be quantifiably measured, and consequently appraised. These calculations originally centred on the analysis of a company's published annual financial statements and had their genesis rooted in the requirement by outside agencies such as banks to assess the credit worthiness of a business. However, these analytical techniques soon became used for internal assessment purposes by managers to measure performance, and became widely known as 'ratio analysis'.

3.6 Development of Financial Performance Analysis: Contemporary Literature

The increasing requirements for companies to seek external financing arrangements to promote their growth in the latter part of the nineteenth century led to the publication of more frequent and detailed financial information for the digestion of agencies such as lenders and other investors, and the emergence of the current ratio (current assets divided by current liabilities, obtained from the balance sheet) as the principal measure of a company's ability to remain liquid, and consequently, stay in business and pay its creditors.

Developing from this early consensus, the earliest example of a suggestion that other relationships existed within the financial statements that could provide more detailed

information on the performance of a company was made by Lough.⁴⁶⁷ However, the breakthrough work was compiled and published by Wall⁴⁶⁸ who carried out extensive empirical research from 1912 to 1919 on the financial statements of 981 companies in a wide range of industries in his capacity as advisor to the Federal Reserve Board.⁴⁶⁹ The purpose of the study by Wall was to establish a wider range of indicators than the commonly used current ratio to support banks in their credit assessment of firms -- subsequently described by Wall as “Credit Barometrics”. Wall’s study led him to develop a series of seven financial ratios which he believed would provide a more robust assessment of a company’s financial status. Table 3.1 shows the seven ratios which he developed :

Table 3.1 Credit Barometrics

<u>Ratio Description</u>	<u>Ratio Calculation</u>
Current Ratio	Current Assets divided by current liabilities
Receivables - Merchandise	Receivables divided by inventory
Worth - Fixed	Equity Capital divided by fixed assets
Sales - Receivables	Sales divided by receivables
Sales – Merchandise	Sales divided by inventory
Sales - Worth	Sales divided by equity capital
Debt - Worth	Debt divided by equity capital

Source: Wall, A.(1919) Study of Credit Barometrics. *Federal Reserve Bulletin*. March, pp. 230-234.

The significance of the Wall contribution is that he provided empirical data for a range of industries, and a national average, thereby suggesting that comparison and benchmarking was the important factor to be analysed.

Parallel to the Wall study, a series of financial ratios were being developed by the du Pont company, to be used by internal managers for decision making. Frank Donaldson Brown was the brainchild behind the financial innovations at du Pont in the years up to 1919. The requirement for this analysis was partly driven by the divisionalised nature of the company and the subsequent quandary of how best to allocate resources for investment in each of the divisions by centralised senior executives. This management requirement encouraged Donaldson Brown to develop a measure providing a relationship between the profit contributed by a particular

⁴⁶⁷ Lough, *Business Finance*, pp. 500-524.

⁴⁶⁸ Wall, “A study of Credit Barometrics”.

⁴⁶⁹ Alexander Wall was at the time employed by the National Bank of Commerce, Detroit.

division and the funds invested, or “Return on Investment” (ROI) as it became known. The detail surrounding the calculations of ROI at du Pont were not made generally available to the public until after World War II, and indeed Rotch claimed that there was an element of secrecy surrounding their financial control techniques as it was perceived to provide a form of competitive advantage.⁴⁷⁰ The subsequent literature on the development of ROI and other financial ratios at Du Pont, and later at General Motors, which appeared post-1945 will be reviewed later in this chapter.

Whilst the developments at du Pont were in the first instance an internal solution to an internal company problem, Bliss provided a more academic contribution which was consequently published for public consumption.⁴⁷¹ Bliss approached the subject in the same way as Donaldson Brown, from a management point of view, rather than from an external perspective. Bliss suggested that information should be generated to “judge the accomplishments of those to whom responsibility is delegated”, or to put in another way, to provide some form of performance measurement.⁴⁷² To this end, Bliss described how combining the income statement and the balance sheet can provide a more comprehensive analysis of the affairs of a business, especially with regard to efficiency.⁴⁷³ It is important to note that having established a range of ratios to interrogate past performance, Bliss claimed that these should be used as a basis for the preparation of the company budget in which target improvements to the ratios should be factored in to improve overall business performance.⁴⁷⁴

From the original identification of seven ratios identified by Wall as being important , Bliss expanded this number to eighteen which, as detailed in Table 3.2, he divided into four general categorisations designed to highlight particular aspects of business performance.⁴⁷⁵

⁴⁷⁰ Rotch, “Return on Investment”.

⁴⁷¹ Bliss, *Financial and Operating Ratios*.

⁴⁷² *Ibid.*, p. 3.5

⁴⁷³ *Ibid.*, pp. 35-37.

⁴⁷⁴ *Ibid.*, pp. 39-40.

⁴⁷⁵ *Ibid.*, pp. 50-51.

Table 3.2 Financial and Operating Ratios

<u>Measures of Earnings:</u>	
<u>Ratio Description</u>	<u>Ratio Calculation</u>
The relation of net profit to net worth	Profit after tax divided by equity capital
The relation of net profit to sales revenue and volume	Profit after tax divided by sales revenue and volume units
The earnings on stockholders' investments	Profit after tax divided by number of shares
The relation of operating profit to total capital	Profit before interest & tax divided by total capital employed
The relation of operating profit to sales value and volume	Profit before interest & tax divided by sales value and volume units
The relation of gross earnings to sales value and volume	Gross profit divided by sales value and volume Units
<u>Measures of Costs & Expenses:</u>	
<u>Ratio Description</u>	<u>Ratio Calculation</u>
The relationship of costs to sales value and volume	Total costs divided by sales value and volume units
The cost of borrowed capital	Interest charged on borrowed capital
The cost of capital employed	The weighted average of cost of borrowed capital and expected return on shareholders equity

<u>Measures of Turnovers:</u>	
<u>Ratio Description</u>	<u>Ratio Calculation</u>
Turnover of total capital used	Net sales divided by total capital employed
Turnover of inventories	Inventories divided by cost of sales
Turnover of accounts receivable	Receivables divided by sales multiplied by 300 days
Turnover of fixed property investment	Net sales divided by non-current assets

<u>Measures of Financial Relationships:</u>	
<u>Ratio Description</u>	<u>Ratio Calculation</u>
Net working capital ratio	Current assets divided by current liabilities
Manner in which capital is invested	Proportion of current and non-current assets
Sources from which capital is secured	Proportion of shareholders equity, retained earnings, long-term borrowing and short-term borrowing
Proportion of earnings left in the business	Retained earnings divided by profit after tax

Source: Bliss, J.H. (1923) *Financial and Operating Ratios in Management*. New York: The Ronald Press.

These eighteen measures form a comprehensive and holistic view of a business from which detailed observations can be made and conclusions drawn regarding

performance, position and efficiency. They were regarded by many commentators as the seminal work during the interwar period and beyond.

Bliss subsequently discussed these in a more general sense from the viewpoint of senior managers: how they should use and interpret the information that the ratios suggest in supplying valuable insights into their individual businesses.⁴⁷⁶ Indeed Bliss described how the “story” of a business can be told from an analysis of its financial statements.⁴⁷⁷

Justin developed the range of financial and operating ratios that Bliss suggested, naming his approach ‘scientific analysis’ and applying these to a practical scenario by analysing data from fifty-seven flour mills in the USA.⁴⁷⁸ Justin also made reference to Wall in an attempt to secure commonality of reasoning and understanding in the two studies. The conclusion that Justin reached was the importance of comparing individual companies with the average for the industry, although he conceded that this in itself can be misleading due to geographical, seasonal or personnel differentials. He therefore warned against making swift judgements without taking into account these mitigating factors.⁴⁷⁹

Whilst Bliss finally settled on a range of eighteen major financial and operating ratios, sub-divided into four main categories as summarised in Table 3.2, he also suggested other minor ratios which could be used by managers to identify specific problems. This expansion of the number of possible was described by Lincoln who nominated no fewer than forty such calculations.⁴⁸⁰ These are basically the major and sub-ratios first identified by Bliss, and provide evidence of the growing interest into the insights that this scientific approach could provide.

However, despite the growing enthusiasm for ratio analysis, Gilman suggested major weaknesses in the accepted ratio analysis approach, claiming that ratios were artificial, they are unreliable and they obscure the need for common sense.⁴⁸¹ Despite these reservations, Gilman did suggest a series of ratios (see Table 3.3) which he

⁴⁷⁶ Bliss, *Management Through Accounts*, pp. 3-14.

⁴⁷⁷ *Ibid.*, pp. 15-30.

⁴⁷⁸ Justin, “Operating control”.

⁴⁷⁹ *Ibid.*, pp. 187-190.

⁴⁸⁰ Lincoln, *Applied Business Finance*.

⁴⁸¹ Gilman, *Analyzing Financial Statements*, pp. 112-113.

considered to be the most relevant for the successful interrogation of a company's financial affairs.⁴⁸² He also offered an alternative approach, suggesting the application of the trend or percentage method of analysis Gilman.⁴⁸³ With this alternative method, Gilman put forward the idea of grouping the various items of assets and liabilities into classes such as quick assets, inventories, fixed assets, current liabilities, non-current liabilities and net worth and then applying what is in effect index numbers to each class, and then measuring their movement over time. Gilman claimed that this approach is less time consuming than traditional ratio analysis, and provides more or less the same insights, with the additional advantage of being able to survey all the movements all at once, which he claimed makes the reader more inclined to make common sense conclusions.⁴⁸⁴

Table 3.3 Historical Ratio Method

<u>Ratio Description</u>	<u>Ratio Calculation</u>
Quick Ratio	Liquid current assets divided by current liabilities
Current Ratio	Current assets divided by current liabilities
Sales to Receivables	Sales revenues divided by receivables
Sales to Inventory	Sales revenues divided by inventories
Sales to Net Worth	Sales revenues divided by equity capital
Net Worth to Fixed Assets	Equity capital divided by non-current assets
Net Worth to Liabilities	Equity capital divided by liabilities
Sales to Fixed Assets	Sales revenue divided by non-current assets

Source: Gilman, S. (1925) *Analyzing Financial Statements*. New York: Ronald Press.

Notwithstanding some of the criticisms of ratio analysis posed by Gilman, further attempts were made to evolve the fundamentals into a more sophisticated model of business relationships with scientific merit as a key driver. As already mentioned, Wall provided one of the first empirical studies in supplying evidence of the merits of

⁴⁸² Ibid., pp. 74-95.

⁴⁸³ Ibid., pp. 112-122.

⁴⁸⁴ Ibid.

analysing financial statements, and he subsequently collaborated with Duning⁴⁸⁵ to develop previous work, including that by Bliss by assigning weights to each of the ratios previously identified.⁴⁸⁶ However, they accepted that the weights assigned to each ratio was largely their personal view, although based on evidence and rationality, but other analysts may disagree with this view. They went on to claim that by applying the weights that they suggest for all of the eight ratios originally identified by Wall (see Table 3.1), an overall index can be calculated for any individual company, thereby providing an easily comparable scoring system.⁴⁸⁷ Table 3.4 shows the relative value or weight for each identifiable ratio that they suggest.

Table 3.4 Relative Values or Weights of Financial Ratios

<u>Ratio</u>	<u>Relative Value Or Weight</u>
Current Ratio	25%
Receivables - Merchandise	10%
Worth - Fixed	15%
Sales - Receivables	10%
Sales – Merchandise	10%
Sales - Worth	5%
Debt - Worth	25%

Source: Wall, A. & Duning, R.W. (1928) *Ratio Analysis of Financial Statements*. New York: Harper & Bros.

In addition to this contribution to the literature, Wall & Duning claimed that the development of budgeting techniques, with their emphasis on future performance and position, provides the analyst with additional information from which to make a more robust assessment of a company's financial affairs.⁴⁸⁸

Taking a wider view of 'business performance', Morgan⁴⁸⁹ firstly prescribed what the objectives of a business should be:

“The function of a business is to provide for the material needs of mankind and to increase the wealth of the world and the value of happiness of life. In order to

⁴⁸⁵ Both Wall and Dunning were at this time employees of Robert Morris Associates, a national organisation of bank credit executives and claim their contribution is based on empirical observations made in the work of assessing the credit credentials of a wide range of businesses.

⁴⁸⁶ Wall and Duning, *Ratio Analysis*, pp. 152-165.

⁴⁸⁷ *Ibid.*, pp. 161-165.

⁴⁸⁸ *Ibid.*, pp. 164-168.

⁴⁸⁹ Clyde Morgan, Treasurer, S.D. Warren & Co., Boston, Mass.

perform its function it must offer a sufficient opportunity for gain to compensate individuals who assume its risks, but the motives which leads individuals to engage in business are not to be confused with the business itself. When business enterprise is successfully carried on, with constant and efficient endeavour to reduce the cost of production and distribution, to improve the quality of its products, and to give fair treatment to customers, capital, management and labour, it renders public service of the highest value”⁴⁹⁰

Morgan adopted a stakeholder view of the enterprise from which he compiled a series of factors contributing to “business deaths” or business failures, which have a catastrophic effect on stakeholders. One of the key factors in business failure that he identified, and which affected over half of the companies studied, is “lack of knowledge”. Morgan cited the financial and operating ratios identified by Bliss as being a remedy for the lack of knowledge. But instead of merely comparing the ratios of an individual company with others in the same industry, he formulated a rationale for comparing companies in different sectors by providing evidence of how examples from different sectors can be used to offer insights and solutions to problems of companies in other sectors.⁴⁹¹

In sympathy with the need for a strong empirical emphasis when comparing individual companies to industry averages or ‘norms’, Crum accumulated statistical data from 1916-27 for over 400,000 firms covering every sector and geographical area of the USA.⁴⁹² In analysing this data, Crum limited his efforts to two financial ratios:

Profit Ratio – Net profit after tax divided by sales revenues
Earnings Ratio – Net profits after tax divided by total assets

Although his scope of analysis was limited, Crum’s work is important because it highlights the significance of long-term trends.⁴⁹³ At about the same time as the publication of Crum’s study, Sloan also provided empirical data on performance measurement, concentrating on large corporations over a shorter time-frame, limiting his analysis of his chosen range of companies to net returns on capital.⁴⁹⁴ These

⁴⁹⁰ Morgan “ Measures of business efficiency”.

⁴⁹¹ Ibid., p. 5 and p. 10.

⁴⁹² Crum, *Corporate Earning Power*.

⁴⁹³ Ibid.

⁴⁹⁴ Sloan, *Corporation Profits*.

studies, whilst modest in the range of analysis, expand the range of knowledge and information available to individual companies with regard to comparisons and overall trends. Indeed, Epstein⁴⁹⁵ reviewed the work that had been carried out by Crum and Sloan and made some key observations, such as the companies who were the most profitable had branded or trade-marked products⁴⁹⁶. On a more general note, Epstein concluded that Crum's work indicates that business losses can mean the ultimate loss of business capital, which in turn means an economic loss for the entire community⁴⁹⁷.

One consequence of the increasing level of empirical evidence relating to the measurement of financial performance during the 1920's was the use of ratios to predict business difficulty or even business failure. The initial contribution to the literature by Smith & Winakor identified a range of firms which had experienced some form of business difficulty during an eight-year period in the 1920's and concluded that the ratio of net working capital to total assets was the most reliable indicator of business distress.⁴⁹⁸ Subsequently they developed this study with a larger sample of companies, arriving at similar conclusions.⁴⁹⁹ Two further studies by Fitzpatrick compared a sample of companies who were either successful or failures and concluded that net profit to worth, net worth to debt and also net worth to fixed assets (as used by the Smith & Winakor studies) were most relevant as indicators of company failure.⁵⁰⁰

The literature reviewed thus far has been sourced from the U.S.A., where it is apparent that the development of financial ratio analysis was borne out of the requirement for credit assessment of business by external agencies, and later incorporated by managers. However, the contribution in the UK came initially from an internal management perspective by Rose which was based on his practical experience as Works Manager at Leyland Motors and later as an independent

⁴⁹⁵ Epstein, "Statistical light on profits", pp. 341-343.

⁴⁹⁶ There is a clear distinction between a Trademark and a Brand, with the former being an indicator of trade origin, whilst the latter is the way in which product characteristics are identified by the consumer. The medium of advertising is the mechanism by which trademarks are transformed into brands. (Higgins, "Forgotten Heroes", p. 284).

⁴⁹⁷ Ibid.

⁴⁹⁸ Smith and Winakor, *A Test Analysis of Unsuccessful Industrial Companies*.

⁴⁹⁹ Smith and Winakor, *Changes in the Financial Structure*.

⁵⁰⁰ Fitzpatrick, *Symptoms of Industrial Failure* and Fitzpatrick, *A Comparison of the Ratios*.

management consultant.⁵⁰¹ Rose used “Higher Control”, to provide senior managers with statistical data on the company’s business, trading and financial position.⁵⁰² For all of these different aspects of a company’s business operations, Rose advocated that information be provided in tabular or graphical form to emphasise key areas of either success or failure, and also to establish trends in a visual way.

As part of the financial position in his concept of Higher Control, Rose suggested carrying out analysis in the form of ratios as had been published in the literature emanating mainly from the U.S.A.⁵⁰³ Table 3.5 summarises the ratios that Rose has identified.

Table 3.5 Higher Control - Financial Position Ratios

<u>Ratio Description</u>	<u>Ratio Calculation</u>
Liquid Ratio	Liquid current assets divided by current liabilities
Payables Ratio	Sales divided by payables
Current Ratio	Current assets divided by current liabilities
Inventory Turnover	Sales divided by inventories
Net Worth to Fixed Assets	Equity capital divided by non-current assets
Sales to Fixed Assets	Sales divided by non-current assets
Net Worth to Total Liabilities	Equity capital divided by total liabilities
Sales to Net Worth	Sales divided by equity capital
Profits to Net Worth	Profit before interest and tax divided by equity capital

Source: Rose, T.G. (1934) *Higher Control*. London: Pitman.

In preparing the information for the ratios described in Table 3.5, Rose stated that the management of a company should plot the information in a graphical format to establish the “normal” position for each ratio so that variations from this benchmark position can be easily and clearly identified.⁵⁰⁴

⁵⁰¹ Rose, *Higher Control*.

⁵⁰² In the preface to his book Rose also concedes that much of the early thinking on the concepts of Higher Control was in collaboration with A.H. Pollen, Managing Director of Linotype & Machinery Ltd. with whom he worked as a management consultant from around 1926.

⁵⁰³ *Ibid.*, p. 195.

⁵⁰⁴ *Ibid.*, p. 194.

Whilst the Rose contribution provides a UK emphasis, he did not provide clear empirical evidence that the ratios he quoted are the most efficacious; they appear to be his opinion based upon his own practical experience. However, in the U.S.A. the development of empirical-based study that commenced with the forecasting business failure was continued by Foulke⁵⁰⁵, who compiled industry averages over a period of years in the late 1920's and early 1930's, the findings of which were eventually published in a series of articles.⁵⁰⁶

This series of articles that Foulke originally published were eventually summarised as being the accepted range of ratios that had been compiled using empirical methodologies.⁵⁰⁷ However, Foulke maintained that as far as the accountant is concerned they are all of equal importance.⁵⁰⁸ Table 3.6 summarises Foulke's work which are separated into five family groups.

⁵⁰⁵ Foulke, "Three important balance sheet ratios". Based on his work at the National Credit Office.

⁵⁰⁶ Foulke, "Three important inventory ratios"; "Three important sales ratios"; "Three important net profit ratios". These articles were published after Foulke was employed by Dun & Bradstreet.

⁵⁰⁷ Foulke, "Financial ratios become of age".

⁵⁰⁸ *Ibid.*, p. 212.

Table 3.6 Family Groups of Financial Ratios

<u>Capital Ratios</u>	
<u>Ratio Description</u>	<u>Ratio Calculation</u>
Fixed assets to tangible net worth	Fixed assets divided by equity capital
Current debt to tangible net worth	Debt divided by equity capital
Net working capital represented by debt	Proportion of working capital debt funded

<u>Inventory Ratios</u>	
<u>Ratio Description</u>	<u>Ratio Calculation</u>
Net Sales to Inventory	Sales revenue divided by inventories
Net Working Capital represented by Inventory	Inventory divided by net working capital
Inventory Covered by Current Debt	Proportion of inventory funded by debt

<u>Sales Ratios</u>	
<u>Ratio Description</u>	<u>Ratio Calculation</u>
Average Collection Period	Receivables divided by sales multiplied by 365
Turnover of Tangible Net Worth	Sales revenues divided by equity capital
Turnover of Net Working Capital	Sales revenues divided by net working capital

<u>Net Profit Ratios</u>	
<u>Ratio Description</u>	<u>Ratio Calculation</u>
Net Profits on Net Sales	Profit before interest and tax divided by sales revenues
Net Profits on Tangible Net Worth	Profit before interest and tax divided by equity capital
Net Profits on Net Working Capital	Profit before interest and tax divided by net working capital

<u>Supplemental Ratios</u>	
<u>Ratio Description</u>	<u>Ratio Calculation</u>
Current Assets to Current Debt	Current assets divided by short term borrowing
Total Debt to Tangible Net Worth	Total debt divided by equity capital

Source: Foulke, R.A. (1937) Financial ratios become of age. *Journal of Accountancy*. September: 203-213.

In summarising his findings, Foulke reaffirmed the efficacy of ratio analysis by claiming they identify and quantify previous management decision-making, and is therefore a mechanism for measuring ability and knowledge within an organisation.⁵⁰⁹

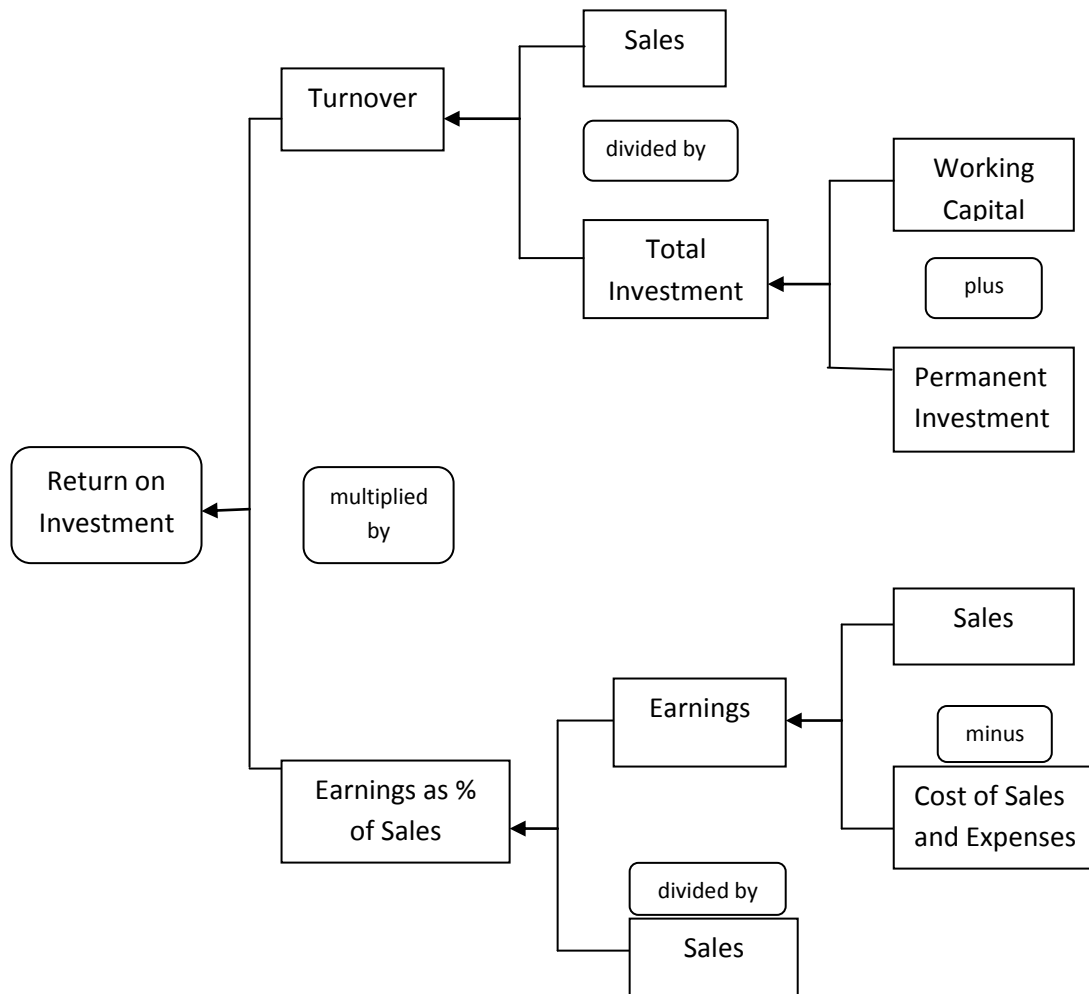
3.7 Development of Financial Performance Analysis: Business History Literature

The review of contemporary literature on financial analysis highlights the similarity, but also the differences between commentators of what constituted the optimum number and type of ratio that should be used. However, although developed and refined during the period 1914-20, the system of financial ratios devised by Donaldson Brown at Du Pont and General Motors (GM) culminating in the Return on Investment (ROI) ratio has been viewed by many historical commentators as one of the most important contributions (see Fig.3.1). As already alluded to, the detail surrounding this system of financial ratios was not published until 1950 by Davies⁵¹⁰.

⁵⁰⁹ Ibid., p. 213.

⁵¹⁰ Davies, "How the du Pont organisation appraises its performance". Davies was Treasurer at du Pont at the time.

Figure 3.1 The Du Pont Company: Relationships of factors affecting return on investment



Soucee: Davies, T.C. (1950) How the du Pont organisation appraises its performance. *Financial Management* Series 94:7: 3-23. The American Management Association.

Following the publication of Davies’ work on the du Pont system of financial ratio calculation, two other executives at du Pont, Kline and Hessler provided more detail regarding the way in which a ‘chart system’ was devised at the company, thereby enabling the operationalisation of the ratio system as a means of financial control within the rationale and subsequent function of the chart system:

“Any system of financial control, to be of maximum usefulness, should include a forecast of sales and profits, a forecast of working capital requirements and cash resources, and capital-expenditure budgets and working capital standards, together

with statements which show actual operating performance and balance sheet conditions promptly after the end of the accounting period”.⁵¹¹

The chart system at du Pont that Kline and Hessler describe, reaffirmed the concept that it is the Return on Investment (ROI) which provides the ultimate measure of performance within a company. Furthermore, in a critique of the chart system at du Pont, Yates discovered that the charts not only provided graphical presentation, but also included tabulated data in case more detailed information was required to support the graphs.⁵¹² Yates claimed that the chart system was an ideal medium for presenting ROI information to senior executives as it pointed to the places where further analysis, review and attention was required.⁵¹³

The development of the ROI and its subordinate ratios at du Pont has been credited with the way in which the company became a pioneer of systematic management. Dale stated that the originality of the du Pont organisational objective was that it was dependant on achieving the most efficient results through a series of ten systematic processes or ‘criteria’ of which ROI was a principal driver:

- “1) Co-ordination of economically or market-related effort. 2) Undivide responsibility.
- 3) Closely defined superior-subordinate relationships. 4) Economic advantage of specialisation of central staff. 5) ROI as ultimate measure of performance. 6) Ultimate control by group management. 7) Knowledge of general business principles.
- 8) Multiple truths in management. 9) Adoption to change. 10) The ‘ideal’ organisation⁵¹⁴

Dale and Meloy attributed the systematic approach in management at du Pont to Hamilton Macfarland Barksdale, who they claim had developed his ideas whilst employed initially at Repauno Chemical Company and then at Eastern Dynamite from 1887 to 1893 when the company was taken over by du Pont. Barksdale’s talents were incorporated into the parent company and in 1902 became General Manager at du Pont until 1914.⁵¹⁵ According to Dale and Maloy, Barksdale during this time had implemented control through financial measurement based on the rate of return on investment and also implemented coordination through the instrument of the budget,

⁵¹¹ Kline and Hessler, “The du Pont chart system for appraising operating performance”, p. 855.

⁵¹² Yates, ”Graphs as a managerial tool”, p. 23.

⁵¹³ Ibid., p. 27.

⁵¹⁴ Dale, “Du Pont: Pioneer in systematic management”, pp. 48-52.

⁵¹⁵ Dale and Meloy, “Hamilton MacFarland Barksdale”.

where there was continuous examination of forecasts against actual.⁵¹⁶ In a more detailed examination of the early financial management systems at du Pont, Johnson affirmed that the ROI technique was used by the company during the years covered by his study (1903-12) and was used extensively in supporting managers in making resource allocation decisions.⁵¹⁷ Johnson made the point that many companies had used net profit (i.e. profit before interest and tax) long before 1900, but du Pont were the first to relate this to the level of investment that had been made in order to generate those profits. Johnson supported his assertions by citing a paper entitled “Object of Accounting” presented by R.H. Dunham to an internal Superintendent’s meeting at du Pont held in April 1911, where it was concluded that:

“the true test of whether the profit is too great or too small is the rate of return on the money invested in the business and not the percent of profit on the cost”⁵¹⁸

Johnson also made the point that du Pont were also the first to use the ROI as a specific technique in the wider context of a management accounting system, especially relating to performance measurement and also control, subsequently concluding that this was a key contributor to the overall success of the company.⁵¹⁹

Refinement of the ROI technique at du Pont was developed in 1914 by Donaldson Brown who had come to the conclusion that if prices remained the same, the rate of return on invested capital increased as volume rose, and would subsequently decrease if volume fell.⁵²⁰ Brown deduced that the higher the throughput and stock-turn, the greater the rate of return; a phenomena that Brown termed ‘turnover’. Brown then realised that if you multiplied this ‘turnover’ figure with the old accepted definition of profit, i.e. earnings as a percentage of sales, then this would provide a more robust value of ROI (as detailed in Figure 3.1). In his autobiography, Brown pointed out the benefits of this improved analysis as not only in providing effective control, because problems could easily be identified at any point in the array of ratios that made up the ROI, but importantly in making forecasts, on which decisions are made concerning

⁵¹⁶ Ibid., p. 150.

⁵¹⁷ Johnson, “Management accounting in an early integrated”, pp. 187-188.

⁵¹⁸ Object of accounting: Paper presented by R.H. Dunning at The High Explosives Operating Department Superintendents’ Meeting No.33 (New York, 20-26 April, 1911). Eleutherian Mills Historical Library, Greenville, Delaware.

⁵¹⁹ Johnson, “Management accounting”, p. 187.

⁵²⁰ Chandler, “Corporate strategy”, p. 269.

the formulation of policies necessary for coordinated control of company operations.⁵²¹ Brown⁵²² also acknowledged the importance of the environment at du Pont created by Barksdale in his years as General Manager at the company.⁵²³

Du Pont's takeover of General Motors (GM) company, first instigated in 1917, eventually led to Brown being transferred to GM in 1921 as Vice President in charge of Finance which ultimately led to the gradual implementation of the same financial control techniques as employed at du Pont, centred around the ROI calculations. Johnson described the effect of the introduction of Brown's financial systems at GM as "centralised control with decentralised responsibility", thereby enabling top management to control the various divisions without becoming too involved in their operations.⁵²⁴ Johnson went on to explain that it was the management accounting system that provided the enabler for this to happen at GM by: providing an annual operating forecast which compared divisional performance with overall corporate goals; providing sales reports and flexible budgets to alert management to any deviation from plan; and providing a basis for the allocation of resources to divisions based on the ratios culminating in the ROI measure.⁵²⁵

The contribution of Alfred Sloan Jnr. to the turnaround and eventual success of GM in the early 1920's has been made by Dale⁵²⁶, whom he described Sloan as an empiricist who provided the model of the system, the methodology and the proper distribution of the equities among the stakeholders at GM. As a consequence of this empirical approach from Sloan and other senior executives, Dale concluded that ground-breaking initiatives such as ROI, gearing of pricing policies, the gearing of operations and expenses to provide pre-determined profitability were integrated into the company culture.⁵²⁷

⁵²¹ Brown, *Some Reminiscences of an Industrialist*, pp. 27-28.

⁵²² *Ibid.*, pp. 29-30.

⁵²³ This praise must be tempered by the fact that Brown had married Barksdales' daughter.

⁵²⁴ Johnson, "Management accounting in an early multidivisional", p. 493.

⁵²⁵ *Ibid.*, p. 494.

⁵²⁶ Sloan had originally been President of United Motors, a company that had been a supplier to GM, but was later absorbed into GM in 1918. Within GM, Sloan presented a blueprint for the radical reorganisation of the company in 1920, after which he was quickly promoted, reaching President of the company by 1923.

⁵²⁷ Dale, "Contributions to administration", pp. 41-45.

In his own autobiography, Sloan described the important contribution of the provision of key financial information in the eventual turnaround of the fortunes of GM in the early 1920's, especially the role played by ROI in the effective appropriation procedures of capital spending.⁵²⁸ Sloan also stated that in addition to the effective use of capital expenditure, the control of cash, inventory and production are also prerequisites to the success of a business.⁵²⁹

Commenting on the achievements at du Pont, Johnson and Kaplan observed that given there was no existing precedent, the cost accounting system centred on the ROI was ahead of its time, and some elements are the model for the control of complex business organisations today.⁵³⁰ However, Johnson and Kaplan conceded that using ROI figures net of depreciation can lead to underinvestment by divisional managers, as was originally the case at du Pont, although rectified post-1920 by using gross ROI data. They go on to comment that this was not the case at GM whose managers continued using net ROI, which led to similar under-investment issues.⁵³¹

In his critique of ROI, specifically in relation to GM, Quail agreed that the ratios themselves did not provide managers at GM with answers to problems, they simply highlighted the irrefutable facts exposed comparison of actual versus predicted outcomes.⁵³² Or to put it another way, it forced GM into the establishment of a company-wide budgetary control system, thereby emphasising sales forecasting with links to production scheduling, which in turn created the feedback loops essential for control.⁵³³ Quail also suggested that the information provided by financial ratios forced GM into establishing clear objectives and targets.⁵³⁴ The conclusion that Quail eventually drew was that measures such as ROI are only useful up to a point, and in itself is not the basis for financial control, but has to be used as part of a more robust and encompassing system, which evolves slowly over time.⁵³⁵

As this review of contemporary literature review has shown, the main thrust of financial ratios as measure of business condition occurred in the U.S.A., driven in the

⁵²⁸ Sloan, *My Years with General Motors*, pp. 118-119.

⁵²⁹ *Ibid.*, pp. 121-127.

⁵³⁰ Johnson and Kaplan, *Relevance Lost*, p. 87.

⁵³¹ *Ibid.*, p. 114.

⁵³² Quail, "The historic significance of Capital Employed", p. 3.

⁵³³ *Ibid.*

⁵³⁴ *Ibid.*, pp. 3-4.

⁵³⁵ *Ibid.*

first instance by the need for credit assessment by external agencies, although the concept of ‘Higher Control’ by Rose originated in the UK, and was driven in part by routine ratio analysis of financial statements. Apart from the Rose treatise, Parkinson **was** probably one of the first UK contributors to contribute to the literature of financial ratio analysis, reflecting in the preface to his book that “One of the marked features of British as compared with American accountancy is the comparative absence of this technique.⁵³⁶ This alone seems to justify the calling of attention to it.” It is interesting to note that Parkinson devoted a sizeable portion of his book linking the financial ratios that he observed with “management accounting” techniques such as costing and budgeting, thereby emphasising the importance of integrating the various information flows within an organisation.⁵³⁷

In his review of the development of the application of ratio analysis, Horrigan stated that the UK approach originated within a ‘management orientation’, rather than the ‘credit orientation’ that occurred in the U.S.A.⁵³⁸ He claimed that this meant that professional associations such as the British Institute of Management became interested because it provided the means of providing information to members in the form of inter-firm comparisons, eventually culminating in the establishment of the Centre for Interfirm Comparisons, the recognised forum for providing industry ratio data. In addition, Horrigan also suggested that one of the major achievements of the contributors to the literature during the interwar period was in the empirical work concerning the use of ratios to predict business failure.⁵³⁹ Altman, however, whilst also accepting the potential for using ratios as were developed during the 1930’s pointed out that the order of their importance is not clear, as every study cited a different ratio as being the most effective indicator of business failure.⁵⁴⁰

Finally, commenting on the solitary UK contribution to the contemporary literature, Boyns reviewed the work of Rose and made the observation that rather than using ratio analysis as part of an overall financial measurement and control system, Rose appeared to reject the idea of employing budgetary control, by claiming the measuring of the key metrics that he suggests is all that senior managers need for his

⁵³⁶ Parkinson, *Accountancy Ratios*.

⁵³⁷ *Ibid.*, pp. 80-104.

⁵³⁸ Horrigan, “A short history of financial ratio analysis”, p. 293.

⁵³⁹ *Ibid.*, pp. 288-289.

⁵⁴⁰ Altman, “Financial ratios”, p. 590.

idea of ‘Higher Control’.⁵⁴¹ Whilst criticising Rose for his narrow outlook in rejecting other financial techniques, Boyns observed that his work went on to be published in the UK over seven editions between 1934 and 1963, suggesting that his ideas had an audience, but found no evidence that these ideas became mainstream in the years following publication, and the title of ‘Higher Control’ did not become an accepted term in the same way as ‘Budgetary Control’ did.⁵⁴²

3.8 Conclusions

The inter-war period witnessed the steady development of financial performance analysis as a methodology for the assessment of business performance, with its foundations being grounded in the need by external agencies to assess credit worthiness, particularly in the U.S.A. Indeed, several of the contributions to the literature are the direct result of the experiences of employees of independent credit assessment agencies such as Dun & Bradstreet and Robert Morris & Associates. However, the techniques devised were increasingly being used for internal management purposes for providing important insights into particular aspects of business performance, and especially for efficiency measurement.

Clearly, the important contribution of ratio analysis by the du Pont company in the early years of the twentieth century, subsequently refined during the 1920’s by GM, have been an important topic for business historians. However, the reluctance on the part of the management of the companies to divulge or share the techniques that they had developed meant of course that this knowledge was not publically known during the interwar years. Part of the explanation for this secrecy was the fear that early publication would undermine their competitive advantage. However, as has been demonstrated in this chapter, the important ROI concepts that had been developed at du Pont and GM had also been identified by other commentators, although maybe not in the same way of use and implementation.

The dearth of literature on ratio analysis from the UK is not satisfactorily explained by business historians, although Quail has provided perhaps the most convincing argument in that performance measures and financial control are linked to the

⁵⁴¹ Boyns, “The development of managerial controls”, pp. 19-20.

⁵⁴² *Ibid.*, p. 21.

difficult struggle in the UK prior to World war II to achieve an efficient form for the large corporation, suggesting that structure and control evolved together gradually.⁵⁴³ This being the case, Quail therefore claimed that the use of financial performance measures in the UK such as ROI were slow to be implemented by UK companies, with use not being widespread until post World War II, citing GEC and GKN as two important proponents.⁵⁴⁴

The contemporary performance measures identified are an important base from which an assessment of Rowntree's and Cadbury's during the interwar period can be undertaken to provide a complete and balanced view. It is argued in this thesis that achievement in cost accounting sophistication within the two companies had a profound effect on their respective performances. The following two chapters assess the different paths that Rowntree's and Cadbury's took in the introduction, application and development of cost accounting within their businesses.

⁵⁴³ Quail, "The historic significance of Capital Employed", p. 4.

⁵⁴⁴ Ibid.

Section 2 – Fieldwork and Data Collection

Chapter 4

What was the extent of the development and implementation of Cost Accounting techniques adopted by Rowntree's between 1869 and 1938?

4.1 Introduction

Previous chapters indicated that cost accounting developed in the late nineteenth and early twentieth centuries because of a number of different factors, including the complexity of railroads, which created a demand for detailed information⁵⁴⁵; the growth of complex organisations and falling prices⁵⁴⁶; the extension of a scientific approach by engineers⁵⁴⁷; government legislation to limit profiteering during the Great War and to ensure capitalist control over labour processes⁵⁴⁸.

This chapter examines the way in which cost accounting techniques developed within Rowntree's from 1869 to 1938, and the reasons why this occurred. Firstly, this chapter shows that the arrival of Joseph Rowntree as a partner and investor into the business in 1869 proved to be an important catalyst because of his initial desire to familiarise himself with all aspects of the cocoa and confectionery industry. He procured information (including cost data) on how to compete in the market, primarily to protect his existing investments. Although developed piecemeal on a production department basis, the sophistication of the cost information provided by Joseph Rowntree is exemplified by the fact that by 1891 the company had in place a basic system of comparing pre-determined estimates with actual results, including a crude form of variance analysis, which pre-dated the literature by about five years. This chapter also demonstrates that a close relationship with the company's auditors had been forged resulting in improvements to Rowntree costing systems and procedures during the latter part of the nineteenth century. A consequence of this

⁵⁴⁵ Chandler, *The Visible Hand*.

⁵⁴⁶ Chatfield, *A History of Accounting Thought*.

⁵⁴⁷ Kaplan, "The evolution of management accounting".

⁵⁴⁸ Hopwood and Armstrong, "Cost Accounting, controlling labour".

collaboration was improvement in the way that overheads were allocated and how cost and profitability information was compiled and reported.

The consequences of the changed industrial landscape in the aftermath of the Great War are examined, including how structural changes at the organisational level were made in the company, driven by chairman elect, Seebohm Rowntree, which led directly to the creation of a functional cost office, rather than the disparate way in which cost information had been presented before 1914. It is argued that the quest for efficiency at Rowntree's was a key element in the drive for increasing cost information, predicated on the desire of the company to contribute to the overall development of society, particularly to improve the standard of living of ordinary working people. Debates on these and other management issues were encouraged through the forums of the Oxford Conferences and the Management Research Groups (MRG's), established by Seebohm from an original concept developed by his life-long collaborator, Henry Dennison. This chapter will also show the detailed methods of assimilating cost and profitability information by the newly established cost office, derived from, and with contributions to, the latest techniques published in the literature. The mechanisms as to how this information was reported and distributed within the company is discussed.

Finally, the struggle by the company to understand and incorporate more sophisticated cost accounting techniques, such as marginal costing, standard costing and budgetary control are discussed, demonstrating the complex processes and organisational coordination required for their successful implementation.

4.2 Foundations & Beginnings 1869-1918

Background

As previously noted by Fitzgerald, the invitation to Joseph Rowntree to join the fledgling Rowntree company by his brother Henry Isaac in 1869 meant the business drew back from the brink of bankruptcy.⁵⁴⁹ This was largely due to Joseph's financial skills which included the introduction of a system whereby each line was "carefully priced and costed". The contribution to the company by Joseph Rowntree,

⁵⁴⁹ Fitzgerald, *Rowntree and the Marketing Revolution*, pp. 48-49.

particularly regarding his financial skills was recognised in the literature by Vernon.⁵⁵⁰

“In all trades there is one constant factor – the accounts. It was this side of the business which Joseph took over, leaving Henry to deal with the actual manufacturing of the cocoa. ‘Time and Motion’ study had not been invented and costing systems were still in their infancy, but one of the things Joseph really knew about was statistics. As he had once worked out figures of national expenditure with regard to pauperism, so now he began to explore the costs of producing the various kinds of cocoa. His was the scientific approach to every problem, whether it was the poverty of his countrymen or the sale of his brother’s cocoa, and it proved of very great value to the business.”

This depiction of Joseph Rowntree confirms him as a person who approached business with a philosophy that was congruent with the systematic management movement being developed in the U.S.A. in the latter part of the nineteenth century, and pre-empted Taylor’s views on scientific management. T.H. Appleton, a senior manager within the company provided additional insights on the arrival of Joseph Rowntree as “bringing along his capital, business ability, foresight, judgement, method and steady perseverance”⁵⁵¹.

The UK cocoa and confectionery market that confronted Joseph Rowntree upon his arrival in 1869 was already well established. Several companies, including Frys and Cadburys, had already carved out market positions (see Table 4.1):

Table 4.1 Sales Revenues of Fry, Cadbury and Rowntree (1870)

	Fry	Cadbury	Rowntree
Sales Revenues: 1870	£143,750	£54,790	£7,384

Source: Fitzgerald, R. (1995, p. 59).

Notwithstanding his loyalty to his brother, Joseph Rowntree was, in addition, concerned to protect his own investment in the firm. With this in mind, and given his inexperience of the company and the industry in which it traded, Joseph Rowntree commenced a programme of personal training and fact-finding in the years 1869-72.

⁵⁵⁰ Vernon, A *Quaker Businessman*, pp. 73-74.

⁵⁵¹ Appleton, T.H.(1934) Unpublished manuscript of *Evolution of a Modern Business*, ch.IV. p.6. R/B/4/THA/1/1-2. Borthwick Institute, University of York (hereafter ‘Borthwick’).

Evidence of the extent to which he was prepared to go in his quest for knowledge is provided in his personal notebook in which he describes how he made speculative visits to London, Bristol and Birmingham, where he placed advertisements in the local press for vacancies for confectionery workers. Those who answered these advertisements were employed by existing confectionery companies such as Epps, Taylor Bros., Pecks, Dunns and Cadburys; they were paid money by Rowntree in exchange for detailed information on their company's processes, recipes, mixings, machinery, wages and importantly, cost structures.⁵⁵² This archival evidence also provides further information that Joseph Rowntree extended these fact-finding visits to Meniers in France and Van Houtens in Holland, in recognition of the extent to which foreign companies had penetrated the UK market.

Early Costing Activity

Figure 4.1 shows that the first archival record of attempts by the Rowntree company to compile and prepare cost information occurred in 1870. It is included in the notebook of Henry Isaac Rowntree where he describes how an employee, J. Beaumont used his experience of working at Epps & Co. to compile a costing for a simple chocolate mixing:

Figure 4.1 Raw Material Ingredient Chocolate Costing 1870

	s.	d.
1 ½ of Grenada @ 76s.	114	0
1 ½ of Sago Flour @ 16s.	24	0
2 of Sugar @ 31s.	62	0
2 of Water	0	0
	200	0

Source: Misc. Notebook of H.I.Rowntree 1869-77. HIR/1/1. Borthwick

From this knowledge, Rowntrees began to systematically prepare formal raw material ingredient costs of its range of products. Figure 4.2 provides an example which demonstrates the understanding by the company that there were different processes involved in the manufacture of a product, and that this complexity had to be built into the structure and calculation of the product's cost. This important insight is important

⁵⁵² Misc. Notebook of J.Rowntree 1871-82, pp. 3-90. HIR/1/2. Borthwick.

in the level of accuracy of the final cost, because of the fact that it is a reflection and financial representation of the actual manufacturing process.

Figure 4.2: Rowntree’s Rock Cocoa Ingredients Costing 1870.

	s.	d.
1 of Bahia Beans @ 63s.9d.	63	9
1 of Grenada @ 75s.11d.	<u>75</u>	<u>11</u>
	2)	<u>139</u> 8
Cost of Chocolate	69	10
75lbs. of chocolate (as above 69s10d.)	46	9
37lbs of Sugar 31s.0d.	<u>10</u>	<u>3</u>
112 lbs 1 st . Cost of Rock Cocoa	57	0

Source: Costings Book 1870-76. HIR/4B/2. Borthwick

Figure 4.2 demonstrates that the convention of the Rowntree company was to describe raw material ingredients costs as “1st Cost”, and also to convert cost data onto a ‘per cwt.’ basis, this being the standard unit of weight used within the business, as well as being the most efficient way of providing costs in a consistent and comparable way. This convention is still employed by the company today (albeit on a “per tonne” basis). Once the mechanism for compiling these costs was established the company began to prepare raw material packaging costs (2nd Costs)⁵⁵³, and also labour costs derived from wages and piece rate data⁵⁵⁴. These early forays to provide product cost information appear to be compiled on a factory department basis, probably by the foreman in charge of each department. In addition to the calculation of prime costs for each product, the first evidence of calculating the apportionment of overheads (3rd Cost) is provided in an “Analysis Book”, which indicates 1877 as the earliest entry⁵⁵⁵. Figure 4.3 provides an example of an entry in this Book which also provides the first evidence of consolidated information to provide total cost, and importantly, the inclusion of selling prices required to calculate profit for each product on a per cwt. basis.

⁵⁵³ 2nd Costs Book 1879-92. HIR/4B/12-14. Borthwick.

⁵⁵⁴ Piece Rates (Costings) Book. HIR/4B/16. Borthwick.

⁵⁵⁵ Analysis Book 1877-94. HIR/4C/6. Borthwick.

Figure 4.3: 1lb. Creams Box Cost & Profitability 1878

<u>Product</u>	<u>Package</u>	<u>1st.Cost</u>	<u>2nd.Cost</u>	<u>Piece</u> <u>Wages</u>	<u>3rd.Cost</u>	<u>Total</u> <u>Cost</u>	<u>Selling</u> <u>Price</u>	<u>Profit</u>
Creams	1lb.Box	36s.5d.	12s.1d.	9s.4d.	16s.0d.	73s.10d.	84s.3d.	10s.5d.

Source: Analysis Book 1877-94. HIR/4C/6. Borthwick.

This information was updated and provided on a monthly basis for every line manufactured in the department (the above example is for July 1878), with a general review every six months. Whilst an apportionment of overheads (3rd. Cost) is evident from this ledger, it was not until 1894 that a detailed analysis of how the allocation was calculated - dividing the total overhead by total cwts. sold to provide a per cwt. basis - is available in the archive⁵⁵⁶.

The gradual evolution of the costing procedures at Rowntree coincided with the appointment of T.H. Appleton to the company in 1882; he was one of the first dedicated members of the office staff to be recruited. In later years Appleton became the works manager of the company but initially he was “involved in the expenses side of the business, eventually becoming responsible for preparation of final accounts for audit”⁵⁵⁷. In the evolutionary process of costing sophistication, Rowntrees appear to follow the natural progression defined by Epstein as “cost keeping”, being the compilation and classification of manufacturing costs used mainly as a pre-requisite of financial statement preparation. In addition Epstein described the activity of “cost finding” which was deemed to be the calculation of product costs used individually and collectively for use by managers for control and decision-making purposes.⁵⁵⁸

According to the literature, the next prominent development in the evolution of costing was the setting of standards of normal operating conditions, against which quantifiable differences, or variances could be observed; this allowed managers to identify issues or problems concerning efficiency, wastage or any other production

⁵⁵⁶ Analysis Sheets for Chocolate and Confectionery 1889-95. HIR/4C/7. Borthwick

⁵⁵⁷ Appleton, T.H.(1934) Unpublished manuscript of *Evolution of a Modern Business*, ch.V, p. 4. R/B/4/THA/1/1-2. Borthwick.

⁵⁵⁸ Epstein, *The Effect of Scientific Management*, p. 3.

problem.⁵⁵⁹ Examination of the archival records at Rowntree's indicates that a basic level of this practice was being operated as early as 1891⁵⁶⁰. The extent to which this technique was being practiced at the company, along with what was being calculated and presented as a matter of routine is shown in Figure 4.4:

Figure 4.4: Cost Sheet Results 1st Half 1891

Cost Sheet <u>Too Much</u>			Cost Sheet <u>Too Little</u>			Cost Sheet <u>Figures</u>			Actual <u>Figures</u>			
£.	s.	d.	£.	s.	d.	£.	s.	d.	£.	s.	d.	
			615	17	10	1 st . Cost	29,112	3	3	29,728	1	1
			366	0	10	2 nd . Cost	5,572	7	7	5,938	8	5
			955	5	0	3 rd . Cost	18,050	5	2	19,005	10	2
			86	8	5	Piece Wages	2,351	0	4	2,937	8	9
						Diff. between cost sheets and money equivalent sheets		17	4	2		
17	4	2				<u>Totals</u>	55,603	0	6	57,609	8	5
			1,404	15	9	<u>Sales</u>	61,594	4	4	62,999	0	1
601	12	2				<u>Net Profit</u>	5,991	3	10	5,389	11	8

Notes on Differences:

Explanation of Cost Differences: Of the difference in 1st cost, £300 is due to £580 not being entered on the cost sheet. The largest of the items accounting for the difference in the 3rd.cost are Advertising £195, Bad Debts £116, Coal & Coke £100 and an error caused by cost not being calculated in same number of cwts. But of course there are numerous other differences both ways which more or less balance each other.

Explanation of Sales Differences: On the difference in sales, £580 is due to an amount not entered on the cost sheets, and the bulk of the remainder is due to an excess of selling price over Blue List.

Source: Cost Sheet Results 1891-99. HIR/4B/15. Borthwick.

Figure 4.4 provides a clear example of an attempt by Rowntree's to identify a form of standard (cost sheet figures) and their comparison to actual figures and the ensuing calculation of variances (cost sheet too much = favourable, cost sheet too little = adverse). Also included are sales differences (sales variances), enabling a

⁵⁵⁹ See for example: Lane, "A method of determining selling prices"; Church, "The proper distribution"; Longmuir, "Recording and interpreting"; Whitmore, "Factory accounting".

⁵⁶⁰ Cost Sheet Results 1891-99. HIR/4B/15. Borthwick.

reconciliation of estimated versus actual net profit. However, although the process of collating, calculating and presenting the data has the outward appearance of a standard costing system, the narrative interpretation of the calculated differences or ‘variances’ is lacking in any great detail (given that the figures represent six months of activity), and appears to have been compiled as a mathematical exercise in reconciliation, rather than as a service to management. Indeed, the statement by the compiler of the analysis suggests that he was content not to investigate differences if they appeared to “balance each other out”, something that a ‘Professional’ Cost and Management Accountant would clearly find anathema⁵⁶¹. However, the fact that a relatively modest company at this time should be putting into practice a primitive version of a cost accounting technique which was to later become the bedrock of the science of ‘Cost & Management Accounting’, is in itself illuminating.

The variable and piecemeal contribution of Chartered Accountants and the accounting profession to the development of costing in the late nineteenth century is well documented in the literature, as previously mentioned. Indeed, a contemporary commentator, Strachan derided the role of the company auditor, and bemoaned their reluctance to offer advice and assistance to their clients.⁵⁶² On the other hand, there is also evidence that many business executives did not seek or value the opinion of their auditors and viewed them as merely compilers and verifiers of financial statements.⁵⁶³ The relationship between Rowntrees and their auditors, A.J. Cudworth & Co. of Birmingham, appeared to be much closer with regular correspondence between senior manager T.H Appleton and A.J. Cudworth⁵⁶⁴. Indeed, as an exception to the majority of Chartered Accountants, A.J. Cudworth had published on costing⁵⁶⁵, so was perhaps more ‘qualified’ to advise the company on issues of costing procedures and systems. In his article, Cudworth extolled the virtues of cost accounting and how a well-designed cost system could inform and support the formal books of financial accounts, with the auditor having a key role in the actual design and implementation of such a system. An example of this relationship is provided in a letter from

⁵⁶¹ The suggestion that major differences or variances would be allowed to pass without investigation, simply because they balanced each out, is unacceptable in a modern contemporary setting, but this illustrates the belief that the importance of thorough explanation of differences was not yet fully recognised at the time.

⁵⁶² Strachan, *Cost Accounts*, pp. 6-7.

⁵⁶³ Jones, *Accountancy and the British Economy*, p. 117.

⁵⁶⁴ Correspondence with A.J. Cudworth. R/DH/SC/1/1. Borthwick.

⁵⁶⁵ Cudworth, “Some notes on cost accounts.”

Rowntrees (T.H. Appleton?) to A.J. Cudworth, dated 2nd March 1898, in which he was first explained the perpetual difficulties in allocating generic overhead expenses and then suggested that the basis of allocating overheads should be changed from weight, to sales value. The response by Appleton to this suggestion was : “the present system shows a higher profit on expensive articles and a poor profit on cheap articles, thus tending to induce us to throw our trade onto higher priced articles, which is undoubtedly a sound policy”⁵⁶⁶. In other words, Rowntree wanted to persevere with a costing practice that supported their current selling/marketing policy, rather than to take professional advice which could have led to a different product strategy that was more beneficial in the longer term. This is an example of a particular interpretation of what the science of costing actually provides to a business in terms of valuable information to aid decision-making.

In another letter from Rowntree⁵⁶⁷ to A.J. Cudworth, dated 11th October 1898, a slightly different tone is offered whereby Morrell requested a meeting to discuss the best method of obtaining the net profits made in the different departments which comprised the factory.⁵⁶⁸ The consequence of this close relationship with their professional auditors, is apparent in the methodology of how factory departmental profitability became established by 1904⁵⁶⁹, as illustrated in Figure 4.5. It is apparent that Morrell’s methodology is consistent with Cudworth’s example provided in his aforementioned article published in the *Accountant*⁵⁷⁰:

⁵⁶⁶ Correspondence with A.J. Cudworth. R/DH/SC/1/1. Borthwick.

⁵⁶⁷ J.B Morrell.

⁵⁶⁸ Correspondence with A.J. Cudworth. R/DH/SC/1/1. Borthwick.

⁵⁶⁹ Factory Statistics 1892-1914. R/B/4/JBM/3. Borthwick .

⁵⁷⁰ Cudworth, “Some notes on cost accounts.”, p. 319.

Figure 4.5 Elect Cocoa (Half Year 1904, 31st Dec.)

	£	s. d.		£	s. d.
Ingredients	47,439	17 2	Sales	127,589	17 9
Wages	5,542	0 1			
2nd. Cost	10,301	18 6			
Manuf.Profit c/f	<u>64,306</u>	<u>2 0</u>			
				<u>127,589</u>	<u>17 9</u>
Expenses divided according to value of sales	7089	1 10	b/f Manuf. Profit	64,306	2 0
Actual expenses of dept.	17,037	3 4			
Nett Profit	<u>40,179</u>	<u>16 10</u>			
	64,306	2 0		64,306	2 0

Source: Factory Statistics 1892-1914. R/B/4/JBM/3. Borthwick.

All factory departments were consolidated into a total company analysis, and by 1905 there was the addition of ‘% sales’ and ‘per cwt.’ information for each cost item, thus providing a mechanism for assessing comparative rates of expense between products or departments, a convention which has remained to the present day.

In addition to the provision of cost information by individual product and by total factory, there became established a mechanism for estimating costs and profitability for proposed new lines which had been identified for potential future sales. However, it is not clear whether these new lines cost requests came from production or sales/marketing. Nonetheless, the archives show that just prior to Great War, a process was established which provided a quick view on financial viability on any proposed addition to the existing range of products⁵⁷¹. An example of how these estimates were compiled is provided in Figure 4.6, in which the level of estimation and approximation is evident:

⁵⁷¹ Estimates for New Lines 1913. R/DF/CC/7. Borthwick .

Figure 4.6 Product: Venetian Creams - 15 March 1913

		s.	d.
Ingredients	3 Creams at say 24s. 0d. 4 No. 49 Choc at say 57s 0d.	45	6
Second Cost		21	0
3 rd . Cost	14s. 0d. 17s. 6d. 10s. 6d.	42	0
Piece Work	Making say 14s. 0d. Packing say 7s. 0d.	<u>21</u>	<u>0</u>
		129	6
Selling Price		157	6
Profit		<u>28</u>	<u>0</u>
% of Sales		17%	

Source: Estimates for New Lines 1913. R/DF/CC/7. Borthwick.

This capability of the rapid estimation of profitability regarding potential new lines was to be the foundation of the company's ability to react to changing consumer preferences, thereby establishing business to occupy potential niche markets. This was to prove an important element in the way in which Rowntree's competed in the UK Confectionery Market following the end of the Great War.

4.3 Progress: 1918-39

Organisational Context

Both Rowntree and Cadbury experienced rapid growth during this period and both confronted the problem of how to manage a company which bore little resemblance

to its nineteenth century beginnings. This was particularly apparent after the Great War which changed the UK confectionery landscape.⁵⁷²

These new opportunities could only be grasped by those companies who reacted to the new environment. To do so required the management of the internal resources of the business to provide the organisational structures, systems and processes necessary to successfully support their operations. These challenges meant that both Rowntree and Cadbury had to manage their companies differently after 1918.

The Rowntree company at the cessation of hostilities in 1918 was still under the chairmanship of Joseph Rowntree, although much of the control of the business lay in the hands of his son and eventual successor, Seebohm, whose thinking and published output on social issues prior to 1914 were further affected by his experiences of the Great War. Although as a Quaker he was opposed to war on principle, he became involved with the war effort in his capacity as a leading Liberal supporter, and importantly as friend and confidant of Lloyd George who became Prime Minister of the coalition government in 1916. Rowntree's concerns were with national welfare and reconstruction, and indeed he was appointed to the Reconstruction Committee by Lloyd George in 1917, with a brief to reorganise the allocation of manpower, to control the channels of production and distribution, to concede demands for social justice and to advance schemes of public welfare.⁵⁷³ Rowntree was therefore at the centre of national debates surrounding the effects of the war, and its consequences on society as a whole, particularly its impact on labour relations which had prompted the formation of the International Labour Organisations by the League of Nations in 1919 to cultivate co-operation.

In addition, and unlike his father, Seebohm Rowntree also understood the importance of 'professional' management that was now required to cope with the complexities and challenges of the new post-war order. In addition to the non-family members of the management team such as J.B. Morrell and T.H. Appleton employed by the company before the war, Seebohm Rowntree recruited others such as Oliver Sheldon, Lyndall Urwick, William Wallace and Clarence Northcott, all of whom were to eventually distinguish themselves as major published contributors to the subject of

⁵⁷² See chapter 2.

⁵⁷³ Briggs, *Social Thought and Social Action*, pp. 113-114.

management in subsequent years, based on the overall social philosophies of the company, as espoused by Seebohm Rowntree. It is no surprise that the new professional approach to management at Rowntree's embraced the principles of F.W. Taylor's ideas of 'scientific management'⁵⁷⁴, which emphasised efficiency as part of an overall human consideration. Indeed, as early as 1914, Seebohm Rowntree had been involved in a philosophical debate with other leading academics, industrialists and economists on the social consequences of embracing a scientific management approach.⁵⁷⁵ A further example of Seebohm Rowntree's attitude to scientific management is provided in a published article in 1918 in which he bemoaned the inadequacies of inefficient companies citing the improvement in comparative working costs as being a scientific methodology for overcoming poor performance⁵⁷⁶. Rowntree was not alone. Walter-Busch has noted that the holistic benefits of efficiencies that could be gained from scientific management, such as shorter working hours and higher wages for workers, alongside lower product prices for the consumer, had already been identified by leading French social reformer Albert Thomas who went on to become the first Director-General of the International Labour Organisation in 1919, and who was also instrumental in the establishment of the International Management Institute in 1925.⁵⁷⁷

Seebohm Rowntree was therefore at the forefront of debates surrounding social responsibility and how business should be viewed as an essential component of the desire to improve the living standards of society in general. This thinking is evident in a paper given by eminent Oxford historian E.M. Wrong at the inaugural "Oxford Conference"⁵⁷⁸ of April 1919 in which he described the new post-war order facing business:

"The events of the war has led us to consider new conditions of co-operation and solidarity. Not enough wealth is being generated to raise the standards of

⁵⁷⁴ Taylor, *Shop Management*. and Taylor, *The Principles of Scientific Management*..

⁵⁷⁵ Cadbury, "Scientific management in industry", pp. 99-125.

⁵⁷⁶ Rowntree, B.S. (1918) *Liberal Policy in the task of Political and Social Reconstruction: Conditions of Industry*. Liberal Publications Department.

⁵⁷⁷ Walter-Busch, "Albert Thomas and scientific management", p. 214.

⁵⁷⁸ This evolved into a series of conferences sponsored by Seebohm Rowntree from an original idea put forward at a meeting of Quaker employers in 1918, which went on to be known as the "Oxford Conferences" (the eventual venue of these subsequent conferences was Baliol College, Oxford). This become another forum of discussion, but this time for representatives from a wide range of different UK companies including Tootal (Cotton Textiles), Renolds (Steel Chains), Cadbury (Confectionery) and British Westinghouse(Electricity).

living of most people. The answer is to increase demand and production.”⁵⁷⁹

Whilst this paper was clearly focused on the wider social responsibilities facing business, he did proffer a solution suggesting high demand, high production, low cost market environment, leading to full employment and the consequent raising of living standards. One of the key components of this solution was the increasing efficiency of manufacture, which would ultimately drive down costs, thereby creating the outcome described. The principles of scientific management seemed to offer the foundations of greater efficiency, and duly became the focus of many companies in the crucial post-war period, including Rowntrees.

The Quest for Efficiency

In the period immediately following the end of the Great War, the attitude of managers within the Rowntree company to the adoption of scientific management can be found in articles published in the company’s “*Cocoa Works Staff Journal*”, which was intended to provide a lively forum for the discussion, dissemination and diffusion of contemporary issues affecting business management . In the second issue of the *Journal*, H. Makepeace, for example, wrote:

“It is however, rather remarkable that the horrors of recent warfare have been necessary to broaden the outlook of many employees, and to impress upon them the necessity of greater efficiency. The introduction of more efficient methods means Scientific Management. This can only be achieved by mutual cooperation between all levels of staff in the organisation”⁵⁸⁰.

In the same issue of the *Cocoa Works Staff Journal*, Oliver Sheldon referred to post-war uncertainty and agreed that the focus should be therefore on achieving efficiency, which he suggested could only be brought about by the devolution of the company by function.⁵⁸¹ Sheldon, in the next issue of the *Cocoa Works Staff Journal* developed his ideas on functionalism by advocating the need for specialism of control, the

⁵⁷⁹ Wrong, E.M. (1919) “A brief review of conditions in modern industry”. Paper given at Oxford Conference, Scarborough. April 24-28. BSR93/VII/21. Borthwick.

⁵⁸⁰ Makepeace, H. (1920) Administrative Weaknesses. *Cocoa Works Staff Journal*. Vol.1, Issue 2, pp. 46-47. Rowntree Papers. R/CWSJ/1. Borthwick.

⁵⁸¹ Sheldon, O. (1920) The Immediate Future of Management. *Cocoa Works Staff Journal*. Vol.1, Issue 2, pp. 48-52. Rowntree Papers. R/CWSJ/1. Borthwick.

analysis of work by operation which would lead to greater managerial responsibility.⁵⁸²

In addition to the articles published in the *Cocoa Works Staff Journals*, an analysis of the topics discussed at the aforementioned bi-annual Oxford Conferences provide an insight into the prevalence of efficiency as a key topic of concern within the wider business community. For example :⁵⁸³

Oxford Conference 24-26 February.1922

“The Principles of Efficiency in Factory Administration” by H.W. Allingham

Oxford Conference 19-23 April 1923

“The Elimination of Waste in Industry” by O.Sheldon

“Waste of Power and Materials” by T.Howarth

“Waste of Human Power” by C.Burt

Oxford Conference 15-19 April 1926

“Basis of American Efficiency” by B.Austin

Oxford Conference 30 September-4 October 1926

“Efficiency Methods in Europe and America” by J.Lee

“Some Methods of Executive Efficiency” by M.Parker-Follett

“A Trade Unionists View of Efficiency” by F.Hawksby

Oxford Conference 31 March-4 April 1927

“How Manufacturers can Co-operate with each other to Secure Maximum Efficiency in Industry” by H.S.Dennison

“Scientific Management in the Factory” by H.S.Dennison

Oxford Conference 29 September-3 October 1927

“How can one Measure Industrial Efficiency” by H.A.L.Fisher

Oxford Conference 19-21 April 1928

“Cost Accounting as a Measure of Business Efficiency” by F.A.Mills

Seebohm Rowntree’s ideas were further enhanced following a visit to the United States in 1921, where in addition to giving lectures at various institutions in New York, Detroit, Philadelphia and Boston, he made contacts with leading academics and

⁵⁸² Sheldon, O. (1921) Functionalism: Its Meaning & Application. *Cocoa Works Staff Journal*. Vol.1, Issue 3, pp. 75-76. Rowntree Papers. R/CWSJ/1. Borthwick.

⁵⁸³ BSR93/VII/21 Oxford Conferences. Borthwick.

industrialists to gain insights from their experiences and thinking.⁵⁸⁴ Perhaps the most important meeting that took place was with Henry Sturgis Dennison, President of the Dennison Paper Co. in Boston, a prominent social reformer and management thinker who could have come from the same mould as Seebohm Rowntree. This original meeting was the beginning of a friendship and collaboration between the two men that was to last until Dennison's death in 1952. Given the importance of the influence that Dennison was to exert on the Rowntree business during the inter-war period, it is appropriate to explore his life and career to obtain an insight into the philosophical and managerial foundations that would also impact on the way that Rowntree's would develop as an organisation.

Henry S. Dennison was born in 1877 in Boston, educated privately at the exclusive Roxbury Latin School and Harvard, graduating in 1899, whereupon he commenced working for the family firm of Dennison Manufacturing Co., in Framingham, Massachusetts.⁵⁸⁵ The company had been founded in 1844 by Aaron Dennison, originally manufacturing jewellery boxes, but during the nineteenth century it diversified into paper and stationery products, and by 1899 had capital of \$1,371,000 and enjoyed annual sales of \$2,000,000.⁵⁸⁶ By 1906 Henry Dennison had risen in the company hierarchy to become Works Manager of the family firm, and in 1912 he was made President, a position he retained until his death in 1952.⁵⁸⁷

As Vollmers has pointed out, during the first half of the twentieth century, Henry Dennison was to become an increasingly important exponent, of many forward-looking and innovative management practices, borne out of his progressive liberal and humanitarian ideals, but also in his desire to be a successful businessman in an age of economic turmoil and uncertainty.⁵⁸⁸ Indeed, Bruce claimed that during the first half of the twentieth century, Dennison had an input into almost every important development in the evolution of management and institutionalist economic thought, and no one better fitted the description of "eminent industrialist".⁵⁸⁹

⁵⁸⁴ Briggs, *Social Thought and Social Action*, pp. 164-168.

⁵⁸⁵ Heath, "History of the Dennison manufacturing company".

⁵⁸⁶ Hayes and Heath, *The History of the Dennison Company*.

⁵⁸⁷ Ibid.

⁵⁸⁸ Vollmers, "The Dennison Manufacturing Company", p. 12.

⁵⁸⁹ Bruce, "Activist management", p. 249.

It is also important to understand the nature of Dennison's beliefs, which were to influence his subsequent career. McQuaid concluded that Dennison was not a romantic dreamer who yearned after some 'pre-industrial' utopia, but focused instead on managers, whose skills had earned them greater rights of industrial control; this belief prompted him to try and end the practice of "absentee control" placing the powers of ownership into the hands of practicing managers.⁵⁹⁰ This vision of the elevating of the profession of management to a much higher status was to be the central theme of the rest of his life.

Dennison's early days at the family firm convinced him that it was important for managers to obtain as much knowledge and experience as they could so that they might apply new ideas to their tasks. As an example of this attitude, McQuaid pointed out that as early as 1900 Dennison was visiting the National Cash Register Company in Dayton, Ohio because they were a progressive company trying out new and innovative management practices.⁵⁹¹

Also, in 1911, Dennison began his quest to end the aforementioned influence of outside shareholders and to place control into the hands of the practicing managers at the company.⁵⁹² Writing in 1915, Dennison utilised his position by claiming that the company had been the responsibility of those who had the least knowledge of the needs of the business, and that this situation was a symptom of incompetent management and the subsequent poor performance of organisations. The answer to this situation according to Dennison was to replace absentee ownership with an expert managerial team to collectively own and operate a self-financing business.⁵⁹³

Professionalism in management seemed to Dennison to be consistent with the Taylorist exposition of 'Scientific Management', and led to his involvement in 1916 with the organisation formed to diffuse its teachings, the Taylor Society. This meant that Dennison had exposure to other leading exponents of scientific management in the Boston area, including Henry P. Kendall and Magnus W. Alexander.⁵⁹⁴ In sympathy with the Taylorist ideals, Dennison formed a research methods and a planning department within his company, and in addition he instigated improvements

⁵⁹⁰ McQuaid, "Corporate liberalism", p. 81.

⁵⁹¹ Ibid., p. 81.

⁵⁹² Ibid., pp. 81-82.

⁵⁹³ Dennison, "The principles of industrial efficiency", p. 184.

⁵⁹⁴ McQuaid, "Corporate liberalism", p. 83.

in accounting methods and divisional control systems.⁵⁹⁵ The culmination of his support and commitment to scientific management principles occurred when he was appointed President of the Taylor Society in 1919, and he remained a Director of the organisation for the rest of his life.

Dennison's outside influence continued, and from 1912 to 1916 he was Director and Vice-President of the Boston Chamber of Commerce, and his regular speeches and engagements brought him into contact with prominent lawyer Louis D. Brandeis, economist Wesley Mitchell, management thinker Mary Parker Follett, businessman Edward A. Filene and, importantly, with Edwin F. Gay, Dean of the recently established Harvard Graduate School of Business Administration. Between 1915 and 1920 Dennison collaborated with A.W. Burritt, Henry P. Kendall and Edwin Gay on "*Profit Sharing: It's Principles and Practice*", which cemented Dennison's close association with Gay. Indeed, when the United States entered the Great War in 1917, Gay was appointed Director of the Planning and Statistics section of the War Industries Board and duly approached Dennison to act as his assistant. As McQuaid pointed out, this experience exposed Dennison to the strategy and operations of the biggest system of government and industrial co-operation ever seen at the time.⁵⁹⁶ Following the Armistice and his experiences in the war effort, Dennison was more convinced than ever to further the cause of free international trade, collaboration between government/business, and radical management thinking to solve the problems confronting capitalism.

The way that Henry Dennison thought about the social role of business resulted in close cooperation with Seebohm Rowntree throughout the interwar years, for example Seebohm's son Peter was seconded to Dennison's works in Framingham Massachusetts to learn more about the innovative techniques being introduced.⁵⁹⁷

Another example of how important ideas arose out of their collaboration was the establishment of the Management Research Groups (MRG's) in 1926 by Seebohm Rowntree, a forum for the exchanging of ideas in management between UK companies, which was a carbon copy of a similar initiative created by Dennison in the

⁵⁹⁵ Briggs, *Social Thought and Social Action*, p. 172.

⁵⁹⁶ McQuaid, "Corporate liberalism", p. 85.

⁵⁹⁷ Briggs, *Social Thought and Social Action*, p. 170.

USA in 1922.⁵⁹⁸ Lyndall Urwick was charged by Seebohm Rowntree with organising the detail of getting the initiative off the ground.⁵⁹⁹

Bound up within this general consensus of co-operation, was the emphasis of the drive for efficiency within organisations, this being the fundamental premise of scientific management. A key aspect of this philosophy which came to embody the ultimate objective of scientific management was the ‘Rationalisation movement’, a school of thought considered by many leading industrialists, politicians and trade unionists as the method to assure the status of British competitiveness in the crucial years following the end of the Great War. The movement had its origins in Germany in 1918 as a possible answer to how to recover from the ravages of defeat in the war, and whilst there was some confusion as the nature of its meaning, Wilson explained that the true nature of the Rationalisation movement was “to understand and apply every means of improving the general economic situation through technical and systematic organisation”.⁶⁰⁰ Wilson argued that there was a perception of the relationship between improvements in standards of living and the improved cooperation of economic activity: goals that were so important to prominent and enlightened businessmen like Dennison and Rowntree.⁶⁰¹

Indeed, two senior managers at Rowntree contributed to the debate of the nature of the Rationalisation movement through publication. In the first instance, Sheldon cited the all-encompassing definition of what is meant by ‘rationalisation’ as given in the report of the 1927 World Economic Conference: “The methods of technique and of organization designed to secure the minimum waste of either effort or material: It includes the scientific organization of labour, standardization, both of material and products, simplification of processes and improvements in the system of transport and marketing”.⁶⁰² Sheldon argued this definition of rationalisation should include the grouping together of industries into larger units, which he suggested, would be better placed to meet the needs of consumers, and also enabling better regulation of prices. Sheldon saw little difference between the ethos of scientific management and rationalization, and observed that the principles involved might gain more widespread

⁵⁹⁸ Brech, et al, *Lyndall Urwick*, pp. 38-39.

⁵⁹⁹ Ibid.

⁶⁰⁰ Wilson, *British Business History*, p. 142.

⁶⁰¹ Ibid.

⁶⁰² Sheldon, “The significance of rationalisation”, p. 265.

acceptance under the guise of its new name.⁶⁰³ Urwick provided a wider view of rationalisation as one of either an attitude which assume that the world economy as a whole would benefit from more rational control at a macro level, or as the application of science to managerial problems at the micro level.⁶⁰⁴

The quest for efficiency at Rowntrees was therefore perceived by senior managers at the company like Sheldon and Urwick to be the formula by which business could be instrumental in creating economic prosperity that would benefit everyone in society. This ethos is therefore fundamentally different from simply competing solely on market share for example. Furthermore, as will be discussed later, Seebohm Rowntree would spell out the visions and objectives of the company, particularly with reference to the role of business in society, to coincide with his appointment as full chairman of the company in 1923.

Establishment of a Functional Cost Office

Following the cessation of the Great War, Seebohm Rowntree realised that a key component of a successful business was the way that a company was structured, and subsequently employed a young Oxford graduate, Oliver Sheldon, in 1919 with the task of constructing an organisational structure for Rowntrees in sympathy with scientific management principles.

A subscriber to the *Bulletin of the Taylor Society* since 1914, Seebohm Rowntree would have already had a structure in mind, based on the principles of scientific management. One of the key concepts being advocated by disciples of scientific management was the principle of “functionalisation”. Evidence of this is provided by the published transcript of a discussion between leading members of the Taylor Society on what was described as the “centralization of administrative authority”, which took place at the end of 1917, but because of America’s involvement in the Great War, was not published until 1919. The conclusion drawn from this keynote debate was that the principles of scientific management could only be realised if an organisation was structured in a functional way.⁶⁰⁵ Indeed, Sheldon confirmed that he had read and concurred with the recommendations of this discussion, by quoting

⁶⁰³ Ibid., p. 266.

⁶⁰⁴ Urwick, “The significance of rationalisation”, p. 174.

⁶⁰⁵ Published in: *Bulletin of the Taylor Society* (1919), Vol. IV, pp. 1-29.

Richard Feiss,⁶⁰⁶ one of the contributors to the debate in his own contribution to the book, *Factory Organization*.⁶⁰⁷

Upon his appointment as executive assistant to Seebhom Rowntree, Sheldon appears to immerse himself in the available literature surrounding organisational structures and arrived at some conclusions which he subsequently summarised the benefits in an article published in the Rowntree *Cocoa Works Staff Journal* in 1921:

“Specialism of control; managerial responsibility; analysis of work by operations”⁶⁰⁸

Sheldon’s deliberations on how an organisation could be structured were influenced according to the literature he engaged with. In addition to Feiss, quoted above, Sheldon cites Estes⁶⁰⁹ in his contribution to his book *The Philosophy of Management*, describing the basic philosophy behind functionalisation:

“the arrangement of dependant parts or functions, so as to show their inter-relation in the structure to provide the means whereby the efforts of a group of individuals will be directed rationally towards a common objective.”⁶¹⁰

This understanding of the way in which a functionalised organisational structure contributes to the important strategic principle of having a framework for the way in which a business focuses on its key objectives is crucial. Indeed, Sheldon reinforced this key principle by citing Knoeppel⁶¹¹ who also emphasised the contribution of a functionalised organisation to the achievement of objectives:

“the proper adjustment of the adjustment between human beings in an effort to accomplish certain definite ends”⁶¹²

In his later contribution to the book, *Factory Organization* in 1928, Sheldon again cited Estes⁶¹³ in describing his understanding of how the idea of functionalisation would work in a practical way:

⁶⁰⁶ Feiss, “Discussion: Centralization of Administrative Authority”.

⁶⁰⁷ Quoted in Sheldon, *The Organisation of Business Control*, p. 43, in Northcott, *Factory Organization*.

⁶⁰⁸ Sheldon, O. (1921) Functionalism – its meaning and application. *Cocoa Works Staff Journal*, March, p. 75-76 Borthwick.

⁶⁰⁹ Estes, “Managing for maximum production”.

⁶¹⁰ Quoted in Sheldon, *The Philosophy of Management*, p. 100.

⁶¹¹ Knoeppel, “Laws of industrial management”.

⁶¹² Quoted in Sheldon, *The Philosophy of Management*, p. 101.

⁶¹³ Ibid.

“By this plan, specific functions common to all or several departments. . . . are each placed in the hands of of a man specifically qualified for his particular function, and instead of giving attention to all the factors in one department, he gives his attention to one factor in all departments”⁶¹⁴

Following Seebohm Rowntree’s visit to the United States in 1921, the example of companies employing a functional structure, including the Dennison company, provided additional influence, and he described its importance in an internal memo summarising the findings of his trip.⁶¹⁵

The move towards functionalisation in the Rowntree company at the end of the Great War as a basis for the implementation of scientific management meant that the previous *ad-hoc* method of costing on a piecemeal departmental format that had been established from around 1870, was no longer appropriate for the new post-war order. A new Finance function was therefore established as part of the greater plan for reorganisation, within which a ‘Comparison’ department was created containing Wages Statistics, Sales Statistics and Costing sections. However, as a precursor to any decision made on the possible structure and mode of operation of a formal cost office, a visit was arranged in July 1918 by T.J. Evans (eventually to become the inaugural Cost Office Manager) to rivals Cadbury for the purpose of establishing how they had approached the problem, given that a cost office had been in existence there since 1903, initially under the stewardship of A. E. Cater.⁶¹⁶ This of course meant that by 1918, Cadbury already had accumulated 15 years of experience in the operation of a dedicated central costing service to the company. The circumstances of the arrangement of this visit are unclear, but are probably based on the informal nature of communication between Quaker employers, and their desire to share experience and best-practice.

During this formal visit to the Cadbury factory at Bourneville, T.J. Evans was entertained by senior executive Edward Cadbury and cost office manager A. Cater. Following the visit, Evans produced a report of his findings to J.B. Morrell, which can be summarised as follows:

⁶¹⁴ Quoted in Sheldon, *The Organisation of Business Control*, p. 39 in Northcott, *Factory Organization*.

⁶¹⁵ Seebohm Rowntree Papers: Notes on a Visit to the USA. BSR/93/VII/20. Borthwick.

⁶¹⁶ Williams, *The Firm of Cadbury*, p. 126.

Report on visit to Cadbury's Cost Office - July 1918

“Their cost accounts are very detailed, but they do not set out separate trading accounts per department; their costing process follows raw materials through the different processes, making careful note of loss in weight (waste); they separate trades costs (joiners, mechanics, etc) from manufacturing; overheads are allocated as a % of direct labour; the system is designed to reflect exactly what goes on within the factory; interest is not charged as part of overhead, but depreciation is charged; the cost system does not dovetail into the financial accounting system, making it appear as though it is a bit ‘up in the air’. (Cadbury recognise this as a defect); the cost procedures are very mechanised in the processing of data; the cost office employs 33 clerks, which by applying standard rates of pay, means that the office costs the company approximately £2,500 per annum to run, making it an expensive operation, but they claim that it saves them money in the long run; it appears that the cost system allows the company to have a grip on their manufacturing process, which we do not; process costs are published by the 10th of following month, with information also provided to the foreman as a means of providing him with an interest in his department; the most valuable part of the system is the monthly record which details cost per cwt. of output. This means that any savings affected by a change in manufacture quickly becomes apparent.”⁶¹⁷

Whilst Evans was obviously impressed by some of the costing procedures in place at Cadbury, along with the benefits that these provided, he must also have felt somewhat surprised at the relative level of sophistication of the existing systems of those at Rowntree, particularly the provision of departmental data that had been introduced with the help and advice of A.J. Cudworth, the company auditor. This report would have provided Seebohm Rowntree with the confidence of knowing that his company already had the foundations in place for the further development of costing procedures within the confines of a dedicated, fully functional costing department.

To establish some of the criteria that Rowntree needed to consider for the establishment of a cost office, a ‘Costing Conference’ was convened in December 1918 to provide a forum for discussion of the main issues, especially armed now with the knowledge gained from the Cadbury visit . The keynote speech at this conference was by T.H. Appleton, one of the long-serving managers who had been instrumental in the formation of costing procedures in the years prior to the Great War, as described earlier. The critical part of the speech by Appleton echoes the rationale for

⁶¹⁷ Evans, T.J. (1918) Report on visit to Cadbury's 12/7/18. R/DF/CC/1. Borthwick .

essential costing practices, and incorporated some of the methodology that had been gained from the Cadbury experience:

“the successful carrying on of the business depends more and more on our ability to reduce the cost of the manufacturing process by reducing idle-time of machines and workers, and of keeping proper control of materials with a view to reducing waste, spoiled goods and generally by keeping close supervision of details. This could only be done by a careful compilation and study of the facts bearing on these problems and by co-operation of the manufacturing, technical and costing staffs.”⁶¹⁸

It is important to note that in his speech at the conference, Appleton recognised that in a highly complex and mechanised manufacturing environment, the existence of “idle time” is one of the fundamental drains on company profitability, driven by the burden of under absorbed overheads: a principle which was later identified in the literature by Clark⁶¹⁹ in his seminal work on the subject, *The Economics of Overhead Cost*.⁶²⁰

In addition to the over-riding rationale of the importance of costing to the company provided by Appleton, the key principles for the new cost office were also laid down at the conference:

“Cost Accounts to dovetail into Financial Accounts; costs to be provided and prepared on behalf of Production and Research Departments; cost structure to include: Raw Materials, Labour (Direct and Indirect), Overheads and Selling Expenses; the cost office is solely responsible for the principle by which the allocation of overheads is allocated to individual lines; estimates of departmental overheads are divided by estimates of sales on a half-year basis; an initial staffing of 12 to be established.”⁶²¹

The first ‘Cost Office’ at Rowntrees was subsequently established as part of the Comparison Department in early 1919 under T.J. Evans, with one of the first tasks being the purchase of calculating machines from the Accounting and Tabulating Corporation of Great Britain Ltd.⁶²², an important component in the successful operation of a cost office that he had observed on his formal visit to Cadbury the year previously.

⁶¹⁸ Appleton, T.H. (1918) Report on Costing Conference. R/DF/CC/1. Borthwick.

⁶¹⁹ Clark, *Studies in the Economics of Overhead Costs*.

⁶²⁰ In a critique of Clark’s work, Shute also concurred with this issue in citing Clark’s principal conclusion as “The fact is that unused productive capacity, or capacity of which full advantage is not taken. Idle overhead, that great industrial sin, is simply the expense side of this unused capacity. Our study of overhead cost will be largely a study of unused powers of production” (Shute, *John Maurice Clark*, pp. 40-42).

⁶²¹ Appleton, T.H. (1918) Report on Costing Conference. R/DF/CC/1. Borthwick.

⁶²² File of Agreements. R/DH/R/69. Borthwick.

Costing Procedures

A new culture of management professionalism, nurtured and encouraged by the new acting chairman Seebohm Rowntree in the period following the end of the Great War, became prevalent within the company. In addition to initiatives such as the publication of the *Cocoa Works Staff Journal* as an internal forum for the sharing of the latest management topics and the establishment of the Oxford Conferences to facilitate wider discussion, the management team were also encouraged to engage with the latest literature through the establishment of a Technical Library at the Cocoa Works in York. A review of the acquisitions register at the newly established Technical Library⁶²³ provides evidence that Rowntree's were engaging with the latest published developments in costing, and particularly with the ideas emanating from the United States, especially with an examination of the literature being requested by managers within the finance function; J. Waller, T.J. Evans and J. Fanthorpe.⁶²⁴

As discussed in the literature review, key contributions during the inter-war years from both an academic and practitioner perspective appeared in the journals: *The Bulletin of the Taylor Society*, *the Accountant*, *the Cost Accountant* and *the Bulletin of the National Association of Cost Accountants*, and an examination of the accession records of the Rowntree Technical Library confirm that the company subscribed to these journals.⁶²⁵

The establishment of the Cost Office was therefore built on the foundations of the latest academic and practitioner ideas on costing combined with a genuine desire, emanating from the top of the organisation, to engage and also to contribute with contemporary thinking. Indeed, T.J. Evans, Cost Office Manager, provided an insight to the progress made during the early years of the Cost Office in an article in the *Cocoa Works Staff Journal*:

“Thinking and implementation of cost procedures have been driven by developments

⁶²³ Technical Library Accessions Register 1922-56. R/DH/TL/4/1-2. Borthwick.

⁶²⁴ Nicholson, J.L. (1922) *Cost Accounting*; Church, A.H., *Manufacturing Costs and Accounts*; Arnold, H. (1903) *The Complete Cost Keeper*; Kemp, W. (1923) *Departmental and Standard Costs*; Ainsworth, W. (1924) *Cost Accounting*; Clark, J.M. (1923) *The Economics of Overhead Costs*; Jordan, J. and Harris, G. (1923) *Cost Accounting: Principles & Practice*.

⁶²⁵ Technical Library Accessions Register 1922-1956. R/DH/TL/4/1-2. Borthwick.

in costing in USA and Germany, facilitated by scientific methods of cost finding; it is important to understand the cost structure of every product line in the factory, including the level of profit or loss; costs to include: Raw Materials, Labour, Factory Overheads, General Overheads and Selling/Delivery; it is always the case that selling prices are fixed by the competition, therefore if the market dictates the selling price then the size of the profit of the product is dependent on the cost of the articles sold; a 'True Cost' includes all the level of overhead, and it is important to allocate and apportion overheads as fairly as possible. There is a danger of using a 'flat rate' per cwt. as some lines would get too much, whilst others would receive too little, thereby distorting profit per product line. Methods are being developed to solve this problem"⁶²⁶

This article by Evans demonstrates recognition of the severe competitive environment in the UK confectionery market during the immediate post-war years, and the pressure on companies to accurately calculate product profitability, based on a sound costing system that is consistent with the latest developments, not only at home but overseas as well. Indeed, the understanding of these competitive pressure is further echoed by Seebohm Rowntree in a lecture given at the Oxford Conference:

"If we are to sell our goods at a price which a poor world could afford to pay, we must lower our cost of production. This requires an adequate costing system"⁶²⁷

In a further article in the *Cocoa Works Staff Journal*, T.J. Evans articulated what he considered to be the purpose of a cost office:

Accurate allocation of wages to jobs; accurate storekeeping; accurate apportionment of overheads; prompt presentation of information; capability of proof – tied into Financial Accounts."⁶²⁸

It is apparent from Evans' article that there is a level of importance given to what is perceived as "accuracy", exemplified by the insistence on arithmetic balancing to the financial books of accounts as though there was a possible credibility issue with some elements within the organisation as to the efficacy of the work and output of the new Cost Office.

This concept is perhaps apparent in the fact that in 1922 an independent study of the Cost Office was carried out by the Organisation Committee comprising W.J. Waller,

⁶²⁶ Evans, T.J. (1921) *Cocoa Works Staff Journal*. Vol.1, Issue 3 p. 73-74. R/CWSJ/1. Borthwick.

⁶²⁷ Rowntree, B.S. (1922) "Increasing claims which modern industrial conditions are making upon Administration" Lecture at Oxford Conference. 21-28 September.

⁶²⁸ Evan, T.J. (1922) "The Cost Office". *Cocoa Works Staff Journal*. Vol. II Issue 4. R/CWSJ/1. Borthwick.

H. Giles, C. Fanthorpe and L. Urwick, culminating in an official report on their findings which can be summarised as follows:

History of Department

“Established 1919; prior to this date, costing had been undertaken by several people within the company; little attempt was made previously to arrive at accurate distribution of overheads; individual factory managers compiled their own labour costs; there was no overall monitoring of the efficiency of labour; pre-war, all factors in cost were more stable than now; the new Cost Office had to therefore build up an accurate scientific cost system from the beginning, to test the system and then implement; there is little experience of scientific cost accounting within the confectionery trade; great complexity in the building up of product costs.”

Function of the Cost Office

“Submit costs and other statistics to manufacturing and other departments; provision of cost information for Price List control; costs for manufacturing control to be based on labour costs; Wages Office are responsible for the detailed calculation of labour costs, and these are then transferred to the Cost Office.”

Overall Comments

“The chief value of scientific costing lies in the protection it affords against small sources of leakage on large volume lines, thereby preventing heavy losses; it therefore follows that it would be far more economical from the firm’s point of view to be able to devote more time on such large volume lines and less time to the exact costing of minor lines; smaller volume business should be costed on an ‘approximate’ basis.”⁶²⁹

In addition to the main findings found in the body of the report by the Organisation Committee, there is also published an appendix to the report detailing the scope and reporting conventions of the Cost Office, thereby providing an insight to its actual role within the overall organisation.

Figure 4.7 reproduces the detailed nature of the extent to which the company was compiling and reporting cost information throughout the organisation in a formal and timely fashion.

⁶²⁹ Waller W.J., Giles, H., Fanthorpe, C. and Urwick, L. (1922) Report on Cost Office. Organisation Committee. R/DH/OO/4. Borthwick.

Figure 4.7 Scope and Reporting Conventions of the Cost Office

Character and purpose Of Cost Supplied	Details of Figures Supplied	To Whom	How Often	
Costs for Price List Control	a) Costs of new and revised assortments	Managers Office	As Required	
	b) Effects of changes in Packing, altered proportions	Fancy Box Dept	As Required	
	c) Costs of all Gum lines	Managers Office	Monthly	
	d) Costs of Dutch & Elect Cocoa	Managers Office	Monthly	
	e) Costs of main lines of Cake Dept.	Managers Office	Monthly	
	f) Costs of main lines of Cream Dept.	Managers Office	Monthly	
	g) Costs of all lines showing a narrow or large profit	Fancy Box Dept.	As Opportunity Offers	
	h) Costs of all remaining lines in Price List	Managers Office	As Required	
	i) Costs of Seasonal Lines	Sales Director	Monthly	
	j) Comparative costs of centres and coverings	Managers Office	Monthly	
	k) Comparison of wage costs to total costs	Fancy Box Dept. Managers Office Fancy Box Dept. Managers Office Managers Office		
	Costs for Manufacturing Control	a) Labour costs by process and line	Director of Dept.	Weekly
		b) Idle time for large groups of machines	Director of Dept.	Weekly
c) Output per hour of machines and processes		Director of Dept.	Weekly	
d) Labour costs for Packaging		Director of Dept.	Weekly	
e) Complete costs for products		Director	Weekly	

Miscellaneous	a) Monthly Trading Accounts with Departmental Accounts	Finance Committee	Monthly
	b) Valuation of WIP and manufactured stock at ½ year	Finance Committee	Monthly ½ Year
	c) All estimates of costs or savings required by Research Groups	Research Director	As Required
	d) Such quantities or ½ year summaries as required by Directors	Directors	As Required

Source: Waller W.J., Giles, H., Fanthorpe, C. and Urwick, L. (1922) Report on Cost Office. Organisation Committee. R/DH/OO/4. Borthwick.

This summary clearly shows the level of sophistication of the work and scope of the Cost Office by 1922, reflecting the emphasis on professionalism as dictated by the chairman elect of the company in which costing was viewed as a cornerstone of the company's ability to compete effectively in the UK confectionery market.

A measure of the success of the Cost Office during these formative years can be obtained in a series of memos between L. Urwick and T.H. Appleton in the course of 1924, regarding workload concerns of the department, specifically with requests for cost information for new proposed lines from Manufacturing, Research and Sales Offices. It is interesting to note that a request for additional manpower within the Cost Office was rejected, with the solution to the problem being suggested in the form of revised procedures for cost information.⁶³⁰ This upsurge in the demand for cost information for new lines by various managers in the organisation indicates that senior executives such as J.B. Morrell and T.H. Appleton were conscious of the fact that maintenance of sales and production volume was essential in a complex, highly mechanised company like Rowntrees due to the presence of fixed overheads and that idle-time leading to under absorption, was the contributing factor to inferior performance. The pressure was clearly on managers within the company to provide an ongoing solution to this perceived problem, which has been interpreted by some commentators such as Fitzgerald, for example, as evidence of a company with no clear strategy.⁶³¹ An alternative interpretation could be however, that the existence of a cost office providing detailed and pertinent financial and other information to

⁶³⁰ Organisation Committee Memos 1924. R/DH/OO/4. Borthwick

⁶³¹ Fitzgerald, *Rowntree and the Marketing Revolution*, pp. 86-87.

managers relating to efficiency, product profitability and related issues meant that the company was able to survive and compete during these difficult years in the 1920's.

As previously noted, many of the senior managers at Rowntree contributed to the business and management literature in the years following the Great War, and the head of the comparison function, J. Wardropper, along with other managers at the company, described the approach to management within the company in a book entitled *Factory Organisation*, published in 1928. In the section of the book entitled "Records and Costing", Wardropper articulated his understanding of the role of costing in a large, complex organisation. He approached the issue in the first instance by emphasising the necessity of information, the keeping of records and presentation of statistics. He argued that it is only from this basis of data that any meaningful attempt could be made to add value and prepare cost information, whilst specifically guarding against the provision of excess information by only providing relevant data. Wardropper discussed the important topic of the allocation of overheads, stressing the requirement for allocating overheads costs in providing "accurate" full-cost data, but pointed out that in a period of recession when the factory is not performing at full capacity this method would temporarily inflate the cost of a product thereby providing potentially misleading information for measuring individual departmental performance. Wardropper suggested this should be ignored for decision-making purposes, and the focus instead should be on standard costs at a standard level of output from which measures of efficiency can be derived by individual plant managers. This is evidence of the understanding of the nature of standard costing and the implication for overheads, with some discussions of the alternative methods of apportionment that were being promoted in the literature as current practice. Furthermore, Wardropper suggested that any "undistributed or excess" overheads should be bundled together for attention by others than the factory managers which would seem to indicate that idle time, and the way that it is managed, was more of a concern for senior managers at a corporate level, rather than for operational factory managers.⁶³²

In addition, Wardropper made reference in his chapter to costs being either fixed or variable in nature, and consequently demonstrated that he understood the concept of

⁶³² Wardropper, *Records and Costing*, pp. 223-245, in Northcott, *Factory Organization*.

marginal costs and marginal contribution.⁶³³ Indeed, he pointed out that there are two theories surrounding the role of costs in providing management with key information for decision-making. The first situation is when full cost is required (for all standard business) and the second situation is when only the variable costs should be used when evaluating additional business in times of adversity.⁶³⁴ The understanding of this concept meant that Rowntree's could consider accepting short-term niche products, which might otherwise be rejected under traditional full-cost conventions which could have indicated an unsatisfactory level of profitability.

With respect to the issue of distribution costs, Wardropper conceded that these were becoming an important consideration but stated: "this area of costing has received scant attention in this country and most firms are content to adopt a rough and ready method of charging out the expense as a flat rate." However, he added that "the increasing proportion of selling and distribution charges will force attention upon this branch of costing, and lead ultimately to the devising of more detailed and accurate methods."⁶³⁵ This important area for cost analysis became increasingly prevalent during the latter half of the 1920's, as identified and discussed in chapter 3. Indeed one of the major practitioner contributors to the contemporary literature on Distribution Costing was the Dennison Company in the United States and specifically the chief statistician at the company E.S. Freeman, again as reviewed previously. Indeed, H.S. Dennison himself was invited to speak at one of the Oxford Conferences, in which he reiterated this issue:

"Today in industry, the whole field of distribution stands more in the need of overhauling than the field of actual production"⁶³⁶

However, despite this knowledge, the area of distribution costing does not appear to fall within the terms of reference of the Cost Office at Rowntree beyond the recording

⁶³³ The identification of the concept of 'marginal contribution' emanated from the Williams 1922 article "A technique for the chief executive", p. 51. Having read the article, Seebohm Rowntree subsequently convened a working party to consider the contents of the Williams article (Organisation Committee, 23 November 1923, m. 302) with a view to implementing the techniques thus described within the company. It is suggested that the concept of marginal costing as suggested by Williams were therefore introduced by Wardropper into the cost office for the specific evaluation of any additional non-standard business and niche products that was being considered as a solution to the issue of the absorption of the company's fixed overheads.

⁶³⁴ Wardropper, *Records and Costing*, p. 231, in Northcott, *Factory Organization*.

⁶³⁵ *Ibid.* p. 246.

⁶³⁶ Dennison, H.S. (1927) Oxford Conference. March 31st -April 4th. Baliol College. BSR93/VII/21. Borthwick.

and allocation/apportionment of these costs to products, just like any other non-production overhead.

Budgeting

The important leap from “costing” as a fundamental record-keeping, analytical and reporting technique of primarily manufacturing operations to the more sophisticated process of “budgeting” and “budgetary control”, was particularly slow in the UK during the course of the 1920’s according to the leading historical commentators cited in chapter 3. The factors which contributed to this apparent lack of progress, were in evidence within the Rowntree company. Perhaps this is not really surprising. Although the term “budgeting” was being mentioned and discussed by both academics and practitioners in the years following the Great War, there was some confusion in defining exactly what it is, and importantly how it is implemented as a system into an organisation. Part of the problem was that the technique of budgeting, if carried out in the most advance way, is extremely complex involving several sub-techniques and processes which must initially be recognised, understood and articulated throughout the organisation. This problem gives rise to the notion of “where to begin?” when contemplating introducing a budgetary system, especially during the 1920’s in the absence of recognised template. However, the process of understanding and implementing a fully-functioning budgetary control system is viewed as an important evolutionary step in the way that costing developed into cost and management accounting, that is a recognised important management tool, even today.

Examination of the archives at Rowntree points to a gradual understanding of the concept of budgeting and the slow building of the competencies that are required to operate such a system effectively. However, Oliver Sheldon articulated his clear knowledge of the fundamentals of budgeting including the requirement of a business to plan sales, expenses and profit – with the necessity to compare the plan to actuals.⁶³⁷ The bibliography of the book that Sheldon was writing in makes reference

⁶³⁷ Sheldon , *The Organisation of Business Control*, p. 29, in Northcott, (ed.) *Factory Organization*.

to a contemporary standard work on budgeting, thereby providing more evidence of engagement with the literature.⁶³⁸

One of the most important of the fundamental underlying competencies of budgeting is the recognition and preparation of “standards”, or the knowledge of what is deemed to be the accepted method by which tasks are carried out within the factory, and the associated cost that goes with it. The notion of “standardization” or “one best way” is a key feature of scientific management as espoused by F.W. Taylor and his acolytes and was well recognised and appreciated by managers at Rowntrees. Oliver Sheldon in his book *The Philosophy of Management*, published in 1923⁶³⁹ articulated this effectively, citing other important contributors in defining what is meant by standardisation such as Denning⁶⁴⁰, Parkhurst⁶⁴¹ and Emerson.⁶⁴²

More detailed evidence of the understanding of standards at Rowntree is provided by J. Wardropper in the *Cocoa Works Staff Journal*:

“Standardisation of:-

1. The product
2. The machinery
3. The means of production
4. The methods and operation

Standardisation results directly in economy, and the use of pre-determined standards enables the director, the manager and the foreman to keep a grip on production which is essential to efficiency. Costs by themselves mean nothing. We must have standards of comparison by which to test their value, for the reason for cost-finding is cost reduction. The discrepancy between estimated results and actual results must be regarded as preventable waste. If standards are fixed, the routine of management can be handed over to ‘effortless custody of automation’ for valuable time can be saved by concentrating on the large differences”⁶⁴³

There is clear evidence that knowledge of standards and the validity of comparing actuals to these standards was a recognised method of identifying and then subsequently reducing waste; thereby improving efficiency. But as previously

⁶³⁸ White, *Forecasting, Planning and Budgeting*.

⁶³⁹ Sheldon, *The Philosophy of Management*, pp. 213-216.

⁶⁴⁰ Denning, *Scientific Factory Management*.

⁶⁴¹ Parkhurst, *Applied Scientific Management*.

⁶⁴² Emerson, *The Twelve Principles of Efficiency*.

⁶⁴³ Wardropper, J. (1921) Ideas in Management – Standardisation. *Cocoa Works Staff Journal* Vol.1 Issue 3 p. 106-108. R/CWSJ/1. Borthwick.

discussed, a crude version of this practice was already being carried out at the company in 1891, with the provision of some differences or variances and some attempt to explain these differences. So although the benefits had been known for some time, perhaps the quality of the accepted standards were only just being considered and ultimately prepared during the early 1920's, particularly as T.J. Evans had commented on this fact in his report following his initial visit to Cadbury's in 1918.

The overriding concept of a "budget" is that it is essentially the financial overlay of the business operational plan (i.e. usually for a 12-month period); effectively the detail of what might be called the overall company policy or strategy. In other words it is a mechanism for operationalising the strategy in a way that is understood and more importantly, communicated to all managers in the business. Therefore the ability to plan effectively is an important competence necessary to be able to construct and administer a budget process.

A pre-requisite for any kind of planning is the formulation and articulation of objectives towards which the plan is thereby directed. With Seebohm Rowntree becoming acting chairman of the company in 1919, and eventually being appointed full chairman in 1923, he took the opportunity to put forward his vision and objectives of the business, not only in relation to the company itself, but also how it relates to the wider environment, as previously discussed:

Industry Objectives

"Goods/Services beneficial to the community; in the process of wealth production, industry should pay regard to the community, pursuing no policy detrimental to it; distribute the wealth produced which best serves the community."

Company Objectives

"Establish the reputation for leading the world in quality; establish the best possible working conditions; To pay a dividend of 10% (after tax) of ordinary shares, and put an adequate sum for reserves."⁶⁴⁴

Emanating from these objectives, was understanding of the role of coordination within an organisation without which planning, combined with the key aspiration of "control", would be unrealisable. Indeed, the importance of planning as a key

⁶⁴⁴ Rowntree, B.S. (1922) "Questions concerning the policy of the business considered as a whole." R&Co93/IV/3. Borthwick.

component of the ideologies of scientific management was provided by Charles Renold of Hans Renold Ltd.(a chain making business based in Manchester), who were a well-respected exponent of this philosophy, in a lecture given at one of the previously mentioned Oxford Conferences in April 1920:

“All the American books on scientific management devote much attention to planning. The function of planning is to 1) establish a programme of work to be done. 2) control the flow of work. 3) keep all men and machines occupied.”⁶⁴⁵

Therefore the knowledge of the rationale for effective planning and coordination as a key internal capability would be an important consideration for a company like Rowntree’s.

From the contemporary literature, Fayol was one of the first commentators to clearly identify the role of planning in the successful management of an organisation as early as 1916, although originally only available at that time in French⁶⁴⁶. However, Lyndall Urwick as a fluent French speaker, had read Fayol’s work whilst a serving officer in the British Army during the Great War. Moreover, whilst involved with the Management Research Groups that he had established in association with Seebohm Rowntree, he was so convinced of the importance of Fayol’s work, that in 1928 he persuaded J.A. Cornborough of British Xylonite to officially translate Fayol’s key 1916 work into English. This was subsequently published by the International Management Institute in 1930.⁶⁴⁷

Urwick confirmed his understanding of Fayol’s identification of the significance of planning in his contribution to the “Dictionary of Industrial Administration” in 1928, edited by John Lee. Urwick’s article entitled “The Principles of Direction and Control” in which he articulated a process of management whereby “control” is deemed to be the overall aspiration, for which planning is the key enabler.⁶⁴⁸ Also commenting in their biography of Urwick, Brech, et al made the observation that this work is heavily influenced by Fayol.⁶⁴⁹

⁶⁴⁵ Joseph Rowntree Historical Archive. C. Renold. Lecture entitled “The Benefits to the Workers of Scientific Management”, p18. Oxford Conference held 15-19 April 1920, Balliol College, Oxford. BSR93/VII/21. Borthwick .

⁶⁴⁶ Fayol, *General and Industrial Management*.

⁶⁴⁷ Brech, et al, *Lyndall Urwick*.

⁶⁴⁸ Urwick, *The Principles of Direction and Control*, in Lee, *Dictionary of Industrial Administration*. .

⁶⁴⁹ Brech, et al, *Lyndall Urwick*, pp. 74-77.

In addition to Urwick's contribution, Oliver Sheldon used his 1923 book, *The Philosophy of Management* to demonstrate his understanding of planning:

“It is the progress of work from the reception of the customer's orders through the various processes of manufacture, until ready for delivery. Planning is not control; it rather draws up the necessary regulations which control puts into practice. Administration then ensures that all the functions combine effectively for the execution of that plan”⁶⁵⁰

It is important to note that Sheldon concurred with Urwick in the absolute relationship between planning and control, and how one cannot exist without the other, thereby providing a framework for achieving what was deemed to be the ultimate goal for management.

Writing later in the *Harvard Business Review* he summarised the development of scientific management in England, and cited the work of Schulze⁶⁵¹ as central to the concept of company-wide planning, from the point of view of both short and long-term perspectives. Sheldon also recognised the claim by Schulze of incorporating coordination as part of the planning process to ensure the successful direction of effort.⁶⁵²

Despite Sheldon's acceptance of the necessity of a functionalized organizational structure as described above, he also stressed that for this type of structure to work there needed to be effective top to bottom coordination, with Sheldon quoting Feiss⁶⁵³ as his source for this thinking:

“Just so far as functionalization brings the necessary and effective decentralisation for action, so does functionalization of itself make essential another function. Where there are separate entities of an organisation, each responsible for action and results in its own line, and all timing at the same ultimate object, it is necessary, in order to obtain harmonious and effective ultimate action, to recognise the necessity for coordination and to treat it as a distinct and basic function of the organization”.⁶⁵⁴

⁶⁵⁰ Sheldon, *The Philosophy of Management*, p. 60.

⁶⁵¹ Schulze, “Planning applied to administration”.

⁶⁵² Sheldon “The development of scientific management in England”, p. 131.

⁶⁵³ Feiss, “Discussion: Centralization of Administrative Authority”.

⁶⁵⁴ Quoted in Sheldon, *The Organisation of Business Control*, pp. 42-43 in Northcott, (ed.) *Factory Organization*.

The underlying philosophy concerning planning as a key competence was therefore clearly understood by senior managers at Rowntree's. However, in terms of the detail aspects of planning and how this relates to an accepted fundamental of a budget process, it is perhaps the role of sales planning that was considered essential. An unidentified contributor to the *Cocoa Works Staff Journal* in 1923 seemed to indicate that the company was well aware of the important role of sales planning within the organisation:

“Planning how much of each product in each period by sales territory, by the concentration of sales effort, advertising, etc. This makes it different from a sales estimate”.

Advantages of Sales Planning:

“Factory to work economically; rules out peaks and troughs; rules out unemployment/short time; provides efficient stock management; purchasing can be carried out more efficiently; provides the ability to calculate overall profit based on the sales plan; can work out what capital equipment is required; budgeting of labour requirements; planning of overhead allocations more scientifically.”

“The ‘Sales Plan’ is effectively the ‘Business Plan’ and should be a coordination of all functions, based on research on trade, populations, economic prospects, market prospects, competition and retail position. It must be a scientific approach. Sales should form the basis of the efficient allocation of resources to achieve the plan.”⁶⁵⁵

A key provider of information that would feed into an effective process of accurate sales planning was the establishment of an Economic and Business Research office, set up and run by W. Wallace in 1924 as part of the Finance Function which, on its conception had a broad brief:

“To keep informed of general business conditions; to make detailed investigation into economic and business problems; to carry out specific research for the Finance Function; to act as advisor to the Finance Director.”⁶⁵⁶

In his unpublished autobiography, Wallace claimed that as part of this role in the Economic and Business Research office, he formed contacts with key external contributors such as G. Schwarz at the Cambridge Economic Service and W.F. Crick

⁶⁵⁵ Unidentified. (1923) Ideas in Management – The Planning of Sales. *Cocoa Works Staff Journal*. Vol.II Issue 5, Borthwick.

⁶⁵⁶ Establishment of an Economic & Business Research Function. Minutes of Organisation Committee. 21st.Oct 1924 (Appendix A). R/B3/4. Borthwick.

in the Economic Intelligence unit at the Midland Bank.⁶⁵⁷ An example of the range of detailed information that was being collected, analysed and then circulated by Wallace to all senior managers in the organisation is provided in the Economic Notes 1924:

“General overview; labour troubles; prices index (Source: *The Economist*); unemployment trends; foreign affairs; wages and purchasing power; financial conditions; trade prospects; profits; foreign exchanges”⁶⁵⁸

Rowntree’s therefore had in place a comprehensive, detailed and regular process of collecting, collating and analysing information relating to general environment conditions that had direct effect on their business, and which could be built into their forward planning considerations, particularly with reference to a robust sales estimating/planning system. As was the case with other senior managers at Rowntree’s, Wallace also contributed to the literature on the role of business forecasting, and in particular he made reference to the way in which information gained could be used to inform a budgeting system:

“Finally, if, as would quite probably be the case in a business sufficiently advanced to adopt scientific methods of sales forecasting, the whole of the estimated incomings and outgoings are collected into a ‘master budget’, it should be possible to chart two simple curves representing this income and expenditure. This in the light of these, the short period cash policy could be planned”⁶⁵⁹

Here Wallace identified one of the key principles of a comprehensive budgeting system: that of being able to plan cash effectively, a crucial competence that a business must possess. Furthermore, in his conclusions, Wallace identified the need for a business to understand the demand for their products, and its direct effect on sales, and indirect effect on production, purchasing, labour and related overheads. This, he claimed, was the cornerstone of being in a position to create a forward looking culture based on accurately forecast future orders, founded on the prevailing environmental conditions.⁶⁶⁰ However, Wallace made the important point that the major difficulty in preparing an overall future plan of a business in the form of a

⁶⁵⁷ Wallace, W. (1968) *I Was Concerned*. Unpublished Autobiography. (p. 142). Borthwick.

⁶⁵⁸ Wallace, W (1924) Economic Notes 1924. WW/93/VI/1. Borthwick.

⁶⁵⁹ Wallace, *Business Forecasting*, p. 63.

⁶⁶⁰ *Ibid.*, p. 89.

budget is the problem of forecasting sales, and claimed that this is indeed the main reason for the slow introduction of budgeting as a technique.⁶⁶¹

Whilst the importance of effective sales forecasting was understood by the company, the actual compilation of a total sales plan had been carried out piecemeal through data from marketing and sales personnel. Nonetheless it became clear that a dedicated functional sales planning had to be established. This was ultimately discussed through the forum of the organisation committee in 1924. The evolution of the ability to effectively create an effective sales planning capability was debated by T.H. Appleton, who described the new role of the Sales Planning Office:

“Provision of sales statistics; preparation of the major plan; estimating new lines sales; planning of sales by month, by line; planning of stocks to meet sales estimates; planning of production to meet stock requirements”.⁶⁶²

These capabilities are some of the essential building-blocks necessary to construct and operate a budgeting system, and there appears to be a clear intention by the company to provide this information on a consistent basis.

Prior to the introduction of a dedicated sales planning function, the company had already recognised that a natural progression from the ability to plan sales was the introduction of a production planning capability to build upon this information. Indeed, the idea was first mooted by F.G. Fryer following another visit to Cadbury’s to understand their production planning systems, and in his report on this visit he concluded that the function of any proposal at Rowntree would be:

“to issue instructions for manufacture, having regard to past and probable future sales, with a view to maintaining adequate stocks; to warn buying department that certain stocks might need replenishment; to centralise and coordinate planning to know the daily quantities of every line; to obtain knowledge of finished goods, WIP and raw material stocks.”⁶⁶³

Fryer articulated the advantages to the company that a production planning function would provide:

“enables long-runs of production, giving rise to a) reduction in lost time for both machines and labour b) possibility of introducing labour-saving devices c) savings in material losses

⁶⁶¹ Ibid., p. 90.

⁶⁶² Organisation Committee. 11th November 1924. Minute 341. R/B3/4. Borthwick.

⁶⁶³ Fryer, F.G. (1919) Report on visit to Cadbury 31/5/19. Minutes of Planning Advisory Committee. R/DP/PP/1. Borthwick.

due to frequent changes and cleaning; reducing and fixing the maximum stocks of WIP from which savings in interest on capital might be reasonably expected; increased smoothness of working within the production departments; plan the most economical manufacturing lot; elimination of dead or slow-moving stocks”⁶⁶⁴

Finally, Fryer described how a proposed production planning function would be related to the newly established cost office:

“Although a planning department does not properly form part of the costing system, the establishment of such a department is ultimately bound up within the organisation of a costing system”⁶⁶⁵

Seebohm Rowntree also sought to clarify the relationship between the different aspects of planning within the organisation, having conceded that although the business had grown, this had previously been done haphazardly:

“The two functions of sales planning and production planning are related but need to be operated separately; the sales department has been dominant in the past in the provision of forecast sales data; scientific sales planning should mean fewer lines; more effort is required on a larger volume of smaller number of lines; other companies do forecast sales very accurately – Lever Bros. (visit on 24/2/21) for example who achieve this by focusing sales effort on those lines which are selling at below forecast; production efficiency can only be achieved if the production plan (based on the sales plan) can be achieved.”⁶⁶⁶

The production planning function was established in 1920 under the control of T.W. Brownless, and in his first annual report he set out the scope of the department:

“The Production Planning Department takes into account: sales; policy (e.g. stock requirements); machine capacity; staff capacity; co-ordination between production departments; to keep stocks as low as possible.”⁶⁶⁷

However, by 1926 the annual report by Brownless focused on the problems encountered within the production planning function, indicative of the difficulties that the company encountered during this period in mastering some of the essential foundations of any budgeting process:

⁶⁶⁴ Ibid.

⁶⁶⁵ Ibid.

⁶⁶⁶ Rowntree B.S. (1923) Report on Relationship between Sales Planning and Factory Planning. Minutes of Planning Advisory Committee 10/11/23. R/DP/PP/1. Borthwick.

⁶⁶⁷ Brownless, T.W. (1921) Annual Report 1920. 25/2/21. Production Planning Annual Reports. R/DP/PP/2. Borthwick.

“Difficulties encountered during the year include: sales estimates are erratic and uncertain; we are a long way off of making chocolates to standard; uncertain capacity such as increases or decreases in output compared with standard”⁶⁶⁸

In addition to planning competencies, a key aspect of the budget process is the ability to analyse expenditure by functional responsibility which appears to have been considered by Rowntrees following the Williams’ key article in the *Bulletin of the Taylor Society* .⁶⁶⁹ In this seminal article Williams, as chairman of the newly established sub-committee of the Taylor Society on the functions of senior managers, proposed several key concepts including budgeting, cost-volume-profit analysis, responsibility accounting, financial forecasting and the use of standards to judge management effectiveness. A working party consisting of J.B. Morrell, W.J. Waller, C.Fanthorpe and O.Sheldon was convened at Rowntrees to study the content of the Williams article. They concluded that its implementation would be unfeasible. However, Seebom Rowntree was insistent that the proposals be re-examined: he could see no reason why an American idea couldn’t be applied in a UK business.⁶⁷⁰ Following this request, the working party attempted to formulate a working proposal, with J.B. Morrell reporting that:

“The Board has authorised to proceed with a system which would review constantly with the Finance Director, the expenses of the company and to authorise the annual or other budgets of expenses as authorised by the Board” .⁶⁷¹

This one aspect of budgeting, i.e. the ability to budget and control departmental expenses, appears to have been approved and put into operation within the company. Further evidence of the slow implementation of some form of budgeting process was provided in the establishment of a Committee on Budgeting in 1926:

“It is the objective of the Board to endeavour to make use of a budgeting system in the Cocoa Works, where each department will estimate in advance its requirements for salaries for the coming year”

Terms of Reference of Budget Committee:

“Investigate the present system of estimating salaries; investigate the form of the accounts system in order for a budgetary system to be ‘tied-up’ with the Financial

⁶⁶⁸ Brownless, T.W. (1927) Annual Report 1926. 21/2/27. Production Planning Annual Reports. R/DP/PP/2. Borthwick.

⁶⁶⁹ Williams, “A technique for the chief executive”.

⁶⁷⁰ Organisation Committee. 23rd November.1923. Minute 302. R/B3/4. Borthwick.

⁶⁷¹ Organisation Committee. 27th January 1925. Minute 408. R/B3/4. Borthwick.

Accounts; indicate the lines on which a more perfect budgetary procedure may be developed to provide an estimate of cost.”⁶⁷²

However, by 1927, no report by the Committee on Budgeting had been prepared, due to the complex nature of the company’s organisation and how a budgetary system could be incorporated.⁶⁷³

Whilst there was considerable discussion at a senior management level on the best way to introduce some sort of budgeting process, there is also evidence that managers were trying to understand the concepts by requesting that the company’s Technical Library obtain the latest published works on the subject. The seminal work *Budgetary Control* by J.O. McKinsey, for example, was requested by Sheldon in 1922, and *Budgeting to the Business Cycle* by J.H. Barber was requested by Wallace in 1926.⁶⁷⁴ These were in addition to the articles on budgeting published in the *Bulletin of the Taylor Society* that had obviously been read by managers in the company as previously mentioned.

The debate on budgeting was also being aired at the Oxford Conferences, with A. Perry-Keane of Austin Motors presenting a discussion paper in 1925, in which he described (probably for the first time) the benefits of budgeting now known as the 4-C’s model, i.e. co-operation, co-ordination, control and compel. He then went on to describe what budgeting seeks to bring about:

“a proper review of the market; the offering to the consumer of a product of the right quality at the right price; ensuring by planning that the right quantities are passed through the plant; clear lines of responsibility established; enables the forecasting of detailed financial results in the form of a forecast income statement and balance sheet; determines general policy, availability of resources, expected return, purchase of stock and the cost of labour”⁶⁷⁵

As Quail has already argued, Austin Motors were at the forefront of the practical application of budgeting techniques during the early 1920’s; in particular Perry-Keane was an important advocate, having already written on the topic in the *Cost*

⁶⁷² Organisation Committee. 6th April 1926. Minute 567. R/B3/4. Borthwick.

⁶⁷³ Organisation Committee. 16th May 1927. Minute 630. R/B3/4. Borthwick.

⁶⁷⁴ McKinsey, *Budgetary Control*, and Barber, *Budgeting to the Business Cycle*.

⁶⁷⁵ Perry-Keane, L. (1925) “Controlling business by means of a budget” Oxford Conference, 1st-5th October, Baliol College Oxford. BSR93/VII/21. Borthwick.

Accountant.⁶⁷⁶ It was important therefore that managers at Rowntrees were able to experience at first hand the methodologies that had been employed in the founding of budgetary processes by a pioneer in the field.

Henry Dennison was also invited to present a paper at a later Oxford Conference in 1927, in which he advocated the incorporation of budgeting techniques. As previously discussed, the Dennison Company⁶⁷⁷ were early pioneers in the use of budgeting in the USA (along with the Walworth Co.) Dennison presented an overview of the experiences of budgeting in his business:

“We must lay out for the coming year a detailed budget of what is expected from the whole business, and then we must follow up the results. Usually after 3 years one acquires a reasonable degree of skill. It determines in advance what we think is right to do”⁶⁷⁸

It is significant that Dennison guarded against the expectation of ‘instant success’ from the implementation of a budgeting system, quoting the experience of his own organisation that it was only after following the process for at least three years that meaningful advantages are gained.

With the apparent failure of the budget sub-committee to develop a detailed proposal for the introduction of budgeting at Rowntrees, W. Wallace appeared to have become involved in the debate during 1927, having assumed responsibility for the management of the comparison function, which included costing.⁶⁷⁹ This was a logical development given his experience in his role in business forecasting within the company, and also his contribution to the literature and how this informs the budgeting process, as described above.

Further evidence of Rowntrees willingness to gain knowledge of the budgeting process is that the company thought it to be advantageous to send two delegates (W. Wallace and C. Fanthorpe) to the prestigious International Discussion Conference on Budgetary Control, organised by the International Management Institute in Geneva in July 1930. This conference attracted 197 delegates, representing 26 countries

⁶⁷⁶ Quail, “More Peculiarities of the British” pp. 621-625.

⁶⁷⁷ E.E. Brooks was the chief cost accountant at Dennison, and was prominent in the implementation of budgetary control systems within the company.

⁶⁷⁸ Dennison, H.S. (1927) “Scientific management in the factory” Oxford Conference, 31st March-4th April, Baliol College Oxford. BSR93/VII/21. Borthwick.

⁶⁷⁹ Wallace, W. (1968) *I Was Concerned*. Unpublished Autobiography. (p. 143. Borthwick .

worldwide, including such important international commentators associated with the subject as J.O. McKinsey, H. Fayol, C.G. Renold, T.G. Rose, R. Dunkerley and J.H. Williams (who had initially ignited interest at Rowntrees through his publishing in the *Bulletin of the Taylor Society*).

Although Wallace and Fanthorpe did not themselves contribute papers to the conference, some significant principles in terms of definition, process and practical application were presented by some of the key commentators that must have further informed their thinking:

Definition of Budgeting:

“Budgetary Control is a method of scientific management by means of which estimates are drawn up covering an agreed period for everything connected with the undertaking which it is possible to express in figures. These estimates are founded on previous statistical experience inside the plant, plus careful study of general economic and trade data outside of it, and provide an instrument for the continuous control of the actual figures at the expiration of the agreed period. Thus, future estimates can be more accurately drawn, and adjustments made in the conduct of the undertaking, if the fault appears to be with management and not with accountancy.

Budgeting is not merely control, it is not merely forecasting, it is an exact and rigorous analysis of the past and the probable and desired future experience with a view to substituting considered intention for the opportunism of management”⁶⁸⁰

Budgeting Facilitates;

“Continuity of policy; the elimination of waste; increased output; greater degree of security of employment”⁶⁸¹

This definition provided an overview of the contextual nature of budgeting and how its implementation should be approached in a specific and structured way consistent with scientific management. Specifically, for the Rowntree delegates, the summation of the objectives that budgeting can achieve more or less dovetails into the philosophies of their company that Seebohm Rowntree had outlined some years previously on his appointment as full chairman of the business.

However, despite the efforts by the company to understand budgetary control procedures and processes, the ability to convert this theoretical knowledge into the

⁶⁸⁰ International Discussion Conference on Budgetary Control (1930). Geneva: International Management Institute. Final Report Vol.1. Section 3, p. 1.

⁶⁸¹ Ibid.

practical application of a company-wide technique appear to have proved elusive. As Boyns has observed⁶⁸², in the discussions surrounding budgeting which took place at meetings of the Management Research Groups, F. Spink of Rowntree accepted the importance of the sales plan to any budgetary control system, but conceded that the company had failed to incorporate the complete package:

“I personally do not claim that we have Budgetary Control. I do not believe that a complete system of Budgetary Control which ends up with a monthly Trading A/C form, is practicable in many industries, because you have many complicated factors”.⁶⁸³

Indeed, as Spink confirmed, the theoretical underpinnings of budgeting were recognised by Rowntree, but the complex nature of full implementation were considered at the time to be unobtainable, even though many of the individual elements of budgeting were clearly in evidence within the company.

4.4 Conclusions

In the early development of Rowntree’s, between 1869 and 1914, a substantial effort was made to clearly understand the nature of the UK confectionery market, and to obtain information relating to factory processes, wage payment systems, capital equipment and cost structures to assist in determining how to compete effectively in this market.

Joseph Rowntree’s exhaustive research permitted the establishment of internal mechanisms by which his company could begin to make inroads into the existing market. A key component of this objective was the introduction and development of systems and procedures of relatively high level of sophistication, designed to provide cost and other financial and statistical data on individual products and factory departments. As the literature demonstrates, this occurred when the science of costing was in its infancy and when there were no accepted principles of “best practice” to follow. Indeed, it can be argued that some of the procedures that the company put into place, particularly to standard costing and variance analysis from 1891, are significant examples of practice being ahead of theory. In addition to the work of Joseph Rowntree, this chapter has discussed the contribution of other key figures such as

⁶⁸² Boyns, “Budgets and budgetary control in British businesses” pp. 261-301.

⁶⁸³ Management Research Groups. BLPES, Ward papers W/8/33-34/12, minutes of meeting 22 November 1933.

T.H. Appleton and J.B. Morrell in the development of cost accounting within the business. This development led to the company's capability to quickly produce cost and profitability estimates of proposed new lines, thereby becoming a source of competitive advantage in the sourcing of new business opportunities.

The advent of the Great War interrupted normal trading and market conditions, particularly in consumer goods industries like confectionery. Consequently the development of practice and procedures of techniques, like costing, appeared to have been suspended for the duration of the war. However, the progress made by the company in these formative early years provided a solid foundation to adapt to the changed world order after 1918.

The progress that had been made in the development and implementation of costing techniques by Rowntree's prior to the Great War laid the foundations for the company's ability to compete during the interwar years. However, the initial primary motivation for Joseph Rowntree to introduce costing techniques within the company equated to one of employing all available management techniques to enable the fledgling business to grow and compete effectively in an established, albeit rapidly growing, UK confectionery market in the latter half of the nineteenth century. Consequently, with the appointment of Seebohm Rowntree as chairman elect in 1918, and taking account of the changed landscape, the objectives of the company appear to embrace role of social responsibility of business to society in general, with scientific management being viewed as the vehicle by which this could be achieved.

The principles of scientific management were therefore the template from which Seebohm Rowntree, and the other senior executives in the company, re-organised the structure of the company on a functional basis, with the quest for efficiency as the ultimate goal. As a direct consequence of this overall company initiative, a separate cost office was established in 1918, based on the already functioning Cadbury experience, to centralise and coordinate the costing work that had been previously carried out on a piecemeal basis within each production department prior to this. Within a short period of time, the newly established cost office was compiling, analysing and distributing information relating to costs and efficiency measures on a regular and timely basis to a wide audience of middle and senior managers within the company.

The company had made significant strides in the professionalism of costing after 1918, based on the culture of the company (nurtured by Seebohm Rowntree) of engaging with and contributing to, the contemporary debates relating to all management issues. The company successfully made progress from traditional cost keeping and cost finding elements to incorporate more advanced techniques such as marginal costing and standard costing, based on a more informed understanding of the nature of overheads. However, the key indicator for the assessment of successful progress of costing sophistication would be the establishment of a comprehensive and company-wide budgetary control process. This could be then developed to incorporate objective-setting, planning, expense budgeting, variance calculation and reporting, combined with responsibility accounting via feedback loops with eventually a feed-forward capability to inform future plans and budgets. As reported in the historical literature very few companies managed to achieve this ultimate goal prior the World War II, although many including Rowntree's, did have the majority of the individual components in place during the inter-war years. It is therefore unfortunate, that given that the company had produced a basic and crude form of budgeting, with some attempt at explanation of differences between estimated and actual data as early as 1891, they failed to establish a fully functioning budgetary process prior to the outbreak of World War II. But the successful implementation of a company-wide budgetary control system to incorporate important issues such as resource allocation, would have been dependant on a top-level sanction regarding the absolute priority in the preparing of budget information (by all managers involved), with powers provided to the cost office in the successful running of the process. It is probable that this was never considered to be necessary, and without strict adherence to a budget timetable, with the appropriate policing, this was always doomed to failure.

The progress achieved by Rowntree's in their development of costing procedures provided a crucial competence by which the company could compete in the UK confectionery market, thereby contributing to performance. However, the limited progress, particularly relating to budgetary control, would also have negative implications.

Section 2 – Fieldwork and Data Collection

Chapter 5

What was the extent of the development and implementation of Cost Accounting techniques adopted by Cadbury between 1861 and 1938?

5.1 Introduction

As described in chapter 3, costing techniques had been developing as a reaction to the environmental factors occurring in the UK, and the rest of the western world, during the late nineteenth and early twentieth centuries, combined with the rapidly increasing size and complexity of organisations.

This chapter will examine the way in which costing techniques were developed within Cadbury's from 1861 to 1938, and why this development occurred. Firstly, this chapter will examine the business from when the two older Cadbury brothers, Richard and George Snr., took control in 1861 as a partnership and shaped the firm by making crucial strategic decisions regarding its structure and focus during these early years. Unlike Rowntrees, this approach did not place the same emphasis on cost and profitability information. However, the tragic death of Richard Cadbury in 1899 led to the dissolving of the partnership and the flotation of Cadbury as a private limited company, with executive control being passed to the sons of George Snr. and Richard.

The consequences of this sudden and unexpected change to Cadbury and the subsequent creation of a defined organisational and management structure, with one of including the establishment of a functional cost office in 1903 will be examined. The new younger management team were receptive to many of the ideas that were being advocated and viewed scientific management as a vehicle by which they could achieve a more efficient company, with benefits for consumers. They perceived the newly formed cost office as a central pillar in the provision of information. This was in complete contrast to the almost total absence of cost data under the old partnership regime.

The development of the cost office from its inception in 1903 until the outbreak of the Great War is provided, (and the way in which the department became fundamental in the creation of order within the factory in which processes and the flow of information was regulated and controlled). This was deemed necessary before any further development in technique could take place.

The conditions following the end of the Great War and the changed market landscape facing all UK confectionery manufacturers, created an opportunity for Cadbury to seize this opportunity to establish products based on mass-production enabled by automation, mechanisation and organisational efficiency. This would result in confectionery being transformed into a low-cost product, which in turn would be reflected in lower consumer prices and increased sales volume, thereby further lowering unit costs. The experience and reputation gained by the cost office prior to the Great War enabled the company to obtain the necessary information that would be required in order to effect this strategy to be put into action. Indeed, part of this capability was the recognition by Cadbury that costs were not only restricted to production, but included “distribution costs”, which were also becoming increasingly important. Cadbury’s extended the scope of distribution costs into the domain of the retail trade where perceptions of inefficiency were addressed and reported.

Finally, as with the Rowntree experience, the struggle to develop the ideas and techniques of costing into areas such as standard costing and budgetary control will be examined. This exposes the organisational complexities that needed to be recognised for effective coordination to occur.

5.2 Foundations: 1861-1902

Background

The establishment of the firm of Cadbury can be dated to 1824, when the business was started by John Cadbury, a Quaker, in Birmingham initially trading in tea and coffee, but eventually diversifying into cocoa and setting up a production facility in 1831. The business continued to compete effectively and make progress after making this decision. However, by the 1850’s John Cadbury’s wife began a long battle against consumption (eventually dying in 1855); with John himself also being afflicted with an aggressive form of arthritis. These illnesses had a direct effect on the

fortunes of the business which was being affected by neglect, and was manifested by the slow decline in sales, profits and numbers employed by the company.⁶⁸⁴ John's son Richard joined the company in 1851 in an effort to add some fitness and youth, and was eventually joined by his other son George Snr. in 1861, when together the brothers effectively took over the complete running of the business from their ailing father, showing commitment by investing their mother's inheritance of £4,000 each into the business.⁶⁸⁵

During the early years following the establishment of their joint control, the two brothers slowly began to improve the fortunes of the business as a direct consequence of making two crucial decisions; the first of these was to concentrate solely on cocoa and chocolate manufacture/sales; the second was to dramatically improve the quality of these products at a time when the adulteration of foods was an important issue for consumers⁶⁸⁶. Cadbury's seized this opportunity and created products that satisfied the demand from consumers for "pure foods".⁶⁸⁷ This strategy was supported by early and effective use of advertising from 1867, leading to the unique re-branding of cocoa based on the slogan "Absolutely Pure, Therefore the Best".⁶⁸⁸

In addition to the efficacy of their decision-making during the early years of their management of the firm, the survival and the ultimate improvement of the business can also be attributed to the absolute commitment of the brothers and the long hours they spent on every aspect of running a small but rapidly expanding business.⁶⁸⁹

Legislation in the form of the Adulteration of Foods Act by the Government in 1872 and 1875 vindicated the initial decision by the brothers: Cadbury became the market leader in cocoa; and its product fully conformed to the new laws, and its brand was trusted by the buying public. As a consequence, sales of Cadbury products increased dramatically and the future of the business seemed secure. This led to another crucial decision by the brothers also aimed at ensuring long term sustainability.⁶⁹⁰

⁶⁸⁴ Cadbury, *Chocolate Wars*, pp. 9-14.

⁶⁸⁵ *Ibid.*

⁶⁸⁶ Delheim, "The creation of a company culture", p. 17.

⁶⁸⁷ *Ibid.*, p. 44.

⁶⁸⁸ *Ibid.*, p. 71.

⁶⁸⁹ Rowlinson, and Hassard, "An invention of corporate culture", pp. 308-309.

⁶⁹⁰ Cadbury, *Chocolate Wars*, pp. 104-105.

The factory premises at Bridge Street in central Birmingham, the home of the Cadbury business since 1847, were becoming increasingly inadequate as sales and production increased during the 1870's. As a direct consequence of this situation, the foresight of the brothers resulted in the building of new purpose-built factory on a green field site at Bournville, some three miles south-west of Birmingham city centre in 1879, which immediately doubled the floor space of the old premises, and importantly, also had the potential for further expansion if the business was to grow in the future.⁶⁹¹ Whereas it could be interpreted as a bold move by the brothers, a key competitor to Cadbury's, the cocoa manufacturers James Epps & Co., had made a similar move to purpose built premises on a green field site in London in 1878.⁶⁹²

Following the move to Bournville, Cadbury were well placed to take advantage of the growing demand for its products during the 1880's and 1890's, driven by the environmental, social, legal and technological factors described in Chapter 1. This growth can be demonstrated by sales revenues and the numbers employed by the business during the period 1870-1900 (see Table. 5.1).

Table 5.1 Growth of Cadbury 1870-1900

	Sales Revenues	No. of Employees
1870	£54,750	50(est.)
1880	£266,285	230
1890	£761,969	1,500
1900	£1,326,312	3,023

Source: Fitzgerald R. (1995, p. 64).

However, a threat to the continuing growth of the business occurred in 1899 with the sudden and unexpected death of Richard Cadbury, from diphtheria during a visit to the Middle East at the age of 64. This tragic event invoked an immediate change to the structure and management of the business. It had already been decided by the brothers in 1899, that in the event of one of their deaths the partnership would cease and the business would then become incorporated as a private limited company.⁶⁹³

Following the creation of the new company in late 1899, the remaining brother, George Snr. became chairman and effectively the figurehead of the business (thus

⁶⁹¹ Smith, Child, and Rowlinson, *Reshaping Work*, p. 53.

⁶⁹² *Ibid.*, p. 54.

⁶⁹³ Cadbury, *Chocolate Wars*, p. 171.

enabling him to devote time to his philanthropic and political interests). As a consequence the day-to-day management was entrusted to four of the sons of the brothers as joint managing directors, each responsible for different aspects within the firm. Richard's two sons were Barrow (age 37) and William (age 32); George Snr.'s sons were George Jnr. (age 21) and Edward (age 26).⁶⁹⁴ The division of responsibilities within the business was supposed to be equal (Barrow in charge of accounts; William in charge of engineering; George Jnr. in charge of chemists and new product development; Edward in charge of sales and production). However, Barrow's real interest lay in the work of the Quaker movement, and William was more of an outdoor type and tended to be more concerned with pursuits outside the business.⁶⁹⁵ Despite their relatively young age, the real dynamic at a critical period for the future development of the company lay with George Jnr. and Edward. Indeed, further motivation for ensuring the success of the company was in the fact that in 1900, George Cadbury Snr. donated his own personal wealth to the creation of the Bournville Village Trust. This decision he would later claim as being the correct thing to do because he concluded that "my children will be all the better off for being deprived of this money, as great wealth is not to be desired and in my experience is more of a curse than a blessing to the families that possess it."⁶⁹⁶

Influences

George Jnr. had first joined the family firm in 1897, with a brief to learn as much about the business as he could. Prior to his eventual appointment as joint managing director in 1899, following Richard's untimely death, he had already made several visits to European cocoa and confectionery manufacturers. He hoped these visits would help understand and learn more of the different processes and products, and included time at the Stollwerck confectionery manufacturer, based in Germany where he worked at their factory at Pressburg in Austria-Hungary, and also at one their German-based locations for an overall total of six months.⁶⁹⁷

This experience of working at Stollwerck's would have undoubtedly provided George Jnr. with valuable insights into production processes, but would have also influenced

⁶⁹⁴ Rowlinson, "The early application of scientific management", p. 377.

⁶⁹⁵ Cadbury, *Chocolate Wars*, pp. 171-172.

⁶⁹⁶ *Ibid.*, p. 176.

⁶⁹⁷ Marks, *George Cadbury Jnr.*, p. 11.

his thinking regarding the overall management of a large and successful confectionery manufacturer. The Stollwerck company was an important influence on George Jnr. because since its founding in Cologne in 1839, the business had been recognised as an innovator, for example in the establishment of a purpose-built factory in Cologne in 1877, some two years before the similar decision of Cadbury. In addition, during the 1870's and 1880's, Stollwercks invested heavily in marketing and distribution and also in the recruitment of professional managers to help the Stollwerck family run the company. Evidence of this can be found in the increase in the recruitment of a central administrative team from 65 staff in 1886 to 154 by 1896. In terms of marketing, the company were innovators in packaging design, packaging protection (for perishable products) and branding, aided by a separate advertising department. From the product development perspective, Stollwerck's founded a research laboratory in 1884, with staff holding by doctorates in chemistry. Most of these innovations within the business during the last quarter of the nineteenth century had been instigated by Ludwig Stollwerck, one of the five brothers running the firm during this period, who also reorganised the company's functional operating departments, and importantly, introduced recognised book-keeping and cost accounting systems and procedures. These decisions were later described by Ludwig Stollwerck as "the most important decisions of my career".⁶⁹⁸ The six months that George Jnr. spent working at the Stollwerck business would have had a profound effect on his vision of how a successful cocoa and confectionery should be managed, and the importance of those structures and processes that were in place at that time within the German company.

In addition to his experiences at Stollwerck's in 1897, and following his appointment as joint managing in 1899, George Jnr. continued his search for knowledge of managerial practices by visiting progressive and enlightened firms in the USA during 1901.⁶⁹⁹ One of these companies was the National Cash Register, based in Dayton, Ohio, founded and run by another recognised management innovator of the late nineteenth century, John Patterson.

John Patterson founded the National Cash Register (NCR) in 1884 at a time when many other businessmen were experimenting with mass production techniques and

⁶⁹⁸ Chandler, *Scale and Scope*, pp. 399-401.

⁶⁹⁹ Marks, *George Cadbury Jnr.*, p. 18.

the establishment of extensive distribution channels. Patterson realised that to achieve economies of scale he needed to create an efficient system of management, whereby internal processes could be broken down into uniform tasks easily learned by his workforce to promote efficiency.⁷⁰⁰ In addition, Patterson was seen as an early pioneer of the introduction of welfare programmes for his employees, designed to support this efficiency drive, based on the belief that contented workers are more productive. As part of this initiative the company moved into purpose-built premises in 1894, providing improved working conditions and incorporating employee facilities such as a library, kindergarten, sports facilities, clubs, societies, education, medical facilities, swimming pools and garden areas.⁷⁰¹ Indeed, such importance was given by Patterson to these facilities that the gardens and open spaces surrounding the new factory premises were designed by the Olmstead Brothers, whose other commissions included the design of Central Park in New York. The design of the garden was intended to create a harmonisation between the machine and nature.⁷⁰²

The new factory was to compliment the extensive welfare programs for his employees, and Patterson sought to exercise control of the company through an organisational model based on the pyramid. In this structure, Patterson and the board of directors were at the apex, supported by three “originating” divisions of legal, publishing and labour. In turn these would be further supported by three “operating” divisions of selling, making and recording, making this structure a kind of crude form of the line and staff organisation.⁷⁰³ Although basic in nature, Patterson also introduced a unique committee system in which he established an Executive committee to determine strategic policy, and a series of Factory committees to direct the individual departments.⁷⁰⁴

Another key decision by Patterson, designed to provide the NCR with continuing competitive advantage, was the establishment of an Experimental department in 1888, whose sole objective was to provide a stream of new ideas on products and processes.⁷⁰⁵ This initiative is one example of the forward-looking nature of the company, whereby any opportunity that could present itself would be seized and

⁷⁰⁰ Friedman, “John H. Patterson and the sales strategy”, p. 553.

⁷⁰¹ Nelson, “The new factory system “, pp. 166-167.

⁷⁰² Chance, “Consulting the genius of the plant” , p. 2.

⁷⁰³ Friedman, “John H. Patterson and the sales strategy”, pp. 566-567.

⁷⁰⁴ Nelson, “The new factory system “, p. 166.

⁷⁰⁵ Crowther, *John H. Patterson*, p. 172.

embraced by the business to maintain its market position.⁷⁰⁶ Other pioneering initiatives at NCR included the establishment of a successful suggestion scheme, which was cleverly introduced to turn the negativity of a “complaint” by employees into the positivity of a “suggestion”, supported by cash incentives.⁷⁰⁷ In 1901, the company created a Labour Department, which became the template of the later Personnel Departments, which brought together all the human issues which had been previously been distributed throughout the business, and dealt with on an *ad-hoc* and piecemeal fashion.⁷⁰⁸

A fully integrated costing system had also been incorporated as part of the policy of creating an efficient company and also providing Patterson with the control that he demanded. Indeed by the early 1920’s NCR were operating one of the most sophisticated budgetary control systems in the USA, enabling the company to “hold the post-mortem in advance”, which ensured centralised control over the co-ordination of activities.⁷⁰⁹

Thus, by his visit George Jnr. would have obtained a wealth of knowledge and experience from observing the operation of one of the most successful companies in the USA. Although a detailed report of his visit does not exist in the archives, a special Board Meeting was held at Bournville on his return in which the enthusiasm for the techniques by NCR was recorded and decisions were made by the Board to immediately adopt some of the welfare schemes, to introduce a suggestion scheme and to create a committee system to facilitate more efficient management.⁷¹⁰ In addition to these immediate actions, the overall managerial philosophy of the NCR business must have not only influenced George Jnr., but also the other three young managing directors at Cadbury.

In addition to George Jnr.’s visit to the National Cash Register in 1901, Henry S. Dennison, who was to become one of the most influential contributors to management thought, and eventual mentor to Seebohm Rowntree as previously discussed, also spent time at the NCR in 1900 to improve his own training and education. In his report, Dennison cast doubts on some of the more paternal practices

⁷⁰⁶ Ibid., p. 176.

⁷⁰⁷ Ibid., pp. 254-256.

⁷⁰⁸ Nelson, “The new factory system “, p. 176.

⁷⁰⁹ Fraine, “The cost accounting system”, pp. 25-27.

⁷¹⁰ Cadbury Brothers Ltd. Special Board Meeting, November 8th 1901.

employed by Patterson at the NCR, but he also reported his enthusiasm for the way that the company used “careful, thoughtful planning” in which they incorporated an extensive research and development programme to ensure their long-term viability and profitability. As part of this long-term vision at NCR, he also recognised the willingness of the company to invest a large proportion of its profits into plant and equipment with strategic intent. This seemed to contrast with the accepted economic view at the time of the maximisation of short-term profitability. He concluded that “the greatest lesson to be learnt from the NCR lies in a steady, gradual advance”. Following his visit, Dennison incorporated many of the NCR-style philosophies, practices and processes into his own company.⁷¹¹

Early Costing Activity

As already discussed, the Rowntree company had exhibited a range of costing practices, processes and procedures in the archive that were consistent, if not in advance of accepted theoretical and practical applications in the latter part of the nineteenth century, but the Cadbury archive is absent of such evidence. The evidence demonstrates that the development of costing at Rowntree’s during this period was promoted and driven by chairman Joseph Rowntree, this being one of his most important personal attributes and competencies that he employed after joining the business in 1869. The Cadbury example, however, suggests that the development of the business during the latter part of the nineteenth century, had more to do with the two original Cadbury brothers, George Snr. and Richard making crucial strategic decisions, which laid the foundations for success in the twentieth century, rather than the ability to control the company via costing systems. However, this is not to say that costing processes were completely absent at Cadbury during this time, but the only archival evidence that exists to this effect are references to the fact that all costing work was carried out personally by George Snr., usually after 6pm when he had carried out his normal duties as joint head of the company.⁷¹² So, rather than any formal cost reports being prepared and distributed to other key managers, it appears

⁷¹¹ Bruce, “Activist management”, pp. 49-51.

⁷¹² *Bournville Works Magazine*. March 1941, p. 62.

that George Snr. merely carried out all his costing work in a relatively basic way, in his own personal notebook.⁷¹³

5.3 Beginnings: 1903-1918

Organisational Context

The seismic changes that occurred at the company following the untimely death of Richard Cadbury in 1899, were most apparent in the way that the business was structured and managed following the appointment of the four younger Cadbury brothers as joint managing directors following incorporation into a private limited company during the same year. The changes in organisation that eventually occurred came about through a realisation that there had to be in place a process for the effective delegation of managerial duties, whilst still maintaining final responsibility with the four new managing directors. This was achieved firstly by the creation of specialised functional departments; secondly by introducing a management committee system that had been observed at the National Cash Register; and thirdly, by recognising and establishing specific roles for “managers”.⁷¹⁴

Evidence of the practical introduction of these changes can be seen in the creation of some of these new functional departments: Engineers (1900), Chemists (1901), Cost Office (1903), Advertising (1905) and Planning (1913).⁷¹⁵ These new departments were accompanied by specialised management committees designed to coordinate the activities of these new functions, primarily to ensure the communication of the overall policy of the company. This had the principal goal of directing effort into the overriding corporate objectives.⁷¹⁶

In addition to these functional committees, others were also established including the Suggestions Committee (1902), founded to administrate the new suggestions scheme, as derived from the National Cash Register example, and importantly the Men’s Works Committee (1905) and the Girl’s Works Committee (1905). These were important in the devolution of responsibility to a more democratic footing designed to

⁷¹³ *Bournville Works Magazine*, September 1933, p. 286.

⁷¹⁴ Williams, *The firm of Cadbury*, p. 83.

⁷¹⁵ Horrocks, “Consuming science”, p. 104.

⁷¹⁶ Cadbury, *Experiments in Industrial Organisation*, pp. 200-201.

shift the emphasis from what had been traditionally one of personal control prior to 1899, to that described as “associated control”.⁷¹⁷

Whilst providing practical evidence of a desire by the new management team to introduce wide ranging changes to the organisational structure and associated lines of communication, the specific example of the management committee system has been criticised as being slow and cumbersome, although it was acknowledged that the easing of conflict, the construction of loyalty and the importance of a team approach were also beneficial.⁷¹⁸

The final innovation as part of the overall scheme to improve the organisational structure was the establishment of a new “Staff” grade in 1904, created to recognise the importance of junior managers. This new grade was in addition to the established role of the traditional foreman, but was to receive extended status and privileges.⁷¹⁹

The Establishment of the Cost Office

As previously argued, the decision to establish a functional cost office at Cadbury was one of the key organisational changes that occurred following its 1899 incorporation into a private limited company. Also, as previously suggested the motivation for the decision could have come from influences drawn from successful businesses elsewhere which had already introduced cost systems with favourable results, but also in the realisation that the development of the firm into a complex mass-producer required a proficient cost control capability. Therefore, the inefficient method of George Cadbury Snr. independently calculating *ad hoc* costs and the subsequent fixing of prices in the years prior to 1899 had to be replaced. Indeed, commentating in later years, William Cadbury expressed his astonishment that the business had survived during the period 1861-99 for so long without more dedicated costing processes and procedures in place.⁷²⁰ Upon the introduction of the new management structure, George Snr., took the opportunity to devolve his previous sole responsibility for all costing matters to Edward. This was formally requested at a board meeting:

⁷¹⁷ Cadbury, E. *Bournville Works Magazine*, March 1924, p. 73.

⁷¹⁸ Delheim, “The creation of a company culture”, p. 23 and Smith, C., Child, J. and Rowlinson, M. *Reshaping Work*, p. 72.

⁷¹⁹ Cadbury, E. *Bournville Works Magazine*, March, 1924, p. 74.

⁷²⁰ *Bournville Works Magazine*. September 1933, p. 286.

“Cost Department – This subject has been considered and Edward Cadbury is requested to submit a scheme for systematically getting all the costs of all new goods and of all present lines on the price list”⁷²¹

Realising that he was not fully conversant with the techniques and practices of costing, Edward Cadbury sought the skills of a more experienced professional. Through the Quaker business network in Birmingham, A.E. Cater was recommended to Edward. Cater had been working as an estimator with the local printing firm of White & Pike, which had recently closed in 1903 as a result of a fire at their premises in Longbridge.⁷²²

Edward subsequently interviewed A.E. Cater, and was suitably impressed, offering him the position of Cost Accountant on a salary of £10 per month.⁷²³ Having thus created a cost office headed by a suitably qualified and experienced manager, Edward Cadbury wanted to ensure that the terms of reference of the new function were established and made clear to the rest of the company. Right from the outset, it was important that the cost office was the central repository of production and factory information, and its official custodian. This important presumption was identified and ratified at board level:

“The cost office is to be a centre to which all information should come first hand, together with signed authority of all instructions affecting the following:-

1. Recipes for all goods and the process for their manufacture
2. Weights and sizes for all goods made.
3. Methods of packing, style of box and details of materials used in making and filling same.
4. The keeping up-to-date of piece rates and buying prices and discounts as embodied in the cost cards.

The duties of the one appointed by the Firm for this purpose to be the collecting and filing of information received through the Board, of Directors and to notify to the proper quarter such information. A. Cater to undertake these duties”.⁷²⁴

⁷²¹ Cadbury Brothers Ltd. Board Meeting September 22nd 1903, m. 641.

⁷²² Founder William White (1820-1900) was a prominent Quaker and Liberal mayor of Birmingham in 1892, whilst Cornelius Pike had died in 1869, and was replaced by Frederic Impey, himself related to a partner in the leading Birmingham Accounting firm of Cusworth, Impey & Co (Rowntree auditors). Following the closure of White & Pike, the Longbridge site was purchased in 1906 by Herbert Austin, where motor car manufacture eventually commenced.

⁷²³ Cadbury Brothers Ltd. Board Meeting September 29th 1903, m. 656; Cadbury Brothers Ltd. Board Meeting Oct. 6th 1903, m. 681; Cadbury Brothers Ltd. Board Meeting October 13th 1903, m. 694.

⁷²⁴ Cadbury Brothers Ltd. Board Meeting November 28th 1903.

Once established in his new role, Cater's first task was to make sense of the existing recording system. He found, for example, that recipes had been written up in penny memorandum books by various foremen, which meant the tracing of complex recipes was extremely difficult. This state of affairs was exacerbated by the fact that different recipes were called different names by the foremen, making for an element of confusion regarding the official factory records. Cater found that he had to start with the price list and work back methodically, step-by-step through each production department, identifying each stage of manufacture, then back to the issues of raw materials from store. Cater employed a card index system to achieve his goal and these were filed in the official company recipe book and became the source of all production requirements. The task took Cater two years to complete.⁷²⁵ Once finished the cost office was deemed the central source of official product data from which all departments were required to work. A system for the communication and instruction of any new products or changes to existing ones that were made had to be in the form of an official "Blue Note" from the cost office. Blue Notes eventually became synonymous with any reports or other communication that emanated from the cost office.

The elevation of the cost office as the fulcrum of production data caused some friction with existing personnel, and this animosity had to be overcome initially by a talk given by Cater to all the foremen, explaining the overall advantages that this system would eventually benefit everybody concerned. It is worth noting that this talk by Cater was also attended by William and Edward Cadbury to reinforce the notion that these new procedures had full board backing.⁷²⁶

In addition to the upkeep and provision of detailed source recipe information, it soon became clear that the first needs of a fully operational cost office was reliable data on the company's expenditure, and information about its workers activities. Upon his appointment, Cater was unimpressed by the factory records necessary to carry out the functions of the cost office. The processes that were required to achieve a robust records system began with the examination of all purchase invoices to extract detailed information such as price, full detailed particulars and the purpose to which intended. This led to the establishment of a requisitioning system, a central receiving deck,

⁷²⁵ *Bournville Works Magazine*. March 1941, p. 62.

⁷²⁶ *Bournville Works Magazine*. March 1941, p. 62.

stores, storekeepers, official stock running-out lists, stock control and the creation of check-weighers to ensure accurate measurement of work-in-progress from one manufacturing department to another. These progressive measures were essential if Cadbury was to establish a capability in costing and the extensive nature of what was achieved in these early years is noted by the company.⁷²⁷ Having established the organisational basis for creating flows of information, the board felt that the foundations were now in place for a cost system to be established, and subsequently sanctioned the next phase for the cost office:

“The question of the inauguration of a complete cost system has been considered and the Directors approve the proposed arrangement”.⁷²⁸

“A systematic method of cost finding and cost keeping to be introduced based on the provision of:

- Invoices for materials supplied to cost office by buying office.
- Records of materials requested from stock.
- Stock-taking to be carried out by both cost office and buying office.⁷²⁹

Once the processes of recording and measuring materials in the factory was established, the cost office then proceeded to coordinate with the wages office regarding the compilation of labour costs. The weekly records of the payment of wages to each worker was sent to the cost office, grouped in departments, combined with a weekly time-sheet stating the work and operations performed. These wage costs of all operations were then analysed and a labour cost for each department together with each product line could be then calculated.⁷³⁰

In addition to the compilation of the direct production costs, emphasis was also placed on the apportionment and allocation of indirect production costs such as heating, lighting, power, refrigeration and other factory services.⁷³¹ Finally the cost office also recognised that the other overheads of the company such as distribution, selling, advertising and administration costs had also to be taken into account and

⁷²⁷ *Bournville Works Magazine*. Sept. 1933, p. 285.

⁷²⁸ Cadbury Brothers Ltd. Board Meeting September 12th. 1905, m. 705.

⁷²⁹ Cadbury Brothers Ltd. Board Meeting October 3rd. 1905, m. 754.

⁷³⁰ *Bournville Works Magazine*. September 1933, p. 285.

⁷³¹ *Ibid.*, p. 286.

allocated appropriately. It was conceded, however, that this was particularly difficult to deal with in a scientific way.⁷³²

Growing interest in the work of the cost office by senior managers at the company was exemplified by the debate on the scope of the department at board level in which the information that was provide needed to be controlled:

“It is agreed that all costs from the cost office to provide particulars at the special authorisation of a director.”⁷³³

“It is agreed that reports on specific departments by the cost office are to be sent in duplicate to the department concerned and also to the director specifically interested.”⁷³⁴

The board also recognised that the growing scope of the cost office meant that they would increasingly require access to information throughout the business:

“Departments are authorised to supply total figures to the cost office as and when required”⁷³⁵

By 1907, therefore, the cost office was clearly established as a key processor and supplier of relevant information that would inform the decision making at the company, and importantly there appeared to be full support of its operations by the board, thereby opening up the potential that was already evident.

Formalising Costing Procedures

Initially, the principal objective of the cost office was the compilation and provision of cost data relating to individual lines that appeared on the company’s price list, which were reviewed daily by Edward Cadbury and were in continual preparation. The price list was therefore under constant examination in which no line sold could escape a detailed scrutiny of its profit-earning capacity.⁷³⁶

In addition to the work being carried out during these early years by the cost office in establishing procedures for the collection of data regarding internal manufacturing processes, Figure 5.2 illustrates a section of a report that was also produced at this time in which a comparison against major competitors was made of the percentage of

⁷³² Ibid., p. 286.

⁷³³ Cadbury Brothers Ltd. Board Meeting. January 9th 1906, m. 38.

⁷³⁴ Cadbury Brothers Ltd. Board Meeting February 13th 1906, m. 127.

⁷³⁵ Cadbury Brothers Ltd. Board Meeting September 3rd 1907, m. 548.

⁷³⁶ *Bournville Works Magazine*. September 1933, p. 286.

profit on fancy boxes enjoyed by the trade (later known as “trade margin”). The conclusion drawn from the analysis was that it was consistent that for Cadbury, Rowntree and Fry, the wholesale trade made better margins. This work was presumably requested by a director and was an early example of the company widening the scope of cost information to include what was to be referred to as “distribution costing”, and demonstrates the realisation by Cadbury that costs that affected overall profitability extended beyond the factory gates. This knowledge was to become an important facet of their ability to understand the complete value chain in later years.⁷³⁷

Table 5.2 Comparison of percentage of profit made by the trade on fancy boxes.

Price Point of Box	Cadbury				Rowntree & Co.				J.S. Fry & Co.			
	Sold at Wholesaler	Sold at Retailer	% Profit at Wholesaler	% Profit at Retailer	Sold at Wholesaler	Sold at Retailer	% Profit at Wholesaler	% Profit at Retailer	Sold at Wholesaler	Sold at Retailer	% Profit at Wholesaler	% Profit at Retailer
2/6d.	20/- dozen	21/6 dozen	33.33%	28.33%	19/11 dozen	20/10 dozen	33.33%	30.33%	19/11 dozen	21/10 dozen	33.50%	27.10%

Source: Cadbury Brothers Ltd. Board Meeting. June 21st. 1904, m. 413.

However, the main concern of the cost office was the understanding and measurement of the production processes within the factory production departments. The growing emphasis on the creation of an efficient plant was evident in the identification by the cost office of the problem of waste. One of the important elements of this was the loss of weight of materials in storage. To address this, the cost office debited each production department with the weight of materials inward, and credited with weight outwards. Another example was the recognition that loss was incurred by the margin of “overweight” as a direct consequence of the fact that the majority of the firm’s product lines were sold by weight. Therefore, to guarantee the advertised weight of each product to the consumer, they were originally manufactured at a weight appreciably higher. However, the cost office calculated the

⁷³⁷ Cadbury Brothers Ltd. Board Meeting June 21st. 1904, m. 413.

product overweight element and subsequently incorporated it into the final product cost, thereby drawing inefficiencies to the attention of management.⁷³⁸

Further evidence of the growing importance of the cost office and the information it could provide, was reflected in the additional manpower allocated to this office with the appointment of new staff, some of whom were external to the company.⁷³⁹ Towards the end of 1907 there was recognition by the board that the activities of the cost office be extended in which information was to be prepared in connection with questions arising on both the selling and production sides to provide a more comprehensive service to management.⁷⁴⁰ These additional responsibilities for the cost office and the ensuing onerous workload placed upon it was also quickly recognised by the board by the approval of the purchase of mechanical adding machines at a cost of £90 to facilitate a more efficient service.⁷⁴¹

Evidence of the problems associated with the workload in the cost office are demonstrated in comments made in a report by the company's auditors in which they state:

“There are problems regarding the analysis of purchases in the buying office, so better links with the cost office are required, but it is recognised that the limited time available by A. Cater has prevented this.”⁷⁴²

At around this time the board decided to appoint a second-in-command to A. Cater, the cost office manager, in an attempt to alleviate the obvious workload issues that were existing in the cost office. The person appointed, was R.R. Sly, who quickly began to contribute to the output of the cost office.⁷⁴³

The additional resources that had been allocated to the cost office meant that the scope of their work could be extended. An early example of this is provided by the analysis of the comparative costs associated with the proposed mechanisation of the 'snip cutting' operation employed within the factory. The cost comparison project was commissioned by Edward Cadbury and is evidence of the desire by the board to identify those areas in the company where suggestions for cost savings could be

⁷³⁸ *Bournville Works Magazine*. September 1933, p. 285.

⁷³⁹ Cadbury Brothers Ltd. Board Meeting October 29th 1906, m. 413.

⁷⁴⁰ Cadbury Brothers Ltd. Board Meeting October 1st. 1907 1907, m. 599.

⁷⁴¹ Cadbury Brothers Ltd. Board Meeting September 22nd. 1908, m. 543.

⁷⁴² Audit Report. Sept. 30th 1909. Arthur Chapman & Co. Chartered Accountants.

⁷⁴³ Cadbury Brothers Ltd. Board Meeting June 8th 1909, m. 332.

made. The analysis prepared by Sly of the projected savings of the snip cutting operation was probably one of his first important tasks upon his appointment as assistant cost office manager.⁷⁴⁴ Appendix 3 provides the original documentation of this project and although the annual cost savings suggested were a modest £383 per annum, it does confirm the level of co-operation that must have existed between the cost office and the engineering and research departments as identified by Horrocks.⁷⁴⁵

Apart from these specific projects on cost savings through mechanisation and other schemes, the cost office became responsible for the provision of additional routine factory information. For example, Appendix 4 demonstrates a 1910 analysis undertaken in the measurement of the proportion of sugar to glucose within each production department, combined with some explanation of any significant recent movements. The fact that this analysis also includes a comparison to previous years going back to 1907 indicates that this had become routine information provided to the board and other managers.

The widening activities and importance of the cost office during these years is described by Lawrence Cadbury, another younger son of George Snr., who had also recently joined the firm as a trainee in much the same way as his elder brothers and nephews had previously done. In this report, Lawrence Cadbury made the following observations:

“On entering the works I spent my first few days in trying to grasp the general organisation and methods of management employed. For this purpose I found that the cost office is a very convenient centre, as it forms a link between all the various processes and trades, explaining the value of each, and shows how every step in the manufacture contributes to the final cost of the finished article”.⁷⁴⁶

Lawrence Cadbury’s interest in the central role of the cost office meant that upon the completion of his training period the following year, he was duly elected to the board and it was agreed that the cost office would form part of his portfolio of responsibilities within the firm.⁷⁴⁷ He remained there until the outbreak of the Great War when he volunteered for the Friends Ambulance Service, where he served until demobilization in 1919, after which he was awarded the Order of the British Empire

⁷⁴⁴ Cadbury Brothers Ltd. Memo A.Cater to the Board, July 8th 1909. CO/A/16.

⁷⁴⁵ Horrocks, “Consuming science”, p. 117.

⁷⁴⁶ Cadbury Brothers Ltd. Board Meeting January 12th 1912, m. 53.

⁷⁴⁷ Cadbury Brothers Ltd. Board Meeting January 28th 1914, m. 83.

by the British government and the *Croix-de-Guerre* by the French government for his contribution to the war effort.

The increasing workload and responsibility of the cost office in the years prior to the Great War is provided in Appendix 5, where the department appeared to have taken over the responsibility for the calculation of the value of machinery, plant and equipment within the factory for 1913 including the appropriation of the relevant depreciation charges. Again, the cost office provided additional value to this report in the provision of values for the previous two years to provide appropriate comparison of movements.

Evidence of interest in activities outside production areas, where control was also becoming a necessity is provided by a board request of Cater to investigate and submit an analysis of selling costs.⁷⁴⁸ This work by Cater was extended the following year to include an analysis of research work carried out within the business. Following this report by Cater the board decided that:

“It is agreed that under normal conditions we should look to spend up to £10,000 per annum in respect of research and experimental work”⁷⁴⁹

So even during the abnormal conditions created by the Great War, Cadbury were constantly enquiring which elements of the business gave cause for concern, and how the cost office could use their expertise in the provision of such information.

Early Quest for Efficiency

The principles of scientific management and the associated emphasis on efficiency became a central pillar of Cadbury’s in the years prior to the outbreak of the Great War. Indeed, Rowlinson and Hassard concluded that scientific management was an integral part of the construction and establishment of the company’s overall labour-management institutions, along with the Bournville village, welfare provision, sexual division of labour and the works council scheme.⁷⁵⁰

The principles of scientific management were attractive to Edward Cadbury because they provided a mechanism by which efficiency could be achieved. Indeed writing in

⁷⁴⁸ Cadbury Brothers Ltd. Board Meeting March 4th 1914, m. 181.

⁷⁴⁹ Cadbury Brothers Ltd. Board Meeting December 18th 1915, m. 879.

⁷⁵⁰ Rowlinson and Hassard, “An invention of corporate culture”, pp. 311-312.

1912, he attributed the continuous growth of the company to the attention to efficiency, specifically in the elimination of waste and the resulting reduction of costs within each production department.⁷⁵¹ He placed the benefits from efficiency within the context of foreign competition, and to the wider social community.⁷⁵² However, in his critical study of the application of scientific management at the company, Rowlinson made the point that whilst Edward Cadbury was sympathetic to the overriding principles, he attempted to modify the detailed mechanics of application to ensure that the social principles of the firm were not compromised.⁷⁵³ However, Rowlinson has also described the lengths that Edward Cadbury was prepared to go in order to achieve an efficient workforce by the introduction of piecework payment systems, combined with a systematic approach to labour management.⁷⁵⁴ Rowlinson concluded that whilst Edward Cadbury was a strong advocate of the introduction of machinery wherever possible, during the period 1901-1914, the output of the Bournville factory increased without excessive mechanisation, mainly as a consequence of the introduction of piecework systems.⁷⁵⁵

Specific evidence of Cadbury's interest in efficiency has already been identified in the role of the cost office in supplying cost savings data regarding the 'snip-cutting' mechanisation proposal as early as 1909. Based on this apparent success in the practical application of analysis to enable efficiency, the company decided in 1912 to involve an American firm of accountants and engineers to assist in further efficiency-based projects. The reasons why New York based Suffern & Sons were chosen are unclear:

“It has been agreed to engage the services of Suffern & Son, an American firm of business experts in regard to the unloaders gang, covering operations from train to store, at a fee of 125 guineas with the provision that they should be excluded from all manufacturing departments. The cost department is to liaise fully with Sufferns.”⁷⁵⁶

Prior to their contract with Cadbury, Suffern & Sons had been aggressively marketing their services to companies in the United States and were subsequently hired in early

⁷⁵¹ Cadbury, *Experiments in Industrial Organization*, p. xviii.

⁷⁵² *Ibid.*, pp. xix-xx.

⁷⁵³ Rowlinson, “The early application of scientific management”, p. 385.

⁷⁵⁴ *Ibid.*, pp. 378-383.

⁷⁵⁵ *Ibid.*, p. 382.

⁷⁵⁶ Cadbury Brothers Ltd. Board Meeting September 24th 1912, m. 724.

1912 by Lukens Steel in Pennsylvania to introduce new wage-incentive systems designed to improve efficiencies in the plant. Before the contract had been signed, the projected savings quoted by Sufferns as part of their original sales pitch were to be approximately £20,000 per annum. However, after the project was completed in 1913, these planned savings were not realised. Indeed, Lukens realised that the actual savings achieved would not cover the fees charged by Sufferns, resulting in their refusal to pay the Suffern's invoice for the work. Legal action ensued, and it is claimed that these disputes became common as the many companies who were seduced by the promised savings offered by efficiency consultants, became disillusioned when these were not realised.⁷⁵⁷ Similarly, the Whitin Machine Works Co. based in Whitinsville Massachusetts also hired Sufferns to carry out a range of efficiency projects led by senior consultant Charles Knoepfel at their works during 1912. Like the Lukens Steel example, the senior management at Whitin's were less than impressed at the results produced by the Sufferns consultants, claiming that the fees charged barely covered the efficiency savings generated, as was the case with Lukens Steel.⁷⁵⁸ It is however interesting to note that Whitin's later hired Knoepfel in 1914 to carry out further work at the factory after he had set up his own efficiency consulting practice.⁷⁵⁹ Perhaps the reasons that Suffern & Sons were hired by Cadbury was as a result of a similar targeted marketing campaign at UK businesses by the firm, who were obviously keen to expand their practice overseas. An alternative speculative view is that a director of the company might have been familiar with senior partner Ernest Suffern's contribution to the literature of 1911.⁷⁶⁰

For whatever reason, Sufferns & Sons were indeed granted a contract to assist in the specific area of the business that the board felt required immediate attention, and in collaboration with the cost office produced the results of the study:

“A proposal for the introduction of piecework in the Unloaders Gang, with the assistance of J.F. Whiteford of Suffern & Sons, as the irregularity of the flow of materials into the factory is one of our chief difficulties. The cost office has produced a summary of this work”⁷⁶¹

⁷⁵⁷ McKenna, *The World's Newest Profession*, pp. 52-56.

⁷⁵⁸ Navin, *The Whitin Machine Works since 1831*, pp. 319-320.

⁷⁵⁹ *Ibid.*, p. 320.

⁷⁶⁰ Suffern, *Determining Profits and Values*.

⁷⁶¹ Cadbury Brothers Ltd. Board Meeting November 19th 1913, m. 828.

Table 5.3 Comparison of Unloaders Labour Cost – Before and after Reorganisation

Line	1912 Average for Year – Before Reorganisation	1912 3 rd . Quarter Before Reorganisation	3 rd . Quarter After Reorganisation
Cocoa Bonded Stores	0.76d. per bag	0.94d. per bag	0.46d. per bag
Cocoa Front Stores	0.68d. per bag	0.80d. per bag	0.44d. per bag
Timber to Mills	15.65d. per ton	17.86d. per ton	11.52d. per ton
Tinplate	14.52d. per ton	16.49d. per ton	13.47d. per ton

Source: Works Organisation Report. November 18th 1913. J.E. Bellows⁷⁶²

“This converts to approximately £600 per annum savings, and in addition also provides savings in overheads due to reduction in gang of 20 men, and this means a saving in clerical work for the new system”⁷⁶³

Based on this experience, Cadbury appear to have benefitted from the assistance of a firm of efficiency consultants. Indeed, the specific consultant assigned to the Cadbury contract by Suffern’s (J.F. Whiteford) would later contribute to the literature,⁷⁶⁴ based on his practical experience as a consultant. It is interesting to note that in his book, Whiteford extolled the virtues of cost finding as a pre-requisite in establishing efficiency, but went further by suggesting a form of standard costing to be introduced to which actual results could then be compared and subsequent comparisons made.⁷⁶⁵ Despite Whiteford’s knowledge regarding the potential of standard costs to a business, there is no evidence that managers at Cadbury were being advised on such technical matters. Moreover, as will be later discussed, Cadbury did not have in place a standard costing system prior to the outbreak of World War II.

In addition to the advisory capacity provided by Suffern’s regarding the implementation of efficiency programmes at Bournville, and despite the disruption caused by the onset of the Great War, Cadbury’s decided to hire the services of H. Casson in 1917 to provide education and training to inform employees on the topic of

⁷⁶² Cadbury Brothers Ltd. Works Organisation Report. November 18th 1913. J.E. Bellows .

⁷⁶³ Ibid.

⁷⁶⁴ Whiteford, *Factory Management Wastes*.

⁷⁶⁵ Ibid., p. 140.

efficiency within the Bournville works. This initiative by the company was part of an overall plan in anticipation of a world after the eventual cessation of hostilities.⁷⁶⁶

H. Casson was a prominent exponent of scientific management and efficiency, having been employed as a consultant by Harrington Emerson in the USA since 1906, initially working on railroad associated projects.⁷⁶⁷ In his 1917 book, Casson claimed that his was the first publication in the UK on the subject of scientific management, being a compendium of articles that first appeared in the *Efficiency Magazine*.⁷⁶⁸ The contribution that Casson claimed was that he offered an alternative approach to scientific management from the accepted American principles. He advocated what he described as a “British” way; a methodology that was more suited to the UK, based on staff training, corporation, explanation, goodwill and conciliation. In other words rather than forcing the techniques on a workforce as a top-down exercise, Casson’s approach was to educate employees on the overall benefits of efficient working thereby creating a willingness to embrace and accept new practices. This he claimed would increase output, wages, dividends and goodwill.⁷⁶⁹ Indeed, Casson’s overriding definition of efficiency was simply , “A higher percentage of results.”⁷⁷⁰ Although Casson warned of a three year time-frame that was usually required before total efficiency in a factory could be achieved⁷⁷¹, the ensuing results would be in the reduction of costs, the increase in profits and the reduction of the selling price of the article.⁷⁷²

It is reasonable to assume that board members at Cadbury were familiar with Casson’s book, and also his reputation, particularly his previous association with Harrington Emerson, and this influenced their invitation to invite him as training facilitator at the Bournville works. In addition, Casson also mentioned the fact that he had known J.E. Whiteford (of Suffern & Sons) for some time, so there appeared to have been a network of efficiency consultants sharing knowledge and contacts.⁷⁷³

⁷⁶⁶ *Bournville Works Magazine*. December 1917, p. 300.

⁷⁶⁷ Casson, *Factory Efficiency*, p. 22.

⁷⁶⁸ *Ibid.*, p. 9.

⁷⁶⁹ *Ibid.*, pp. 10-11.

⁷⁷⁰ *Ibid.*, p. 70.

⁷⁷¹ *Ibid.*, p. 73.

⁷⁷² *Ibid.*, p. 119.

⁷⁷³ *Bournville Works Magazine*. December 1917, p. 300.

George Cadbury Jnr. presided over Casson's six lectures spread over a period of three months given to:⁷⁷⁴

1. Sales
2. Works Managers
3. Foremen 'A'
4. Forewomen 'A'
5. Foremen 'B'
6. Forewomen 'B'

In these lectures Casson emphasises the over-riding aims of a business:⁷⁷⁵

1. To build up a business.
2. To build up ourselves.
3. To increase the profits and wages.
4. To decrease costs and benefit customers.

Part of his lectures, published after their completion in the factory, Casson made the point that although efficiency and scientific management embraced the whole factory, it is the cost accounting system which enabled measurement to be made, although conceding the important point that such a system cannot by itself ensure that efficiency is achieved.⁷⁷⁶

This approach by Casson was consistent with the Cadbury philosophy of engagement and consultation with the employees, together with the realisation that fundamental change could only occur through cooperation and consensus. Also the message reinforced the wisdom of the decision to create and fully resource a cost office within the company back in 1903, without which the results and extent of any efficiency could not be measured and identified.

5.4 Progress: 1919-1938

Further Quest for Efficiency

The strength of the Cadbury board's concern for efficiency, and how this permeated throughout the organisation, is illustrated by the publication in 1919 of a standard

⁷⁷⁴ Ibid.

⁷⁷⁵ Ibid., p. 301.

⁷⁷⁶ *Bournville Works Magazine*. Feb. 1918, p. 45.

work on payment systems by J.E. Prosser, an employee in Cadbury's Works Organisation Department.⁷⁷⁷ In this book Prosser described in detail the procedures, advantages and disadvantages of each of the existing wage payment systems that were in operation, both in the UK and the USA: Time-Wage, Piece Wage, Halsey Premium, Rowan Premium, Cost Premium and Differential Piece Rate. In his description of each payment practice, Prosser continually made reference to the principles of scientific management and how each one supports the quest for efficiency, thereby making their introduction potentially beneficial to both workers, in terms of higher wages and also for management in terms of lower unit cost. In the preparation of his book, Prosser cited all the leading contributors to the literature including A. Hamilton Church, E.H. Schell, E.T. Elbourne, D.F. Schloss, D. Rowan, F.E. Webner and H.L. Gantt. Describing the overall consequences of a scientific management approach to wage payment systems, Prosser claimed that under the old methodology the control of production was left in the hands of employees, a direct consequence of an absence of rigid standards, especially of output. Consequently, management were incapable of detecting any losses of output.⁷⁷⁸ However, Prosser was keen to point out that under a more scientific approach, managers had for the first time a mechanism for having foreknowledge of labour and associated overhead costs, one of the key building blocks of a budgetary control system.⁷⁷⁹ In the Cadbury official review of Prosser's book, the company claimed that his experience of working in the works organisation department at Bournville provided the perfect background necessary for this important contribution to the literature. The reviewer also made the point that the book also focused on the ability to trace the effect on the part of the employee as reflected in the decreased wages cost per week combined with the tracking of the additional savings on overheads following such effort.⁷⁸⁰

The experience of the Great War prompted Cadbury to seek a more consultative and cooperative attitude amongst manufacturers, as a way of attempting to create a new world order following the Armistice:

⁷⁷⁷ Prosser, *Piece-Rate, Premium and Bonus*.

⁷⁷⁸ *Ibid.*, p. 72.

⁷⁷⁹ *Ibid.*, p. 71.

⁷⁸⁰ *Bournville Works Magazine*. November 1919, p. 258.

“Manufacturers in this country, if they are to hold their own in the face of international competition that will follow the war, whether immediately or after a few years, must cease to act as isolated units, and cooperate in research, in organisation and probably in buying and selling.”⁷⁸¹

Indeed as Delheim⁷⁸² observed, this belief was in line with the accepted notion by the establishment in which society, after reconstruction, would be based on cooperation, goodwill and communal service. However, as Delheim went on to say, the stark reality of a post-1918 world of labour unrest and recession meant that these ideals were quickly abandoned.⁷⁸³

One of the key lessons that Cadbury’s learned from their war-time experience was the fundamental importance of taking advantage of the advances in mass-production techniques that had been developed to meet the demands of the war effort. From this realisation, Cadbury’s concluded that efficiency in production was the foundation of competitive power, based on the reduction of manufacturing costs due to the further development of mechanisation.⁷⁸⁴ This philosophy was also augmented by the belief that for such a policy to work, then the number of products available to the consumer would have to be reduced. The practicalities of this were published within the organisation in 1925 under the general title of “Simplification”:

“Simplification means enquiring whether any multiplicity of products can be reduced without in any way curtailing the efficient response of supply to the demand of the public. This means the prevention of an unnecessarily wide range of similar items.”⁷⁸⁵

The organisational competence that was the foundation of this strategy was the formulation of a capability rooted in the establishment of research and development activities, combined with engineering expertise and outputs measured by the cost office. However, the specific requirement for Cadbury was not to establish a lead in areas of technological discovery, but to build upon and improve existing knowledge. Projects were therefore chosen which would provide a steady conveyor-belt of improvements in efficiency, resulting in the measurable lowering of cost. This would

⁷⁸¹ Cadbury Brothers Ltd. Directors’ Annual Statement 1917. 10th July 1918.

⁷⁸² Delheim, “The creation of a company culture”, p. 37.

⁷⁸³ Ibid., p. 38.

⁷⁸⁴ Cadbury Bros., *Industrial Record 1919-39*, p. 17.

⁷⁸⁵ Cadbury Brothers Ltd. Report on Simplification by P.B. Redmayne and R.G. Soothill. 4th December 1925.

mean that even if sales were static, profits would steadily increase.⁷⁸⁶ The collaboration that was necessary to achieve this capability was the establishment of the Research Committee in 1911, the conduit by which flows of information would pass, and was gradually improved and developed over the years following inception.⁷⁸⁷

The practical plans put into place which delivered the efficiencies craved by the company were based upon the realisation that by 1919 the “new” factory at Bournville, built in 1879, was no longer capable of providing the infrastructure from which savings could accrue. Investment was therefore made in the factory which could cope with any future increases in volume, and specifically the replacement of older buildings with multi-story ones to facilitate the power of gravity in the movement of materials or finished goods throughout the different departments, thereby creating space for the installation of long lines of machinery necessary for mass production.⁷⁸⁸

Decisions regarding the initial choosing of new machinery, and its subsequent efficient layout, was taken by the aforementioned Research Committee, whose overriding consideration in their deliberations was the primary objective of lowering costs, without compromising product quality.⁷⁸⁹ Therefore in the quest for the optimum level and type of mechanisation that would be required to deliver these objectives, an extensive fact-finding mission to visit the key confectionery machine manufacturers in continental Europe was planned. As part of this initiative that was arranged by A. Boughall and R. Waudby between October and November 1919, visits to the premises of Gabel, Petzholdt, Hansell, Gebruder-Bindler, Franke, Bauerminster and Passburg were undertaken and technical information regarding refiners, melangeurs, conches, tempering machines, mould fillers and shaking machines was obtained for consideration by Cadbury’s management back at Bournville.⁷⁹⁰

⁷⁸⁶ Horrocks, “Consuming science”, p. 115.

⁷⁸⁷ Ibid.

⁷⁸⁸ Cadbury Bros., *Industrial Record 1919-39*, p. 20.

⁷⁸⁹ Horrocks, “Consuming science”, p. 116.

⁷⁹⁰ Cadbury Brothers Ltd. Report on Continental Trip 1919. December 12th, 1919.

Development of Costing Procedures

By the end of the Great War, Cadbury's had already accumulated fifteen years of experience in the operation of a dedicated cost office, and was deemed important enough for a delegation of Rowntree managers to visit the company in 1918 to provide the basis for the establishment of their own cost office, as described in chapter 4. The report by the Rowntree delegation upon the conclusion of their visit confirmed that the Cadbury cost office was staffed in 1918 by 33 clerks, costing approximately £2,500 per annum, a considerable investment by Cadbury, clearly indicating that they thought this necessary to obtain the information they required.

The Cadbury board decided to re-emphasise the role of the cost office within the organisation during 1919, and also to announce the promotion of cost office manager A. Cater to the board of Fry's, following the merger with Cadbury in 1918.⁷⁹¹ This promotion is evidence of the level of satisfaction that the board placed on the performance of Cater since his appointment as cost office manager in 1903. The board minute states:

“Cost Office Arrangements: A. Cater is to leave to join the Fry's board, replaced by R. Sly as cost office manager, and will represent the department on the Sales and Buying Committees. The cost office is responsible for recipes, issuing of blue notes, final costings and the fixing of selling prices”⁷⁹²

The replacement of Cater by Sly is also indicative of the confidence placed upon him by the board since his appointment as assistant to Cater in 1909, and perhaps also in recognition of his distinguished service as an officer in the Navy during the Great War.

A more detailed resume of the responsibilities of the cost office following the end of the Great War have been described as:

1. “Determination of price at which a line can be sold, in conjunction with sales, production and time office, taking into account expected volume, specification and method of manufacture.

⁷⁹¹ Cadbury and Fry merged in 1918 into a new holding company called the British Cocoa and Chocolate Company. At first thought to be an equal merger, the independent accountants valued Cadbury's assets three times those of Fry, thereby placing Cadbury as the dominant partner with Fry becoming effectively a subsidiary of Cadbury. Barrow Cadbury was subsequently elected as first chairman of the BCCC. (Cadbury, D., 2010, pp. 242-3).

⁷⁹² Cadbury Brothers Ltd. Board Meeting January 27th 1919, m. 82.

2. To monitor costs of each line to bring to light any variation caused by waste or unavoidable changes in cost. The effect on profitability to be calculated to determine whether selling price needs to change, or line to be discontinued from price list.
3. To act as a channel for the issue of instructions referred to as ‘Blue Notes’, which are the pre-requisite authority for the introduction of new lines, laying down standard processes, recipes and prices. This to be the system of canalising all instructions to ensure that no change can take place without bringing to bear the cost aspect. All ‘Blue Notes’ to have director approval, and should be consistent with policy”.⁷⁹³

The importance of the ‘Blue Notes’ cannot be over-emphasised: this was the mechanism by which individual projects were identified for consideration and the subsequent flow of information required for their assessment. The final element in the process of consideration was, of course, the financial impact based upon the work prepared and co-ordinated by the cost office. All of these procedures ensured that the cost office played a central role in the decision-making process, and that board policy was being operationalised.

With the *modus operandi* of the cost office firmly established and sanctioned by the board, further developments followed, including the formation of a joint costing/planning committee in 1919,⁷⁹⁴ and a request from the board that costs should be calculated and made available at each stage of manufacture.⁷⁹⁵

The uncertainty regarding prices of important raw materials during the years following the end of the Great War created unease within UK confectionery manufacturers; it was discussed extensively by Cadbury’s board, culminating in the following decisions regarding the basis for costing work:

“The board has decided the basis on which sugar and cocoa should now be costed and agreed the following rates until the end of 1920”:

- Sugar at 115/- per cwt.
- Cocoa at 85/- per cwt⁷⁹⁶

A measure of the extent of this raw material price volatility at this time is provided by a modification by the board later in the month to the prices already set:

⁷⁹³ Cadbury Bros., *Industrial Record 1919-39*, p. 14.

⁷⁹⁴ Cadbury Brothers Ltd. Board Meeting April 22nd 1919, m. 326.

⁷⁹⁵ Cadbury Brothers Ltd. Board Meeting July 9th 1919, m. 282.

⁷⁹⁶ Cadbury Brothers Ltd. Board Meeting September 8th 1920, m. 825.

“The board has agreed that the price of sugar to be costed until the end of 1920 at”:

- Sugar at 108/- per cwt.⁷⁹⁷

Notwithstanding these uncertainties surrounding raw material prices, the board were intent on driving forward their plans for the creation of a modern production facility at Bournville based on the key organisational goal of efficiency as previously outlined. The organisational changes required to plan, co-ordinate and control these changes were put into operation:

“Organisation of engineers, production and cost office:

The board have considered draft proposals for the planning of all engineering and building work for economical production before putting in hand. This scheme will involve the institution of a production section in the engineers office, the budgeting in advance of all maintenance work over definite periods and the estimating of all other work. Budgets and estimates are to be prepared by the estimating section of the engineers office with summaries of estimates and budgets and all cost returns are to be sent to the cost office. Proposals to be submitted to J.F. Whitehead (of Suffern & Sons) for his comments.”⁷⁹⁸

This decision was important because it effected flows of information necessary to realise the expansion plans and because it indicated the board recognised that estimating and budgeting was a way of understanding the financial impact of the plan. Once again the cost office was pivotal in the process because of their long-standing role as co-ordinators and as the central repository of cost and financial data. The continuing role of Suffern & Sons, and especially that of J.E. Whiteford, as management consultants was highlighted for their input into the decision-making process. However, the ideas that were being proposed fell considerably short of a comprehensive budgetary control system, and there is no record of the response by Whiteford to these suggestions.

Whilst the company decided to press ahead with its mechanisation schemes, there was some criticism of the way the Inland Revenue viewed the writing off of plant and equipment. The Cadbury objection to the rules centred around the fact that only wear and tear of machinery was taken into consideration, not the cost of replacement due to obsolescence. This they claimed fell short of the commercial realities of the necessity

⁷⁹⁷ Cadbury Brothers Ltd. Board Meeting September 22nd 1920, m. 862.

⁷⁹⁸ Cadbury Brothers Ltd. Board Meeting April 25th.1921, m. 405.

to keep plant and equipment up to the latest design and technology, and could deter firms from making appropriate investment.⁷⁹⁹

Evidence of a specific mechanisation project was the evaluation of the process of forming Maracas Biscuits in 1921 in which the appropriate ‘blue note’ shows the extent of the calculations that were carried out by the cost office as part of the overall evaluation of the proposal. Based on their analysis, the cost office concluded that the cost of production of this particular process could be reduced by approximately 50%, principally due to labour savings resulting from the replacement of seventeen girls by a man and two male youths.⁸⁰⁰

Plans for expansion and increased mechanisation at Cadbury came at a time of difficult trading conditions in the UK market, prompting the board in late 1921 to review its sales estimates for the following year:

“Basis of costing for 1922: In view of the depression in trade generally and in consequence of the reduction in prices, steps should be taken to alter the basis of costing for 1922, and shall be based on sales of 75% of the current year.”⁸⁰¹

This drastic re-calculation of the sales estimate would have had a profound effect on the allocation and absorption of the company’s overheads, resulting in a higher absorption rate based on the lower projected sales figure. At the same board meeting, the directors even considered the possibility of reducing the number of employees at the company:

“Reduction in numbers: A review of number of employees and to report on reducing numbers, but maintaining the highest level of efficiency”⁸⁰²

These debates at board level are indicative of the uncertainties of the period following the end of the Great War, highlighting the pressure surrounding decisions for expansion at the Bournville plant, which could have proved unwise.

In consideration of these uncertainties, Cadbury decided to form a finance committee in 1922, which would oversee and co-ordinate all the relevant financial considerations facing the company. Indeed, one of the matters that the newly formed

⁷⁹⁹ Cadbury Bros., *Industrial Record 1919-39*, p. 27.

⁸⁰⁰ Horrocks, “Consuming science”, p. 117.

⁸⁰¹ Cadbury Brothers Ltd. Board Meeting November 30th. 1921, m. 1071.

⁸⁰² Cadbury Brothers Ltd. Board Meeting November 30th. 1921, m. 1070.

finance committee had to consider was a technical issue centred around a debate that had first been discussed in the literature prior to the Great War. The principle relating to the treatment of interest on capital within an organisation's cost structure generated a fierce debate that had become the defining moment surrounding the growing differences of approach that had become obvious to financial accountants, concerned with the audit, and to cost accountants, concerned with ascertaining precise manufacturing benchmarks.⁸⁰³ A series of articles in the *Journal of Accountancy* led initially by Hamilton Church, a pioneer of cost accountancy, who argued that interest should be part of production costs because in order to manufacture a product, firms usually had to borrow money.⁸⁰⁴ This view was challenged by Sterrett⁸⁰⁵ and by Richards⁸⁰⁶ who claimed that this policy could simply be an easy way to artificially increase costs to be subsequently used by unscrupulous salesmen in negotiating higher selling prices or contracts. It was also claimed that it was unfair to charge interest on fixed capital to the product, but to omit it on floating working capital. However, the overwhelming argument against the inclusion of interest in production costs was the fact that these are used in the valuation of inventories for balance sheet purposes, and therefore would inflate this figure, something which auditors could not condone as part of their responsibility to external stakeholders.

The debate rumbled on, and in a later edition of the *Journal of Accountancy*, Edward Suffern (a senior partner in Suffern & Sons) in his capacity as a registered auditor, surprisingly argued both for and against the inclusion of interest in production costs, suggesting that it depends "very largely upon the conditions obtaining in each instance, the character of the business and the output and the uniformity or variations thereof. In other words: What is it you ought to know? Determining this, how should this knowledge be obtained?"⁸⁰⁷ This pragmatic view by Suffern was a reflection of the role and experience of his firm in advising manufacturing clients in a hands-on practical way. In the same journal Nicholson⁸⁰⁸, a leading contributor to the literature on cost accounting argued for its inclusion simply because in his opinion, it was a

⁸⁰³ McKenna, *The World's Newest Profession*, p. 40.

⁸⁰⁴ Hamilton Church, "On the inclusion of interest", p. 236.

⁸⁰⁵ Sterrett, "Interest is not part", p. 241.

⁸⁰⁶ Richards, "Interest is not a charge", p. 240.

⁸⁰⁷ Suffern, "Treatment of interest", p. 329.

⁸⁰⁸ Nicholson, "Interest should not be part of cost", p. 330.

legitimate business expense, whilst Joplin⁸⁰⁹ bemoaned the intrusion of the “cost engineer” in a field for which they were not properly qualified to comment. This obvious animosity between financial and cost accountants created by the schism regarding the treatment of interest led to the eventual bifurcation of the profession in 1919 resulting in the formation of the National Association of Cost Accountants (NACA) in the USA and the Institute of Cost and Works Accountants (ICWA) in the UK.⁸¹⁰

This important technical debate was also a topic of discussion at Cadbury, initially within the forum of the finance committee:

“The finance committee have considered the question of adding interest on capital to the cost of any product and recommend as a principle that no charge should be added, and should be excluded.”⁸¹¹

The implications of this decision by the finance committee was considered so important that it referred the matter to the main board for sanction:

“Interest on Capital: the board approves the recommendation of the finance committee that interest on capital should be excluded from costs.”⁸¹²

However, although this decision appeared to uphold the traditional view, there were strong concerns emanating from the cost office, subsequently expressed at the next meeting of the finance committee:

“A. Cater protests against the decision of the previous meeting of the committee, claiming it is a wise provision to do so, but this committee adheres to its previous decision claiming this is in line with appropriate costing conventions, and is referred to the joint costing committee.”⁸¹³

This over-ruling by the finance committee was an obvious disappointment for the cost office and its standing within the organisational hierarchy as an advisor to senior managers, but was accepted and continued to operate and report appropriately. However, this obvious difference of approach is a specific practical example of the growing independent thinking by cost accountants and their willingness to challenge

⁸⁰⁹ Joplin, “Interest does not enter”, p. 334.

⁸¹⁰ McKenna, *The World’s Newest Profession*, p. 41.

⁸¹¹ Cadbury Brothers Ltd. Finance Committee, September 18th. 1922, m. 30.

⁸¹² Cadbury Brothers Ltd. Board Meeting, September 22nd. 1922, m. 405.

⁸¹³ Cadbury Brothers Ltd. Finance Committee, October 20th. 1922, m. 38.

accepted conventions when they believed it was in the best interests of the organisation.

The continuing difficult trading conditions during 1922 prompted the board, and specifically Edward Cadbury, to consider the company's forward strategy, especially given the plans for expanding the capacity of the Bournville plant. A key decision that was taken during this time was perhaps a defining moment for the UK confectionery market during the inter-war period:

“The board authorises Edward Cadbury to base the costing of all milk chocolate lines on a basis of net profit of 7%, instead of the current 10%.”⁸¹⁴

Given the importance of milk chocolate lines to the company, this decision provided the cost office with re-defined profitability parameters, enabling these lines to bear selling price reductions in the marketplace. It was assumed that the effect of any price reductions would stimulate sales, thereby reversing the trend. Whilst this decision did provide a change to the profitability of some of the company's key lines, it also meant that the drive for efficiency within the company had a more urgent tone for the success of this strategy in the longer term. Indeed, this approach was extended later in the year to other lines on the Cadbury price list:

“The board approves new minimum net profits to be: Grade 1 Assortments = 12 ½ %
Grade 2 Assortments = 10%”⁸¹⁵

The die now appears to have been cast: the company had decided to follow a policy of high volume and lower prices, driven by the current and expected efficiencies within the factory based on appropriate labour management and mechanisation savings utilising information calculated and provided by the cost office. Indeed, an example of the growing level of the sophistication being adopted by the cost office was the recognition of waste within the factory and how this had to be accounted for in their calculations:

“Bournville have reported loss in plain chocolate as 1% in choc. Mill and 2% in moulding depts., and now agree to include this waste as an item of cost.”⁸¹⁶

⁸¹⁴ Cadbury Brothers Ltd. Board Meeting March 27th. 1922, m. 357.

⁸¹⁵ Cadbury Brothers Ltd. Board Meeting March 29th. 1922, m. 1143.

⁸¹⁶ Cadbury Brothers Ltd. Joint Costing Committee Annual Report 1923, m. 38a.

This is particularly relevant given the importance of the high volume chocolate lines to the business and the necessity to provide a realistic view of the processes within each factory department and how they impacted on cost.

The improvements and expansion in the factory and the way that existing lines on the price list, or indeed the consideration of potential new lines were evaluated in terms of profitability thresholds, became a technical issue that was raised by the cost office:

“Edward Cadbury raised the question of dealing with special expenditure incurred through reconstruction of different sections of the factory, which under the system of capitalisation in force, is charged entirely in the company’s accounts as revenue. It was pointed out that if such expenditure is charged to the particular department incurring it, it increases the % of overhead on wages to an abnormal extent thus prejudicing the introduction of new lines. It is therefore decided to change it to factory expenses, thereby spreading the cost over the whole factory.”⁸¹⁷

This is evidence of the cost office bringing to the attention of the board a cost accounting technicality which they felt could undermine the profitability of some lines, as a direct consequence of the conventions on allocation and apportionment of overheads, which were subsequently changed to accommodate this anomaly.

Following this decision, the whole topic of overheads in the company became a discussion point for the board, especially with the seemingly inexorable rise in terms of total expenditure:

“Edward Cadbury has arranged for the cost office to supply a detailed report covering the last three years of overhead charges, the total of which has risen considerably during 1924.”⁸¹⁸

This sudden request for this type of information from the cost office seems surprising as it would be reasonable to assume that this would have been routine reporting on a regular basis, but this appears not to have been the case and/or the information was being prepared but not acted upon. Either way, the emphasis on overheads had clearly become an area for greater focus. A report from the cost office was duly prepared as a response to the request by Edward Cadbury:

⁸¹⁷ Cadbury Brothers Ltd. Finance Committee February 11th.1924, m. 123.

⁸¹⁸ Cadbury Brothers Ltd. Finance Committee July 2nd. 1925, m. 218.

“A report from the cost office giving an analysis of overhead charges for 1923 and 1924 was considered and it was agreed to the cost office explanation of the various items”⁸¹⁹

Following this round of discussion regarding the topic of overhead expenditure, the subsequent minutes of the next finance committee meeting are illuminating:

“Following further investigation, the cost office have identified that the repainting of the factory was a significant overhead expense which was not properly authorised. Heads of departments are instructed to pay closer attention to the monthly reports provided by the cost office detailing overhead expenditure (Blue Statements).”⁸²⁰

This is evidence that monthly overhead expenditure reports *were* being compiled and circulated by the cost office as a monthly routine, the significance of which did not appear to be properly understood by senior managers within the company. This could have been the consequence of a lack of co-ordination and communication, or perhaps this was as a result of the absence of targets to compare actual results against, which would have been highlighted by some form of budgeting system. The significance of this anomaly within the company, and its consequences will be discussed later.

The continuing focus by the board on overheads was further exemplified by additional information that the cost office had been asked to provide:

“Two statements from the cost office giving details of overhead expenses for 1924 and 1925 have been received, and the large differences have been identified and circulated for consideration and explanation. It was agreed to ask the cost office to work out the cost of each of the main headings per ton of sales for each year.”⁸²¹

These additional statistics, compiled by the cost office in terms of year-on-year comparisons, and importantly on a rate per ton basis, provide a contextual framework in which significant movements can be identified for appropriate investigation by the managers concerned. Indeed, further detail in addition to that already provided was requested from the cost office:

“A full explanation of overheads regarding factory expenses and general office wages and salaries is required.”⁸²²

⁸¹⁹ Cadbury Brothers Ltd. Finance Committee July 28th. 1925, m. 221.

⁸²⁰ Cadbury Brothers Ltd. Finance Committee October 21st. 1925, m. 224.

⁸²¹ Cadbury Brothers Ltd. Finance Committee July 26th. 1926, m. 242.

⁸²² Cadbury Brothers Ltd. Finance Committee November 29th. 1926, m. 268.

From this request the cost office duly obliged:

“The cost office provided an analysis of the overheads as requested in minute 268.”⁸²³

Despite the attention given by management and the plethora of data combined with the subsequent analysis and investigation, the subject of the control of overheads was still a cause for concern at the company throughout the 1920’s:

“The question of overhead charges was discussed. It was thought that it would be desirable to have a meeting of members of Staff ‘A’ when the question of economies in non-productive charges might be discussed.”⁸²⁴

No record is available that suggests that this meeting took place, although as will be discussed later, the concept of budgeting and budgetary control were being considered by the company at this time when the whole issue of overheads could be finally addressed.

The workload that was clearly being placed on the cost office by the company to provide increasingly more information and analysis, came to a head in the re-evaluation and re-categorisation of work carried out by the cost office:

“Owing to the large numbers of instructions which are issued to the works in the form of ‘blue notes’, the board approves the recommendation by Edward Cadbury that these be divided into two categories, the first being signed by a director as at present, and the second by the head of the cost office. These latter ‘blue notes’ are confined to instructions of a lesser importance.”⁸²⁵

This recognition of the increasing workload of the cost office by the board prompted approval of an extension to their office accommodation.⁸²⁶

With regard to the ambitious mechanisation plans within the factory which the company hoped would deliver the efficiency savings, the role of the cost office in the evaluation of such schemes became more formalised:

⁸²³ Cadbury Brothers Ltd. Finance Committee December 31st. 1926, m. 280.

⁸²⁴ Cadbury Brothers Ltd. Finance Committee May 11th. 1928, m. 333.

⁸²⁵ Cadbury Brothers Ltd. Board Meeting January 7th. 1925, m. 6.

⁸²⁶ Cadbury Brothers Ltd. Board Meeting February 9th. 1925, m. 118.

“Cost Office extent of control:

The following is a record of the extent of the cost office control in regard action taken under the following:

1. Purchase, hire or construction of new or additional machines.
2. Additions to machines to increase output or eliminate handling, etc.
3. Variation of handling, i.e. conveyors, etc.
4. General rearrangement of machinery in rooms.

It is the responsibility of the director concerned to see that the relevant cost office figures have been obtained.”⁸²⁷

This board minute seems to suggest that the progress of any mechanisation proposal within the factory was determined by the financial data compiled and published by the cost office, further demonstrating the growing importance and influence of cost data on company strategy during this period. A report to the board provides evidence of the extent of the size and organisation of the cost office at this time:⁸²⁸

Table 5.4 Cost Office Organisation 1925-1927

	<u>1925</u>	<u>1926</u>	<u>1927</u>
Personnel:- Men	37	37	33
Girls	<u>28</u>	<u>31</u>	<u>27</u>
Total	<u>65</u>	<u>68</u>	<u>60</u>
Area of Office:-	2,220 sq.ft.	2,220 sq.ft.	4,368 sq.ft.
Total Salaries	£16,868	£17,305	£16,516

Source: Cost Office Annual Report 1928. June 19th. 1928.

The detail in this report confirmed the importance given to the cost office by the company and the level of resource that it was prepared to devote as recognition of the value that it subsequently provided and the way that it enabled strategy to be implemented.

However, despite the steps that had been taken by Cadbury’s and other firms to apply a scientific approach in the quest for efficiency, there was also during the late 1920’s a call for a more collective approach which could ultimately accrue more benefits to society. An example of this alternative view is provided in a report by the Liberal

⁸²⁷ Cadbury Brothers Ltd. Board Meeting September 23rd. 1925, m. 688.

⁸²⁸ Cadbury Brothers Ltd. Cost Office Annual Report 1928. June 19th. , 1928.

Party⁸²⁹ in which they indicated that despite the strides taken in efficiency by individual companies, much needed to be done on a wider industry basis. The example they provided was the standardisation and simplification of costing systems. This initiative proposed by the Liberal Party would probably have been known to Quaker employers like Cadbury, who were long-standing supporters of Liberal philosophies and policies. With this in mind, Edward Cadbury put forward a proposal in a paper read at a meeting of the Manufacturing Confectioners' Alliance in 1930 where he suggested that a working party be established in which to consider the institution of a uniform costing system for the industry.⁸³⁰ The proposal was accepted and a committee was set up comprising:

A.E. Cater (Cadbury Bros. Ltd.) – Chairman
R.R. Dodd (Joseph Terry & Sons Ltd.)
J.E. Jenkins (Yeatman & Co. Ltd.)
W.G. Shepherd (Rowntree & Co. Ltd.)
R.R. Sly (Cadbury Bros. Ltd.)

In addition E.V. Amsdon was appointed as an external consultant to the committee to provide a professional and objective viewpoint, and also to facilitate proceedings.⁸³¹ However, given that the proposal for the project was initiated by Edward Cadbury, and that the committee itself consisted of two senior cost accountants from Cadbury, including the chairman, it is safe to assume that much of the direction and eventual recommendations would have had a significant Cadbury input. The costing committee reported back to the Manufacturers' Confectionery Alliance with recommendations which were unanimously accepted, and resulted in the eventual publication of their findings.⁸³²

The published book by the costing committee is divided into two sections, the first being a guide for smaller manufacturers and the second, for larger firms. This is

⁸²⁹ *Britain's Industrial Future* (1928) Report of the Liberal Industrial Inquiry, London, cited by Brady, "The meaning of Rationalization: An analysis of the literature". pp. 531-532.

⁸³⁰ *Bournville Works Magazine*. March 1941, p. 61.

⁸³¹ E.V. Amsdon was a senior partner in the professional accountancy firm of Amsdon, Son, Wells and Jackson and was chosen principally because of his previous experience and contribution to the literature in the publication of "Practical Costing and Accounts for Bakers & Confectioners" (1924): National Association of Master Bakers, Confectioners & Caterers of Great Britain and Ireland.

⁸³² Amsdon, *Costing for the Cocoa, Chocolate and Sugar Confectionery Trades*.

significant because it reiterates the fact that the Alliance had an overall membership of some 450 individual UK firms , the vast majority were small.⁸³³

With regard to the section devoted to the larger manufacturer, the findings followed the accepted taxonomy of costing progression as being firstly with regard to “cost keeping”, this being the compilation and classification of manufacturing costs used mainly as a pre-requisite of financial statement preparation. In addition, there is the activity of “cost finding” which was deemed to be the calculation of product costs used individually and collectively by managers for control and decision-making purposes.⁸³⁴ However, whilst this would provide the confectionery manufacturer with the tool-kit required to prepare detailed cost information which would provide invaluable insights into their respective businesses, there is no reference in the book to “standard costing” - the highest accepted level of costing sophistication.⁸³⁵ With the absence of any mention of standard costing, it is unsurprising to find only a fleeting mention of budgets or budgeting, and this is in a fairly vague reference to the “budgeting of overheads”.⁸³⁶

Given this anomaly, the published report by the costing committee fell short of a comprehensive guide to costing for the industry, especially so for the section intended for consumption by larger manufacturers who had probably already implemented standardised procedures and processes based on the scientific approach for efficiency. We can therefore assume that Cadbury, as the main contributor to the report, did not have in place a recognised standard costing system at Bournville at this time.

Notwithstanding this anomaly, the cost office continued to provide valuable information to inform the senior management decision-making as demonstrated in a memo detailing concerns regarding the minimum levels of profit required for each line:⁸³⁷

“With reference to our conversation regarding the figures for minimum profit on each grade laid down by the board in 1928, it may be thought wise to reconsider these figures at the present moment, as it would have the effect of steadying down the present market situation as far as this department is concerned. It would also

⁸³³ Balfour Committee: Minutes of Evidence 1925 (L. Cadbury). m. 18.924.

⁸³⁴ Epstein, *The Effect of Scientific Management*, p. 3.

⁸³⁵ Ibid.

⁸³⁶ Amsdon, *Costing for the Cocoa, Chocolate and Sugar Confectionery Trades*, pp. 55-57.

⁸³⁷ Cadbury Brothers Ltd. Internal memo. R.R. Sly to E. Cadbury, dated 14th October 1930. CO/320.

provide a margin against a possibility of our finding ourselves short of profit, necessitating decreased weight or increased prices, should the raw material market suddenly advance.”

The consequences of having to increase prices in the marketplace - a complete reversal of the company’s strategy of lowering prices, was viewed very seriously in a subsequent board meeting:⁸³⁸

“Minimum Standard Rates of Profit – The recommendation of Edward Cadbury is approved that we revert back to the minimum standards of profit for the principal lines laid down in 1923, in place of the lower minimum rates substituted in 1928”

This decision to raise the minimum profit percentage level, whilst still maintaining a price reduction strategy clearly necessitated the lowering of costs, both in terms of production and overheads. The key to achieving this was the relentless drive for internal efficiency combined with the need to constantly increase sales. The role of the cost office in providing the relevant information for this strategy became essential:⁸³⁹

“Every line on the home list has been costed continuously during the past twelve months, checked against the selling price of the line, and the result scrutinized by a Director.

Recommendations have been made and accepted for reduced prices, increased weights or improved quality for a large number of lines on our price list.

Costs continue to drop and owing to the need of maintaining sales, cost office are following the policy of recommending reductions and increased weights.”

Emphasis of this trend continued to be reported by the cost office during 1932 and 1933, with some additional specific factors being highlighted for 1934:⁸⁴⁰

“Costs for the year have once again continued in a downward direction owing to:-

- a) Abnormal writing down of raw materials.
- b) Considerable reduction in selling expenses owing to decrease advertising expenditure.
- c) Reduced costs due to the factory being at a continuous high pressure in practically all departments.
- d) Economy in production in many directions.

⁸³⁸ Cadbury Brothers Ltd. Board Meeting 15th October. 1930, m. 665.

⁸³⁹ Cadbury Brothers Ltd. Cost Office Report for 1931, May 1932.

⁸⁴⁰ Cadbury Brothers Ltd. Cost Office Report for 1934, May 1935.

We have led the trade in most reductions and appear to be able to compete in all directions, the least satisfactory being in various Nut lines, where competitors seem to be much less affected than we are. However, we suggest that those concerned with economies should intensify their efforts during the next two years, especially in the prevention of any increase in fixed overheads.”

These insightful comments by the cost office confirm the market leader status enjoyed by Cadbury in the UK confectionery market, a position obtained by forcing down prices through the constant reductions in costs throughout the organisation. The comments also allude that whilst the company currently enjoyed an enviable position, circumstances could change in the future, making the attention to costs an even greater priority. Indeed, some of these fears of impending change were realised the following year.⁸⁴¹

“The era of falling raw material prices seems to be over. During 1935 prices of cocoa and sugar hardened. However, selling costs were reduced again mainly as a result of less advertising expenditure and increased sales and production brought economies from all points”

The cost report also highlighted the introduction of contract trade in covering chocolate as successful, in not only in widening the company’s business, but more importantly, in the reduction in the load of overheads to other products.⁸⁴²

The Cadbury strategy of price reductions, based upon their ability to reduce costs, had wider competitive implications for the UK market in an era of collusion and restrictive practices. An example is provided of a meeting in early 1936 between senior executives at Cadbury and Nestle which centred on the Cadbury pricing strategy:⁸⁴³

“Our theory of selling which envisages an expansion of the total market of chocolate on the one hand, and not allowing smaller houses to creep in on the other interested them (Nestle) very much. Commenting on our policy, they viewed our position as entirely logical based on better quality combined with the lowest price compatible with a profit. However, the alternative policy which Nestle would prefer to adopt would be for the largest houses to keep up their prices and maintain their position through heavy advertising.”

⁸⁴¹ Cadbury Brothers Ltd. Cost Office Report for 1935. May 1936.

⁸⁴² Ibid.

⁸⁴³ Cadbury Brothers Ltd. Minutes of Meeting held 17th January 1936.

Nestle's concerns at this meeting were further emphasised at the formal Five Firm Conference of the largest manufacturers later in 1936, at which Rowntree joined in the call for a halt to the continuing reduction in UK confectionery prices:⁸⁴⁴

“Mr. Fryer of Rowntree opened the discussion by referring to the increase in prices which had taken place in raw cocoa, cocoa butter, nuts, milk, coal and electric, some of these in Rowntree's opinion were likely to be permanent, with the suggestion that these increases should be passed on to the consumer. Cadbury however, did not agree that the existing consumer values were at a maximum and would therefore press for further reductions. Nestle commented that whilst it might be that from a Bournville point of view consumer values were not at rock bottom, but for ordinary businesses prices were at a dangerously low level. Cadbury retorted that Bournville's costs were easy on milk chocolate at the 2d. for 2oz. Level and this was arrived at after reviewing costs which not only took into account existing stocks, but looks also at the forward position. Cadbury would be prepared to take Rowntree's and Nestle's suggestions back for further consideration, but did not think any increase in milk chocolate prices was called for.”

The tone taken by Cadbury's at this conference demonstrated their ability to make a particular stand regarding pricing based on the efficacy of cost information without compromising company profitability.

This uncompromising stand by Cadbury regarding pricing became increasingly under pressure during 1936, and was flagged up by the cost office:⁸⁴⁵

“Continuous increase in the costs of main raw ingredients, notably cocoa and almonds. Many other prices of important supplies experienced, including engineer's supplies such as fuel. So as a result profits were reduced on all lines. A new outlook based on rising prices is being adopted throughout the organisation. New weights and higher prices were recommended to the board for introduction between January and September to enable reasonable profits to be obtained against actual costs of raw materials in production. The board encouraged Sales to take no early action to correct the prices or weights of the majority of lines on which the company rely on for profit. The end of the year therefore arrived with a proportion of the output of the factory being sold at a loss, with no immediate prospect of any corrections taking place.”

⁸⁴⁴ Five Firm Conference. Euston Hotel, London. 30th October 1936.

⁸⁴⁵ Cadbury Brothers Ltd. Cost Office Report for 1936. May, 1937.

We can conclude from these comments that the cost office clearly pointed out to the board that the long-standing policy of continuously reducing selling prices was becoming unsustainable; a different mindset was needed. The cost office was unimpressed and frustrated by the board's decision to disregard their advice, and to continue with the price-reducing strategy, despite the potential consequences for profit that had been duly explained.

These economic realities provided by the cost office were also combined with changes occurring in the UK confectionery market at this time, specifically the upsurge in sales at Rowntree's - a direct consequence of their introduction of innovative new lines such as *Aero* and *Kit Kat* described in Chapter 2. Edward Cadbury became increasingly concerned and wrote directly to Rowntree's in an attempt to establish what he described as "an equilibrium" in the marketplace.⁸⁴⁶

In an attempt to strengthen what was becoming an increasingly weak position, Edward Cadbury reiterated his opinion that Rowntree's patent on aerated chocolate was not valid, and would be vigorously challenged. But as a concession to any possible legal proceedings, Cadbury suggested that they would consider changing their current pricing policy:⁸⁴⁷

"The offer we would be willing to make may be briefly summarised by saying that we are willing to raise the price (or reduce the weight) of the lines mentioned in the attached schedule. There are, however, two points of view in a matter of this sort. We can either adopt a policy based on cost or we can view the matter as it strengthens or weakens us from a purely competitive angle. At the same time, we think it is dangerous and not in the interests of manufacturers for prices to be put at a level higher than is justified by costs as this would inevitably attract new entrants and impair our competitive strength in relation to other products and amenities."

By this gesture to Rowntree's, Edward Cadbury appeared to be attempting to convince Fryer that the technique of cost-plus pricing was superior to one of prices being a function of what the market would bear. Cadbury's domination of the UK confectionery market during the inter-war years was based on the notion of cost-plus pricing, with total cost being the basis of this policy, which guarantees that all overheads are covered and the appropriate level of profit is therefore achieved. The

⁸⁴⁶ Cadbury Brothers Ltd. Letter E. Cadbury to F.G. Fryer dated 5th January 1937.

⁸⁴⁷ Ibid.

foundation of this approach was the ability to reduce costs further than the competition, thereby dictating prices within the market. This restricts entry into the market, as Edward Cadbury mentions in his letter, and also forces competitors who cannot match the prices set by the market leader to either compete differently or to cease trading. It is therefore apparent that the long period of dominance by Cadbury based on their ability to reduce costs was under threat and this attempt to convince Rowntree's that the *status quo* should be maintained was to become a futile gesture.

Confirmation of the changes that Cadbury's had to adopt during 1937 were evident once it became apparent that circumstances were operating against their previous long-held strategy:⁸⁴⁸

“The cost office has had a difficult year owing to the fact that raw cocoa doubled its price during the year, but fell back to its original figure by December. Prices and weights were adjusted as early as possible, the first taking place in February and the last at the end of August. The three or four months lag which naturally occurs in getting the cost office recommendations for increased prices and lesser weights through to the public naturally resulted in decreased profits. However, the position of the 2oz. at 2d. CDM block when costed with Accra 'A' cocoa beans can still show a fair profit, and the price of this block remains unchanged throughout. Generally speaking, throughout the year whether prices and weights were changed or not, the margin of profit resulting was considerably lower than that retained on each line during a normal year.”

The cost office were obviously consigned to the new order and reported back the consequences accordingly. Interestingly the flagship line of the 2oz. block retained its 2d. price, which was important to the company because this had been a key feature of their value for money advertising campaign, and remained so until the outbreak of World War II.

Distribution Costing

Consistent with the literature as previously discussed, progressive companies during the 1920's were not only considering efficiency and cost identification and reduction within the production confines of an organisation, they were also realising that significant elements of expenditure were to be found in those areas of the company known collectively as “distribution”. For a business like Cadbury's, whose strategy

⁸⁴⁸ Cadbury Brothers Ltd. Cost Office Report for 1937. May 1938.

was based on low prices and high sales volume, the costs associated with distribution had by the late 1920's become a significant element which required attention. A breakdown provided by the cost office of the costs associated with their biggest selling line, Cadbury's Dairy Milk (CDM), appeared to confirm this ⁸⁴⁹:

Cost of Production:	Raw Materials	34%
	Other Prodn. Costs	<u>21%</u>
		<u>55%</u>
Cost of Distribution:	Transport	4%
	Selling & Advertising	8%
	Wholesale & Retail Costs	<u>33%</u>
		<u>45%</u>

From this analysis, the company concluded that approximately only 33% of these costs were under their direct control (i.e. other productions costs – mainly labour and associated costs of 21%, selling and advertising costs of 8% and transport costs of 4%).⁸⁵⁰ However, it could be argued that the company's suggestion that raw materials costs were not in their control, is slightly flawed because some control could be exercised through recipes, process efficiency and waste management.

The company decided to direct some focus on the costs of distribution which could facilitate the company strategy predicated on further price reductions and higher sales volumes. The first initiative under consideration, would serve the two inter-related objectives of improving the capability of distributing high volumes to its customers, and reducing the overall cost of doing so. This initiative, which commenced in 1922, was the design and establishment of a system of railhead depots.⁸⁵¹ It has also been identified that chemists working at company were concerned that quality control of their products ceased after they left the factory. Consequently they were particularly keen to improve delivery and storage prior to sale.⁸⁵²

⁸⁴⁹ Cadbury Bros., *Industrial Record 1919-39*, p. 41.

⁸⁵⁰ Ibid.

⁸⁵¹ Ibid., p. 57.

⁸⁵² Horrocks, "Consuming science", p. 127.

The principal rationale for the railhead depot system was a way of coping with the increase in logistical complexity of delivering the company's products to the thousands of wholesalers and retailers in the UK. However, the company realised that a significant investment would be required in order to realise the required efficiencies in distribution. The project was ambitious, took ten years to complete and began with the gradual roll-out of the railhead depots until they had covered the whole of the UK by 1932:⁸⁵³

Table 5.5 Railhead Depot Rollout Programme 1922-1932

<u>Year</u>	<u>No. of Depots</u>
1922	1
1923	3
1924	4
1925	7
1926	8
1927	9
1928	11
1929	12
1930	14
1931	15
1932	16

Source: Cadbury Bros. *Industrial Record 1919-39: A Review of the Inter-War Years* (1941, p. 57).

The operation of the railhead depot system was based upon the sending out of loads from the factory in bulk containers providing cost savings in carriage, freight, packing, packing cases and storage. Initially, the cost office reported favourable figures which prompted the company to persevere and extend the depot system:

“A cost statement has been prepared by the cost office in respect of the London and Manchester depots showing throughout that the cost of delivery from the manufacturing room to customers by the depot system, as compared with delivery by rail from Bournville with the following savings effected:

London Depot – 8/5d. per ton (annual saving = £1,757)

Manchester Depot – 11/2d. per ton (annual saving = £794)⁸⁵⁴

⁸⁵³ Cadbury Bros., *Industrial Record 1919-39*, p. 57.

⁸⁵⁴ Cadbury Brothers Ltd. Board Meeting May 16th. 1924, m. 49. Depots 1924 – Report to the Board.

There were, however, the additional costs associated with the running of the depots and as a consequence this initially failed to realise a net benefit to the company, even by 1931.⁸⁵⁵ It was only with the upsurge in sales volume from 1932 that the increases in the railhead depot overheads were fully absorbed, and the appropriate overall cost savings began to be generated.⁸⁵⁶ Table 5.6 illustrates the extent of the reductions in cost accruing from the railhead depot system became apparent during the 1930's:⁸⁵⁷

Table 5.6 Distribution Cost per 100lbs. of Net Sales

	1930	1931	1932	1933	1934	1935	1936
Cost per 100lbs	7s.8d.	7s.7d.	7s.2d.	6s.9d.	5s.11d.	5s.5d.	4s.10d.

Source: Transport Department Annual Report for 1936.

In association with the railhead depot initiative of how best to service the trade, and part of the overall distribution problem, the company also viewed the trade itself as a significant distribution cost which they wanted to address. Edward Cadbury in particular had always viewed the margins offered to the trade as being a particular issue, and as already described, one of the first tasks of the newly inaugurated cost office in 1904 was to carry out a comparative inter-firm analysis of the trade margins offered to wholesalers and retailers on fancy boxes. The extent of the trade margins that were being offered to the trade in 1904 had not diminished by 1929, due principally to competitive pressures in the UK confectionery market, especially in branded goods. It was at this time that the company decided to embark on an extensive project to try and understand the dynamics of the retail trade, and how inefficiencies could be identified and resolved to the mutual benefit of both the trade and the manufacturers.⁸⁵⁸ For its time this was an ambitious and innovative concept, especially the identification of an element of cost that was clearly external to the company in terms of the trade margin, but was regarded as a legitimate area for analysis and investigation. It was not until 1981 that the idea of viewing costs outside

⁸⁵⁵ Cadbury Bros., *Industrial Record 1919-39*, p. 57.

⁸⁵⁶ Ibid.

⁸⁵⁷ Cadbury Brothers Ltd. Transport Department Annual Report for 1936. May 1937.

⁸⁵⁸ Cadbury Bros., *Industrial Record 1919-39*, p. 42.

of a company's normal sphere of operations was deemed to be worthy of consideration.⁸⁵⁹

In order to understand the nature of retail distribution, Cadbury decided to carry out a survey of the trade in the UK based upon a sample which they believed would be representative of the country as a whole. Knowledge of the following was the basic requirement of the survey:

- a) The number of confectionery selling points in relation to the population.
- b) The size of shops selling confectionery.
- c) The grades of shops selling confectionery.
- d) The types of shops selling confectionery.
- e) The location of shops selling confectionery.⁸⁶⁰

Once this information had been obtained, the next phase of the survey was to understand the turnover and profitability of retailers. This being particularly sensitive, the Manufacturing Confectioner's Alliance was drafted in to carry out the data collection, which was eventually published in a report for public consumption.⁸⁶¹

Unsurprisingly, the report unearthed retailing inefficiencies and poor financial performance, particularly among the smaller sized outlets. One of the conclusions drawn was that a key determinant of inefficiency was that there appeared to be too many retailers.⁸⁶²

Given this evidence, Cadbury prepared an analysis which focused on the smaller retailers (those graded as II, III and IV), and proposed a solution to the existing level of performance.⁸⁶³ Table 5.7 summarises the emphasis that Cadbury wanted to make supporting the changes that they deemed necessary to address the existing malaise affecting the retail trade.

⁸⁵⁹ Simmonds, *The Fundamentals of Strategic Management Accounting*.

⁸⁶⁰ *Ibid.*, p. 48.

⁸⁶¹ Manufacturing Confectioner's Alliance, (1932) *Operating Expenses of Retail Confectionery Shops*.

⁸⁶² Cadbury Bros. *Industrial Record 1919-39*, p. 48.

⁸⁶³ *Ibid.*, p. 49.

Table 5.7 The Cost of Retailing

Grade IV Shop

Status	Trade Margin	Sales	Cost of Sales	Shop Wages	Other Expense	Rent	Net Profit	% of Sales
Current	24%	£500	£383	-	£31	£31	£55	11.0%
Proposed	21%	£700	£550	-	£44	£31	£75	10.7%

Grade III Shop

Status	Trade Margin	Sales	Cost of Sales	Shop Wages	Other Expense	Rent	Net Profit	% of Sales
Current	26%	£800	£591	-	£44	£45	£120	15.6%
Proposed	23%	£1,100	£847	-	£53	£45	£155	14.1%

Grade II Shop

Status	Trade Margin	Sales	Cost of Sales	Shop Wages	Other Expense	Rent	Net Profit	% of Sales
Current	28%	£1,500	£1,083	£50	£56	£81	£230	15.3%
Proposed	25%	£2,000	£1,499	£75	£75	£81	£270	13.5%

Source: Adapted from Cadbury Bros., *Industrial Record 1919-39: A Review of the Inter-War Years* (1941, p. 49).

To support this conclusion, Cadbury applied the knowledge gained from the costing applications within their own factory. In particular, that the behaviour of costs should be evident in the calculations. Cadbury recognised that the cost of sales would vary according to changes in sales volume, whilst shop expenses and wages would be semi-variable and rent is a fixed cost. Therefore overall increases in profit to the retailer depended upon the attainment of additional sales; a lesson that Cadbury had learned shortly after the end of the Great War. Of course the whole rationale for the exercise was the benefit that would accrue to Cadbury if the retail trade margin could be reduced as suggested. However, whilst the data presented by Cadbury was on the face of it a sensible solution, the reality of making the proposed change to the retail landscape were a much different proposition as Cadbury conceded:

“The factors which have brought the present position about are clear. How it can be altered without undue interference with individual rights and without creating a monopoly for existing traders is a much harder problem.”⁸⁶⁴

⁸⁶⁴ Ibid., p. 50.

It seems logical that Cadbury anticipated that any eventual change to the retail trade would be brought about by the application of natural market forces. In this situation this would result in the elimination of the most inefficient retailers in the same way that the company were constantly seeking to eliminate inefficient competitors.

The final element of distribution which Cadbury sought to understand and control was the company's advertising expenditure. The way that the business approached this important cost category forms part of an early example of budgeting practiced by the company and is described below.

Budgeting

The problems facing Cadbury with regard to the introduction of some form of budgeting process in the years immediately following the Great War were essentially the same as those that faced Rowntree's at this time. As previously identified in the literature, the progress of UK companies in the adoption of budgetary control systems was slow, due in part to the ignorance or confusion of managers as to what budgeting was and importantly, how it should be introduced as a company-wide initiative. This is explained by the complex nature of a fully integrated budgeting system which relies on the existence of a series of sub-processes. Therefore, as with Rowntree's example, the archive at Cadbury was examined to find the evidence of these sub-techniques whereby the building of competencies can take place to enable budgeting to be operated.

The first fundamental required of a budgeting system is the existence of standardised processes and the calculation of the requisite standard costs derived from these processes. The emphasis in the quest for efficiency at Cadbury based on scientific management principles meant that standardization was an early priority for the company as already identified in the control of product recipes, an early priority for the cost office previously mentioned. In addition the wide application of piece-rate wage systems at Bournville as described by Prosser, meant that labour processes in the factory had to be standardised, in sympathy with scientific management philosophy. Indeed, by 1925, 95% of females at Bournville were on individual piece-work in addition to the 20% of males also on individual piece-work, with another

70% of males on group piece-work.⁸⁶⁵ Prosser emphasised the role of standards and even alluded to the notion of a “standard cost” without really explaining what is meant by this.⁸⁶⁶ We can conclude that expected standards of performance were being set by the company within the factory, and that there was some attempt to measure any variation from this expectation by the cost office, although this appears to be done on a departmental basis, rather than by product line.

As already discussed, the budget is essentially the financial overlay of a company’s short-term (12-month) operational plan, which has been derived from the longer-term strategy. Therefore the initial setting of objectives, the subsequent crafting of the strategy and the ability to plan effectively is another pre-requisite of a budgeting system. For Cadbury, the years following the end of the Great War were predicated on a high volume/low prices strategy rooted in the quest for efficiency. Acceptance of this philosophy meant that Cadbury’s could formulate their policy based upon the foundations of efficiency within the company, as outlined by Edward Cadbury:

“Our policy for the future is based upon:

1. The best possible quality.
2. A fair profit to ourselves, giving the public the advantage of the economies we make in buying or manufacture.
3. A fair profit to the trade.
4. An adequate advertising programme.
5. The extension of the depot system to suitable centres, thus giving the customer the best possible service and quality of product.”⁸⁶⁷

Edward Cadbury in his policy statement also made the point that the selling price to the consumer was an important element of the company policy based on providing the best possible value.⁸⁶⁸ This relentless drive for efficiency and the lowering of unit costs, provided the opportunity to reduce the selling price to the consumer and would be the overwhelming strategy that would not only shape Cadbury during the inter-war years, but the also the whole UK confectionery market.

The planning capability which is essential to the operationalising of the strategy, including the successful operation of a budgeting system had two separate but inter-

⁸⁶⁵ Balfour Committee: Minutes of Evidence 1925 (L. Cadbury). m. 18.985.

⁸⁶⁶ Prosser, *Piece Rate, Premiums and Bonus*, pp. 45-47.

⁸⁶⁷ *Bournville Works Magazine*. March 1924, p. 76.

⁸⁶⁸ *Ibid.*

connecting components of sales planning and production planning. As Prosser pointed out: “planning is an essential feature of scientific management”⁸⁶⁹, so it is slightly surprising that a dedicated production planning function was not formed until 1913.⁸⁷⁰ The initial purpose of the planning office was to control the flow of work through the production departments within the factory and ensuring that product was available in stock ready for sale by the expected date.⁸⁷¹ In addition, other key objectives of the planning office were to stabilise employment in the factory, to minimise idle time and ensure employee earnings were maximised.⁸⁷²

However, the essential fundamental requirement needed to ensure successful planning within the factory is the availability of a detailed sales plan. This is perhaps the main driver of any budgetary process and is the starting point for all subsidiary budgets. Again, it is surprising that this procedure was not formalised by the sales office at Cadbury until 1924.⁸⁷³

Once the sales planning process had been established, the role of the planning office was to initially calculate materials requirements to be fed into the buying office for purchasing requirements. Additionally the planning office would then attempt to plan the production requirements on a weekly, monthly and annual basis, whilst also continually modifying the plan in accordance with any variation of the sales forecast. As part of this process, the planning office also had to ensure strict control of part-processed and finished goods, essential in maintaining quality in a food environment.⁸⁷⁴

Therefore, we can observe from this that as a business Cadbury did have in place some of the essential components of a budgeting system that could have been incorporated together into a formalised company-wide operation. However, given the lack of an accepted template of how this should be constructed, then it is unsurprising that the cost office did not feel it had the authority or resources to manage and run a complex process like a budget.

⁸⁶⁹ Prosser, *Piece Rate, Premiums and Bonus*, p. 66.

⁸⁷⁰ Horrocks, “Consuming science”, p. 104.

⁸⁷¹ Cadbury Bros., *Industrial Record 1919-39*, p.10.

⁸⁷² *Ibid.*

⁸⁷³ Cadbury Brothers Ltd. Report on General Recommendations Regarding Main Sales, Production and Stock Statistics.(R.G. Soothill), 16 October 1924.

⁸⁷⁴ Cadbury Bros., *Industrial Record 1919-39*, p.12.

Despite these shortcomings, the archive at Cadbury does indicate that there were disparate elements of budgeting occurring within the organisation, the earliest of which is evidence of an advertising budget being prepared as early as 1916 (see Appendix 6). This budget appears to have been prepared from within the advertising office and demonstrates a detailed analysis of the different types of advertising spend: Press, Sampling and Coupons. The budget for 1916 had been derived by analysing the 1914 and 1915 actual spend on the different elements to arrive at an estimate for the upcoming year, adjusted for the most recent knowledge. There is no evidence that the cost office was involved in the preparation of these calculations, or indeed that they were in receipt of the final budget.

Whilst there had obviously been some attempt to forecast a specific element of overhead cost within the company, it was not until 1926 when the whole subject of overhead expenditure became an issue at board level as described earlier. The debate surrounding the inexorable rise in overheads prompted the following for consideration by the finance committee in 1927:

“Edward Cadbury put forward a proposal that a system of budgeting be introduced in respect of certain non-producing departments in order that a stricter control may be exercised on the costs of these departments. The committee agreed to the proposal and to the suggestion that J.E. Whiteford (of Sufferns) should be asked to make a general survey of the situation to include a system for the allocation of expenses.”⁸⁷⁵

There is no evidence that a formal report was made or submitted by Whiteford in the months following the initial proposal by Edward Cadbury, and the next mention of the subject within the finance committee does not take place until 1929:

“The board have referred the subject of budgets to this committee, and a question from George Cadbury Jnr. has been on the actual dates on which budgets should be prepared, and it was agreed that the question should be left over until the general problem of budgetary control has been considered.”⁸⁷⁶

This demonstrates that whilst budgetary control (albeit on a piecemeal basis) was deemed to be desirable within the company, there appeared to be debate and uncertainty as to how this could or should be achieved, and in a similar way to the Rowntree experience described previously, the subject was effectively moved aside.

⁸⁷⁵ Cadbury Brothers Ltd. Finance Committee July 16th. 1927, m. 306.

⁸⁷⁶ Cadbury Brothers Ltd. Finance Committee March 15th. 1929, m. 23.

Indeed, the work of the finance committee for the rest of 1929 moved on to a discussion on how to achieve a full reconciliation between the cost and financial accounts.⁸⁷⁷

Whilst there is no evidence that managers within Cadbury were being exposed to the latest literature on budgeting, as was the case with Rowntree's, they did deem it appropriate to send representatives to the Oxford Conferences. At these conferences, leading commentators such as Dennison and Perry-Keane presented the latest developments on budgeting, importantly from a practitioner perspective. In addition, the company sent R. Sly, cost office manager, to the prestigious International Discussion Conference on Budgetary Control, organised by the International Management Institute in Geneva in July 1930, where representatives from Rowntree's were also present, as previously mentioned.

Despite the exposure provided to Cadbury representatives at the Oxford Conferences and the Geneva conference regarding the principles and practice of budgeting by the world renowned speakers present, the development of budgeting at the company faltered. Perhaps the extent of the complexity involved in the implementation of a comprehensive budgeting system, that was described at the Geneva Conference, proved to be too onerous. The conference described budgeting as a company-wide initiative, which had to include various sub-budgets, all of which had to be centrally co-ordinated through a budget committee.⁸⁷⁸

1. Sales Budget
2. Production Budget
3. Purchase Budget
4. Expense Budget
5. Finance Budget
6. General Budget

In addition, the conference was also informed of the necessity to develop a standard costing system by which the judgement of the validity of the budgets could be consequently subjected, and control exercised through deviations from standards.⁸⁷⁹ However, in addition to the provision of a sales plan, the only evidence of the implementation of a recognised budgeting system at Cadbury is in the area of expense

⁸⁷⁷ Cadbury Brothers Ltd. Finance Committee September 16th 1929, m. 51; Oct.11th. 1929, m. 61; November 8th. 1929, m. 72.

⁸⁷⁸ *International Discussion on Budgetary Control*. International Management Institute. Geneva. July 10th.-12th. 1930. (Vol.I. Budgetary Control: What is it?. p. 2).

⁸⁷⁹ *Ibid.* (Vol.II. The Relation of Budgets to Policies, p. 5).

budgets, which is not surprising given the attention that the company had made in the past to the control of overheads. So for Cadbury, during the 1930's the subject of budgeting was principally to force departmental managers into estimating their proposed expenditure for the following year, treating it almost like an "authority to spend". Indeed an example of this is provided by the cost office manager (the cost office in itself was an overhead expense), who in the cost office report for 1931, provided detail for the first time of the "cost office budget for 1932", in terms of personnel, salary and other costs.⁸⁸⁰

Consequently, the notion of a fully integrated budgetary control system being controlled and coordinated centrally, was not evident at Cadbury prior to World War II, even though the key components for its successful implementation were present throughout the company. An examination of the agreed principal activities of the cost office in 1937 appears to be devoid of any mention of budgeting, confirming the company's lack of development in this area.⁸⁸¹

5.5 Conclusions

Cadbury's growth during the early years **was** clearly fashioned by the personal determination and decision-making skills of the two original Cadbury brothers, who together as a team created a forward-looking business that was in tune with the consumer, particularly with regard to quality. However, with some similarity to the Rowntree experience, Cadbury's also sought to further understand the UK cocoa and confectionery market, and also how best to organise and manage a business that could compete in this marketplace. They did this through the study of other businesses that were already successful, thereby incorporating best practice. However, from the point of view of existing known costing processes and procedures, Cadbury's appear to be not as advanced in incorporating these systems as Rowntrees during the period of the last part of the nineteenth century. However, the tragic events of 1899, in which one of the original Cadbury brothers died, meant that the creation of a limited company combined with the appointment of young managing directors would mean that greater attention to costs and profitability would become a necessity.

⁸⁸⁰ Cadbury Brothers Ltd. Cost Office Annual Report for 1931. May 1932.

⁸⁸¹ Cadbury Brothers Ltd. Cost Office Annual Report for 1937. May 1938.

The early years of the twentieth century were crucial to Cadbury because the business was initially forced into a major management restructure following the untimely death of senior partner Richard Cadbury. However, the new young managing directors appointed after the flotation of the business in 1899, had the courage and conviction to make crucial decisions on product development, marketing, organisational structure and strategy.

The environmental conditions and competitive nature of the UK cocoa and confectionery market, particularly with the threats posed by overseas companies, meant it was imperative that Cadbury created a modern, efficient and profitable business whilst still adhering to the social principles laid down by the original brothers. Edward Cadbury in particular recognised this fact and was an early advocate of scientific management which he saw as part of the solution in the establishment of a major force in the industry. The creation of a fully functioning and hugely influential cost office, supported and encouraged by the board, was a key component in the establishment of records, processes, systems and information that was essential to this objective. As a consequence, the business was in a shape that was necessary to confront the changes, threats and opportunities that existed after the end of the Great War.

The early achievements of the cost office prior to the Great War under the stewardship of A.E. Cater, were further enhanced following the Armistice by virtue of the way that the strategy of the company of quality product and low price, driven by a relentless drive for efficiencies, was made plausible by the outputs of the cost office. The company not only concerned itself with costs within the factory gates, but also sought to understand, and subsequently reduce, the growing element of costs that were occurring external to the business known collectively as “distribution costs”. These costs being part of the overall overheads of the company were also scrutinized and their control was viewed as being crucial to the success of Cadbury. Throughout the inter-war period the cost office became central to the way that the company was managed, and specifically their role in the calculation of line costs. This information could then be used to inform senior management of the extent to which prices could be reduced in the marketplace, with the emphasis of adhering to individual pre-determined product profit margins.

Perhaps the most important failing during this period was the inability of the cost office to take a central role in the implementation and management of a company-wide budgetary control system, founded on the fundamentals of standard costing. As with the experience of Rowntree's, this situation was as a consequence of managers being unable or unwilling to assume responsibilities that they perceived they did not possess. This failure is even more poignant given the apparent willingness by the board to provide managers with exposure of budgeting at a world class conference and also the fact that many of the sub-components required for successful implementation were already present within the business. However, in addition to the above responsibility issues, it can be argued that, as with the case with Rowntree, although the theoretical techniques were well established by the 1930's, there was little in the way of practical evidence of successful budget implementation and therefore the absence of a recognised blueprint to copy.

Section 3 – Data Analysis

Chapter 6

Evaluating the performance differences of Rowntree and Cadbury between 1919-38

6.1 Introduction

One of the responses by companies to the increasing size and complexity of organisations at the end of the nineteenth century and the beginning of the twentieth was to develop and improve a range of internal management capabilities. One of the ways in which this manifested itself was the introduction of costing systems as demonstrated by Rowntree and Cadbury in the previous chapters. The expected payoff for these two businesses as a direct consequence of this investment in a costing capability was an improvement in their overall performance. It is useful therefore to examine the actual performance of the two companies in the period 1919-38 (20-year time frame) utilising accepted contemporary metrics and methodology, and to observe the contribution of costing competence to this performance. It is also proposed to identify any deficiencies in costing practice which could have impacted this performance.

Previous attempts to provide an indication of the individual performance of Rowntree and Cadbury in the literature has been made on an *ad-hoc* basis, providing a somewhat confusing picture.⁸⁸² This chapter provides a more structured and complete analysis on a comparative basis in which an overall assessment can be made of relative performance between the two companies utilising a wide range of measures that were known at the time, and had been published in the contemporary literature.

6.2 Methodology

The consideration of performance for the two companies over the defined twenty-year period will be divided into:

⁸⁸² For example, see Fitzgerald, *Rowntree and the Marketing Revolution*, Appendices I-V and Fitzgerald “Products, firms and consumption”, p. 518.

- Absolute Performance
- Relationship Performance (Ratios)

The combination of these two approaches will provide the basis for an overall and inclusive assessment of performance, from which appropriate and complete conclusions can be drawn.

The bases for the assessment of performance for each company are the published annual accounts (balance sheet and income statement), as shown in Appendices 7, 8, 9 and 10. To ensure the comparisons are compatible, some of the details in the annual accounts have been re-worked using additional information from the Cadbury and Rowntree archive to provide a like-for-like basis on each individual element. Therefore for the Income Statement the following convention has been used for both companies:

Income Statement

plus Sales Revenues

less Direct Ingredients Cost

less Direct Packaging Materials Cost

less Direct Labour Cost

less Discounts

plus Other Income

equals Gross Profit

less Advertising Cost

less Overheads Cost

equals Operating Profit (Earnings Before Interest and Tax - EBIT)

Similarly, the Balance Sheet for both companies are also shown in a common format of:

Balance Sheet

Total Assets *minus* Total Liabilities *equals* Total Capital

For each measure, the comparative information has been produced in tabular and graphical formats providing a complete analysis for the period 1919-38. The complete data analysis is shown in Appendix 11. The measures as calculated will then be considered for an overall assessment for the twenty year time frame under consideration (1919-38), and also in five-year time frames to ensure a more detailed approach:

- 1919-23
- 1924-28
- 1929-33
- 1934-38

This approach will ensure that the individual and comparative performance of the two companies during the inter-war period is fully assessed.

The literature review of the contemporary approach to the assessment of performance suggested a range of measures by the leading contributors. The measures which have been used in the relationship ratio analysis are based on a review of the contemporary literature where an individual measure has been identified by at least two of the leading commentators (Figure 6.1). The literature review identified Wall, Bliss, Gilman, Crum, Rose and Foulke as the leading published contemporary contributors and these have been analysed to identify the commonalities.

Figure 6.1 Ratio analysis by leading contemporary commentators.

<u>Ratio</u>	<u>Ratio Calculation</u>	<u>Wa</u> <u>ll</u>	<u>Blis</u> <u>s</u>	<u>Gilma</u> <u>n</u>	<u>Cru</u> <u>m</u>	<u>Ros</u> <u>e</u>	<u>Foul</u> <u>ke</u>
Current Ratio	Current Assets divided by Current Liabilities	x	x	x	x	x	x
Operating Profit Ratio	Profit Before Interest & Tax divided by Sales		x				x
Net Profit Ratio	Profit After Interest & Tax divided by Sales		x				x
Operating Profit to Net Worth	Profit Before Interest & Tax divided by capital employed		x			x	x
Sales to Net Worth	Sales divided by capital employed	x	x	x		x	x
Sales to Inventory	Sales divided by inventory	x		x		x	x
Sales to Receivables	Sales divided by receivables	x	x	x			x
Debt to Net Worth	Debt divided by capital employed	x	x				x
Sales to Fixed Assets	Sales divided by non-current assets			x		x	
Net Worth to Fixed Assets	Capital employed divided by non-current assets	x		x		x	

It is proposed to apply these measures for both companies, with the exception of “Net Profit Ratio”, as this includes the consideration of interest and taxation which was deemed to be inappropriate as part of the overall product cost as discussed in chapter 5. Moreover, as a consequence, the “Gross Profit Ratio” (Gross Profit divided by Sales) will be used instead as this is deemed to be a more significant way of assessing the efficacy of cost management techniques. The ratios shown in Figure 6.1 are assigned as “Primary Ratios” by contemporary commentators, and some are supported by “Supporting Ratios”, which are designed to provide insights and explanations for these primary ratios.

Measures Used: Absolute Performance

These measures assess the performance of both Rowntree and Cadbury for the period 1919-38 in terms of the absolute annual statistics, without any regard for any relationships these would have had to other aspects of the company. The individual absolute measures that are presented are:

- Sales Revenue (£ millions)
- Market Share, by Sales Revenue (%)
- Gross Profit (£ millions)
- Operating Profit (£ millions)

Measures Used: Relationship Performance (Ratios)

In addition to the absolute performance measures described above, a more complete assessment of any company should also take account of the relationships that existed between different elements of a business, and importantly, how these changed over time. The ratios used to analyse Rowntree and Cadbury have been determined from the contemporary literature as defined in Figure 6.1, with the exception of the inclusion of the Gross Profit Ratio in place of Net Profit Ratio, as previously explained. The full range of Primary and appropriate Supporting Ratios, with an indication of how an improvement in performance can be ascertained is shown in Figure 6.2.

Figure 6.2 Primary and Supporting Ratios used in Analysis

Ratio	Improvement Shown By
Primary Ratio: Current Ratio	Rise
Primary Ratio: Gross Profit Ratio	Rise
- Supporting Ratio: Ingredients Cost Ratio	Fall
- Supporting Ratio: Packing Materials Cost Ratio	Fall
- Supporting Ratio: Direct Labour Cost Ratio	Fall
Primary Ratio: Operating Profit Ratio	Rise
- Supporting Ratio: Advertising Cost Ratio	Fall
- Supporting Ratio: Overheads Cost Ratio	Fall
Primary Ratio: Operating Profit to Net Worth	Rise
Primary Ratio: Sales to Net Worth	Rise
Primary Ratio: Sales to Inventory	Rise
Primary Ratio: Sales to Receivables	Rise
Primary Ratio: Debt to Net Worth	Fall
Primary Ratio: Sales to Fixed Assets	Rise
Primary Ratio: Net Worth to Fixed Assets	Rise

6.3 Relationship Performance Measures Defined

As previously explained, the relationship ratios that are used in this chapter are those that were most commonly suggested by contemporary commentators. These ratios provide a broad and insightful analysis of the trends in performance, with each focusing on a specific aspect as understood at the time:

Primary Ratio: Current Ratio

Basis of Calculation: Current Assets divided by Current Liabilities

Answer Expressed as: Ratio

Description: Also known as the Working Capital Ratio, this measure is intended to demonstrate the liquidity of the business and its ability to meet its short-term

obligations in terms of creditors. The contemporary view was that a ratio of 2:1 was the accepted norm.

Primary Ratio: Gross Profit Ratio

Basis of Calculation: Gross Profit divided by Sales Revenues.

Answer Expressed as: %

Description: In addition to the absolute gross profit realised by a business, it is also important to know the relationship of this profit to the sales figure as a way of determining the rate of profit.

Secondary Ratio: Ingredients Cost Ratio

Basis of Calculation: Ingredients Cost divided by Sales Revenues.

Answer Expressed as: %

Description: This ratio is intended to support and inform the answer provided in the Gross Profit Ratio; this is a component of the answer which attempts to identify the influence of this direct cost element on gross profit.

Secondary Ratio: Packing Materials Cost Ratio

Basis of Calculation: Packing Materials Cost divided by Sales Revenues.

Answer Expressed as: %

Description: This ratio is intended to support and inform the answer provided in the Gross Profit Ratio; this is a component of this answer which attempts to identify the influence of this direct cost element on gross profit.

Secondary Ratio: Direct Labour Cost Ratio

Basis of Calculation: Direct Labour Cost divided by Sales Revenues.

Answer Expressed as: %

Description: This ratio is intended to support and inform the answer provided in the Gross Profit Ratio; this is a component of this answer which attempts to identify the influence of this direct cost element on gross profit.

Primary Ratio: Operating Profit Ratio

Basis of Calculation: Operating Profit divided by Sales Revenues

Answer Expressed as: %

Description: In addition to the absolute operating profit realised by a business, it is also important to know the relationship of this profit to the sales figure as a way of determining the sufficiency of profit.

Secondary Ratio: Advertising Cost Ratio

Basis of Calculation: Advertising Cost divided by Sales Revenues.

Answer Expressed as: %

Description: This ratio is intended to support and inform the answer provided in the Gross Profit Ratio, as this is a component part of this answer which attempts to identify the influence of this indirect cost element on operating profit.

Secondary Ratio: Overheads Cost Ratio

Basis of Calculation: Overhead Cost divided by Sales Revenues.

Answer Expressed as: %

Description: This ratio is intended to support and inform the answer provided in the Gross Profit Ratio, as this is a component part of this answer which attempts to identify the influence of this indirect cost element on operating profit.

Primary Ratio: Operating Profit to Net Worth

Basis of Calculation: Operating Profit divided by Capital Employed

Expressed as: %

Description: This ratio represents the earning power of the capital invested in the business and determines whether too much or too little capital is being employed. This ratio is the equivalent of the modern-day ROCE (Return on Capital Employed) ratio.

Primary Ratio: Sales to Net Worth

Basis of Calculation: Sales divided by Capital Employed

Expressed as: Ratio

Description: This is another measure as to whether a business is under or over capitalised. It ascertains the efficacy of the company to generate sufficient sales to justify the level of investment in the business.

Primary Ratio: Sales to Inventory

Basis of Calculation: Sales Revenue divided by Inventory

Expressed as: Ratio

Description: This ratio measures the rapidity of turnover of inventory which indicates whether a company has invested too highly in inventory or may be inefficient in its management.

Primary Ratio: Sales to Receivables

Basis of Calculation: Sales Revenue divided by Receivables

Expressed as: Ratio

Description: Used to establish the extent of the investment in receivables as a possible method of stimulating sales, or could be interpreted as an over-investment in customer credit or lax collection procedures.

Primary Ratio: Debt to Net Worth

Basis of Calculation: Long Term Debt divided by Capital Employed

Expressed as: Ratio

Description: Regards the level of dependence of a company on long-term debt, which is another factor in the assessment of risk to the business. This ratio is the equivalent of the modern-day Gearing ratio.

Primary Ratio: Sales to Fixed Assets

Basis of Calculation: Sales Revenue divided by Non-Current Assets

Expressed as: Ratio

Description: This ratio is used to determine the productivity of the plant and equipment in the generation of sales, and can be viewed as an indicator of a company's competitive position.

Primary Ratio: Net Worth to Fixed Assets

Basis of Calculation: Capital Employed divided by Non-Current Assets

Expressed as: Ratio

Description: This ratio indicates the company's policy of investing its profits and consequently whether or not it has over or under-invested in plant and equipment. It also determines whether the company's profits are being dissipated.

6.4 Performance Analysis Summary 1919-38

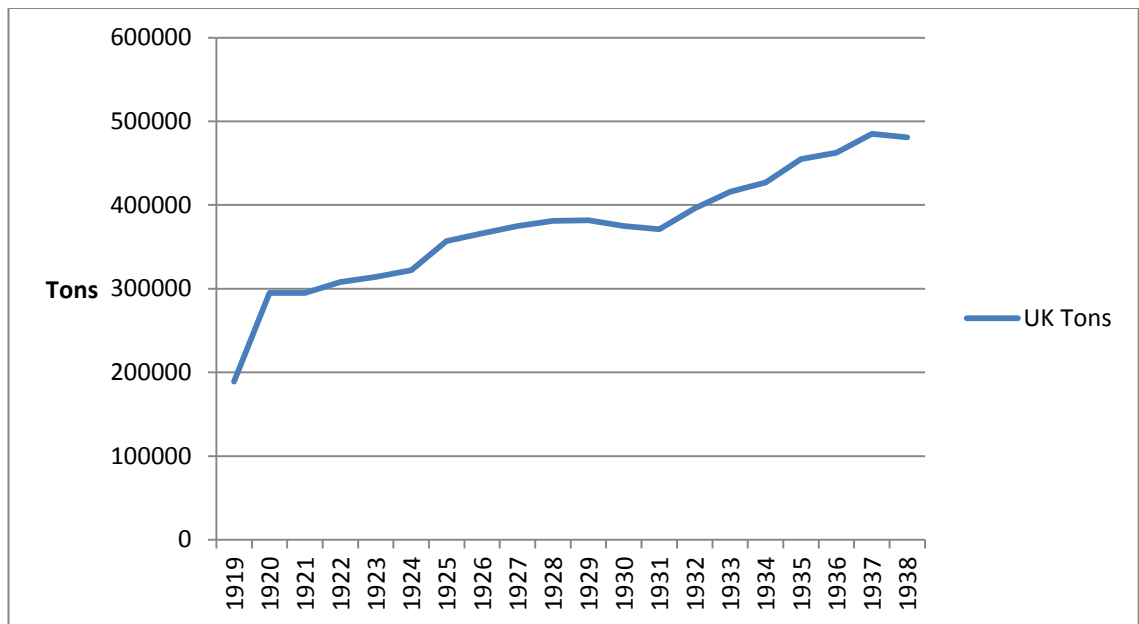
For all businesses in the UK, the artificiality of the war years gave way to a time of uncertainty and challenge following the armistice in November 1918. For the confectionery market the competitive pressures from foreign manufacturers, particularly French and Swiss, that had existed prior to 1914 had ceased almost overnight with the outbreak of the Great War. For UK companies like Cadbury and Rowntree, the biggest questions were whether, and to what extent, this foreign competition would return? In addition, what were the other environmental and competitive imperatives that had to be taken into account? As a consequence, each would have to craft a strategy of how to compete in this new post-war era, and also how to organise their internal capabilities to support this. The data presented in Appendix 11, in tabular and graphical form, provides detailed analysis of the performance of Cadbury and Rowntree for each of the interwar years using the measures already described. From this data an overall comparative assessment for each of the five years sub-period 1919-38 can be formulated in an attempt to clarify the success or otherwise of each company during this period.

As previously discussed, Cadbury's explicit strategy following the end of the Great War was to invest heavily in mechanisation schemes combined with other efficiency initiatives to enable substantial savings in costs. This in turn would provide the opportunity to reduce consumer prices, thereby generating additional sales volumes and revenues. The combined effect of this strategy would then increase profits and ultimately provide greater returns on capital. However, for this to be fulfilled, the additional sales volume generated by the company would have to exceed the reductions in per unit revenues that price reductions bring. It would also have to more than compensate for the inevitable increases in overheads generated through size and complexity. Additionally the savings in direct costs, mainly through mechanisation and efficiency projects, would also have to be substantial enough to make up for the loss in revenues. Therefore, Cadbury's performance in the period 1919-38 has to be judged against these strategic intentions.

For Rowntree, however, the lack of a formal strategy, other than to try and emulate Cadbury in terms of creating products suitable for mass sales and mass production, meant that in the years following the end of the Great War, they responded to the market environment by developing and marketing short-run products that appealed to more niche and opportunistic markets. However, like Cadbury, Rowntree too invested heavily in non-current assets and promoted a culture of efficiency as a way of continually driving down costs. For them also, the drive for sales volumes and revenues was a key determinant of success.

As market leader, the Cadbury strategy of forcing down consumer prices had the effect of reducing revenues for the whole UK confectionery market for the inter-war period. However, this did have the desired effect of increasing overall sales volume as more consumers could afford to purchase confectionery on a regular basis, rather than as a special treat, as was previously the case (see Figure 6.3).

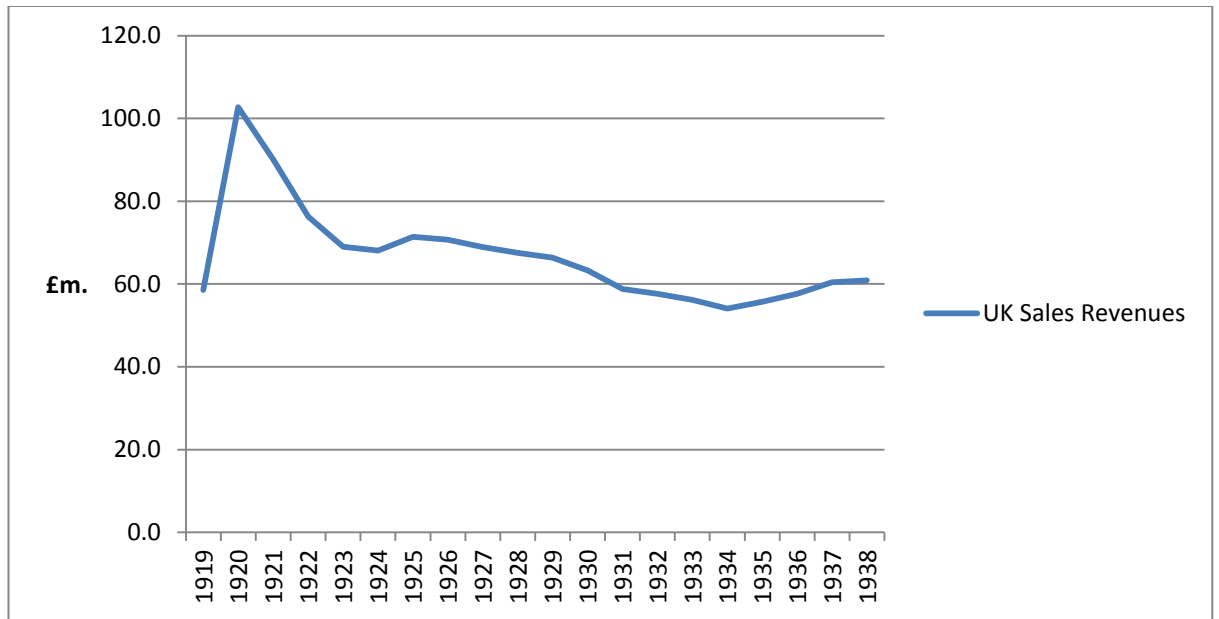
Figure 6.3 UK Confectionery Market 1919-1938: (Sales in Tons)



Source: Fitzgerald, R. (1995) *Rowntree and the Marketing Revolution*. (p. 625).

Whilst this overall sales tonnage growth appears impressive for the inter-war years, it should always be remembered that this was driven in part by the continued reductions in consumer prices, so this performance has to be viewed in conjunction with the corresponding UK sales revenues for the same period (see Figure 6.4). This chart shows a somewhat different story of the UK confectionery market, because apart from a spike in the first years following the end of the Great War, the trend of actual sales revenues declined throughout this period, until a modest recovery occurred late in the 1930's.

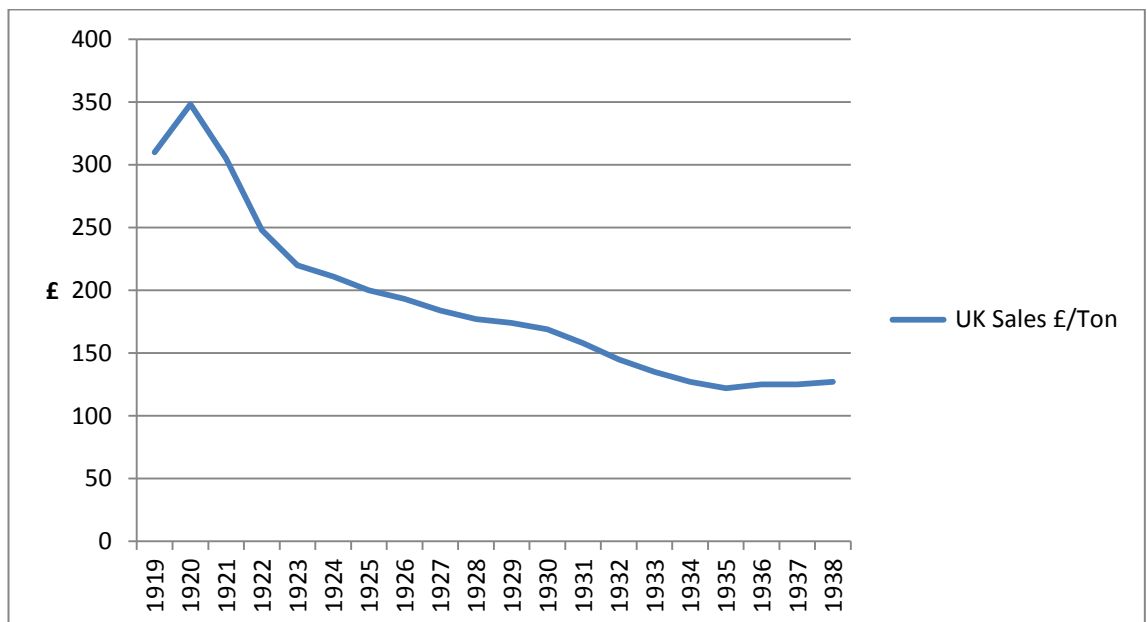
Figure 6.4 UK Confectionery Market 1919-1938 (Sales in Revenues. £m.).



Source: Fitzgerald, R. (1995) *Rowntree and the Marketing Revolution* (pp. 622-623).

The driver of this situation, that of the continued reduction in consumer prices, is demonstrated by the declining revenues on a calculated £/Ton basis based on the sales tons and sales revenue figures above (see Figure 6.5).

Figure 6.5 UK Confectionery Market 1919-1938 (Sales in Revenues £/Ton)



Source: Calculated from Figures 6.3 and 6.4.

What this meant in practical terms for the companies operating in the confectionery market is that the relationship between sales volumes, sales revenues and costs was crucial in the effectiveness of a consumer price-reduction strategy. Given that the overall market expanded in volume terms, but revenues decreased, the crucial question is did Cadbury or Rowntree generated sufficient revenues themselves?

For Cadbury, this was more crucial and their actual sales revenues generated during this time increased from £5.7m. in 1919 to £9.3m. by 1938 (+ 63.2%). For the same time, Rowntree increased their revenues from £4.1m. to only £5.1m. (+ 24.4%). However, as has been demonstrated by the detailed analysis, the sales revenues for Cadbury were quite flat from around 1921 to 1935 at around £7.0m. per annum, suggesting that it was not until the latter half of the 1930's, that is after the Fry's merger and the decision to increase prices, that they began to earn sufficient revenues. This situation was mirrored by their market share, whilst improving from 9.7% in 1919 to 15.3% in 1938, there was also an approximate ten year flat period from around 1924 to 1933, where it hovered around 10-11%, where no gains were being made. The market share for Rowntree also plateaued at around 5.0% for much of this time – this improved up to 8.4% by 1938 following their product successes from 1935 onwards.

The subsequent effect on actual gross profit was that for Cadbury this grew from £2.2m. in 1919 to £4.3m. by 1938 (+ 95.5%), albeit again with a long period of stagnation at around £3.5m. per annum. The corresponding trend in the gross profit ratio also increased from 39.1% to 49.0% by the end of the 1930's, suggesting improvements in cost efficiency. Looking at the main cost drivers, the reduction in ingredient prices during the inter-war period constituted a major influence on gross profit, resulting in reductions in the ingredient cost ratio. Packing materials as measured by the cost ratio demonstrated little movement during this period for Cadbury, hovering between 6.0 – 8.0%. However, the principal impact of savings due to mechanisation and other efficiency initiatives was limited: direct labour experienced only modest reductions in this cost ratio from 9.2% to 7.6% by 1938. Indeed during this time this ratio actually increased during the mid-1920's. The general reduction in ingredient prices was also a factor in Rowntree's gross profit performance, with the ingredient cost ratio movement being almost identical to that of Cadbury. However, in contrast to the stability in the packing material cost ratio for

Cadbury, Rowntree managed to decrease these substantially from 14.4% in 1919 to 8.2% in 1938. But it was in direct labour that Rowntree failed to match the efficiencies that Cadbury had gained in the inter-war period. Rowntree's actually increased their direct labour ratio from 10.2% in 1920 to 17.8% by 1938, compared with the Cadbury figures of a reduction from 9.8% to 7.6% in the same period. This increase for Rowntree was due principally to additional complexity as they struggled to find appropriate mass produced products, whilst still relying on smaller volumes and short-runs.

However, it is in the area of operating profit that the performance of the two companies during the inter-war period differs in terms of actual performance, but are similar in the fact that neither company grew their operating profit. The actual operating profit for Cadbury between 1919 and 1938 can only be described as volatile, with upward and downward movement from year-to-year. Rowntree by contrast, experienced a very stable record of operating profit with hardly any fluctuations at all. But, in terms of the overall trend in operating profit, for both companies this was flat, with Cadbury's being £1.2m. in 1919, and £1.2m. in 1938, albeit with the fluctuations already described. For Rowntree this was similar, for apart from £0.6m. in 1919, operating profit in this twenty year period was £0.3m. in 1920 and £0.3m. by 1938, but without the volatility of Cadbury. The actual operating performance of the two companies was also mirrored in the operating profit ratio, with similar volatility for Cadbury and stability for Rowntree, but with the overall trend for Cadbury being slightly downward, whereas for Rowntree the trend was flat. The contributor to this somewhat disappointing performance included the inexorable rise in advertising, with the advertising cost ratio rising steeply during this time in almost exactly the same way for both companies, as each attempted to increase sales and gain market share. It is notable that despite similar trends, Rowntree consistently spent more on advertising as a proportion of sales than Cadbury in every year during the inter-war period. Another main contributor to operating profit, that of overheads, reveals that Cadbury's overheads cost ratio rose steadily during this time from 17.4% in 1919 up to 26.0% by 1938 as they constantly attempted to control this expenditure. On the positive side, the savings that Cadbury eventually began to realise following the introduction of the railhead depot distribution system became evident during the mid to late 1930's and had the effect of reversing the upward trend in the overheads

cost ratio. Rowntree's, on the other hand consistently exhibited a lower overheads cost ratio throughout almost the entire inter-war period, with the overall trend being slightly downwards. All of this meant that the operating profit to net worth ratio - the measure of the return on investment - demonstrated that although Cadbury constantly outperformed Rowntree in each year, this comparison is again typified by volatility versus stability.

Looking at the sales to net worth ratio, the trend for Cadbury is downwards, being 1.7 in 1919, and 1.5 by 1938, suggesting that the company was not gaining sales revenue in sufficient amounts to justify the level of investment, despite the fact that sales volumes were increasing. This meant that the lowering of consumer prices had a detrimental effect on overall performance. There is some evidence to suggest that the decision to actually increase prices towards the end of the 1930's, due to market pressures, actually benefitted the company in this respect. Rowntree also saw their sales to net worth ratio deteriorate until the mid-1930's demonstrating their own failure to establish appropriate sales revenues, despite initiatives such as higher advertising spend as previously discussed. Indeed examination of the sales to fixed assets ratio, further highlights the notion that the continued investment in physical capital equipment by both companies was not having the desired affect on the growth in sales revenues, with again the proviso that by the mid-1930's this appeared to be finally being reversed. Indeed, confirmation of the failure of the two companies to fully utilise their non-current assets appropriately is indicated by the measure of net worth to fixed assets ratio, which for Cadbury declined from 4.5 in 1919 to 2.4, and for Rowntree from 3.5 to 2.5 in the same period, although the rapidity of decline was more severe for Cadbury. The conclusion from this is that Rowntree appeared to utilise their non-current assets more efficiently than Cadbury during the inter-war period.

Perhaps the most significant aspect of the performance of both Cadbury and Rowntree during the inter-war years was the rapid deterioration in their liquidity, as measured by the current ratio. This was particularly so of Cadbury, who saw their healthy 3.0 current ratio in 1919 fall steadily to a nadir of 0.7 in 1933; for seven years during the inter-war period their current liabilities exceeded their current assets. This meant that Cadbury were an extremely risky proposition from about 1928 to 1937, an unforeseen event could have occurred whereby the company's cash-flow position

would have been severely compromised. However, the company's position did recover to an acceptable 2.0 just prior to the outbreak of World War II. Whilst Rowntree's themselves never operated in a negative liquidity position, their current ratio also deteriorated by the same trend as Cadbury, but only to a low of 1.2 in 1931-32 before recovering to 1.5 by the end of the inter-war period. So whilst they were also experiencing liquidity problems, they were not as serious or as prolonged as for Cadbury.

Other aspects of working capital management such as the control of stocks, as measured by the sales to inventory ratio, demonstrate efficiency for both companies, with this ratio rising from 2.6 in 1919 to 3.7 by 1939 for Cadbury, with a peak of 6.4 in 1934. Also for Rowntree, this had also risen in much the same way as Cadbury from 2.4 in 1919 to 4.3 in 1938, and again with a peak of 5.2 in 1934. By contrast, the trend of the sales to receivables ratio fell for both companies during the inter-war years as they endeavoured to encourage sales growth by the continued extension of credit facilities to the trade, although by the end of the 1930's this appears to have run its course as revenues rose and the policy was subsequently reversed around 1934.

Long term debt was never an issue for both companies in the inter-war years, with only Cadbury taking out such loans on a few occasions, and even then the impact on the debt to net worth ratio was fairly insignificant.

So the overall summary of performance by Cadbury and Rowntree, utilising the measures and methods described earlier, indicates a mixed picture of positives and negatives but also many similarities between the two companies. The high volume, low price strategy conceived by Cadbury at the end of the Great War, which ultimately dictated the whole UK market, did not achieve the results expected. The additional sales volumes that Cadbury generated were at the expense of falling revenues per ton resulting in a stagnation of overall income, whilst simultaneously incurring additional expenses as a consequence of rapid growth, especially in overheads. The result was disappointing profit growth and stagnant returns on capital. It was not until the late 1930's when consumer prices rose did the situation improve, thereby calling into question the Fordist-type strategy into question. Moreover, whilst Rowntree were also affected by price reductions, they formed a capability for producing a greater range of short-run product offerings; with these being able to sell

profitability in a more stable way - though they fell short in some absolute measures compared to Cadbury - they did manage to compete in a different way to ensure their survival.

6.5 Performance Analysis in Detail

1919-23

Like all UK businesses, Cadbury and Rowntree enjoyed an initial post-war economic boom, which saw actual sales revenue rise by 43% to £8.2m. by 1920 for Cadbury, and by 24% to £5.1m. for Rowntree. This rapid increase in revenues however, was matched by an explosion in world wholesale prices, resulting in huge increases in direct material costs. This had the effect of actually reducing the gross profit for both companies in 1920, despite the strength of the growth in sales. This was further exacerbated by a gradual rise in direct labour costs. Both companies, however, decided to increase their advertising spend in the years following the end of the Great War, the consequences of which were a reduction in operating profit for both companies - down to the identical level of £0.3m. in 1920, with the corresponding operating profit ratio down from 20.3% in 1919 to 4.2% in 1920 for Cadbury, and from 14.9% to 5.3% for Rowntree. This reduction had a consequent effect on the operating profit to net worth ratio: Cadbury's fell to 9.7% in 1920, their lowest for the whole inter-war period, and Rowntree's to 10.5%. However, liquidity in both companies in 1920 was healthy with current ratios for Cadbury of 3.9 and 3.7 for Cadbury and Rowntree respectively. These figures would not be repeated again before the outbreak of World War II.

The conflicting uncertainties of the post-war boom resulting from a surge in sales revenues, combined with increases in the cost of materials and labour gave way after 1921 to a period of economic decline in which sales revenues in 1923 declined for both companies, particularly so for Rowntree, where they were below the immediate post-war levels of 1919. The effect of this decline on the overall UK confectionery market as measured by sales revenues during this time was for Cadbury to hold their share (9.7% in 1919 and 9.6% in 1923), but for Rowntree this meant a reduction in share (7.0% in 1919, reduced to 4.6% by 1923). This bifurcation in the market performance of the two companies after 1921 had a corresponding effect on gross

profit: Cadbury maintained at around £3m. (43.3% of sales) per annum, but Rowntree's fell each year £1.1m. (34.4% of sales) by 1923. A further examination of the direct costs affecting gross margin performance during this period reveals that both companies were able to reduce their ingredients and packaging materials costs by roughly the same percentage of sales revenues. Whilst Cadbury had been able to stabilise their direct labour cost to around 10% of sales, Rowntree's increased from 7.6% in 1919 to 17.0% by 1923. The effects of Cadbury's determination to improve efficiency through mechanisation and other initiatives appeared to be having the desired effect, particularly on direct labour costs.

Despite the different experiences of the two companies at the gross profit level, this was not as marked at operating profit level with Cadbury's actually reducing from £1.3m. in 1921 down to £1.1m. by 1923. This compares with Rowntree's holding operating profit at £0.2m. per annum for the years 1921-3, although the difference in % of sales revenues (17.2% in 1923 for Cadbury and 5.2% for Rowntree) was still substantial. The effect of the reduction in sales was to increase the overheads burden for Rowntree (19.8% in 1921 up to 24.6% by 1923). Both companies realised the need to increase their investment in advertising spend in an attempt to stimulate sales during the recession. Cadbury's advertising costs as a % of sales revenue went up from 2.0% in 1921 to 3.5% by 1923, with Rowntree's making similar increases from 3.7% to 4.5% during the same period.

The substantial investments in plant and machinery that both companies made in the years following the end of the Great War were regarded as essential for the efficiencies generated by mechanisation that would be necessary to maintain competitiveness. This meant that non-current assets at Cadbury's grew from £0.7m. in 1919 to £1.4m. by 1923, an increase of 100%, with Rowntree's also increasing by a similar rate from £0.5m. to £1.0m. during the same period. This increase in non-current assets meant a corresponding increase in the amount of capital invested by the two companies. However, the growth in the rate of absolute operating profit did not match the increased rate of investment, resulting in an overall decline in the operating profit to net worth ratio for both companies (Cadbury 35.3% in 1919 to 27.6% in 1923, and Rowntree 34.4% down to 6.3%). Similarly, if we examine the sales to net worth ratio as a complement to the operating profit to net worth ratio, there is a similar story in the failure of both companies to improve their sales performance. For

Cadbury this ratio was 1.7 in 1919 but had fallen to 1.6 by 1923, with Rowntree's reducing from 2.3 to 1.2. In addition, the measure of the impact of investment in plant and machinery on sales revenue is the sales to fixed assets ratio, which produced a similar story of declining performance, whereby Cadbury's ratio fell from 7.8 to 4.9 in the period 1919 to 1923, with Rowntree's ratio also reducing from 8.0 to 3.0.

As far as liquidity for the two companies is concerned, the healthy current ratio experienced by both companies in 1920 was maintained by Rowntree's (3.4 in 1923), but declined to 1.6 for Cadbury - below the crucial 2.0 minimum as advised by most commentators in the contemporary literature. This reduction in overall liquidity is also apparent by examining the net worth to fixed assets ratio which indicates the extent to which cash is tied up in the form of non-current assets. This measure also declined for both companies during this period, particularly so for Cadbury, but indicated a reduction in their overall liquidity for them both. However, efficiency in inventory management as measured by the sales to inventory ratio is evident for both companies with Rowntree improving from 2.4 in 1919 to 3.2 in 1923, although Cadbury's achieved a stronger ratio from 2.6 to 5.0 during the same period, indicating that both firms were improving their merchandising capacity.

Apart from a spike in 1920, the sales to receivables ratio deteriorated for both companies between 1919 and 1923, but more so for Rowntree, providing evidence that as sales revenues reduced in this period the length of credit offered to trade customers was being extended in an attempt to incentivise them. This equated to an average of 44 days credit in 1919, rising to 46 days by 1923 being offered by Cadbury, and from 41 days in 1919 to 64 days in 1923 for Rowntree, demonstrating the desire by both companies to hold on to customers. The consequences, however, are that there becomes an over-investment in customer credit, increasing the necessity of additional working capital.

Long-term debt, combined with its inherent risks, was not a particular issue for both companies during this period. Cadbury had made some loans during 1920-22, but by 1923 none were reported. Rowntree also did not show any long-term debt at this time.

1924-28

The years of uncertainty and economic volatility following the end of the Great War were a time of adjustment and realignment for both Cadbury and Rowntree as they both strove to meet the challenges of the new environment. However, once these new threats and opportunities had been identified and understood, by 1924 it was down to each company to create strategies and internal competencies to improve their overall performance.

In the years leading up to 1924, Cadbury had already embarked on a policy of high-volume, low-cost, based upon their ability to improve efficiency through the investment in mechanisation schemes and the careful reorganisation of internal processes, supported by the role of the cost office as previously discussed. Consequently, although sales volumes increased during this period, actual revenues for Cadbury fell from £7.2m. in 1924, to £6.6m. in 1928, evidence of insufficient additional sales to recoup the loss due to price reductions. This failure had the effect of reducing their market share during the same period from 10.6% in 1924 down to 9.8% by 1928. Rowntree's meanwhile, experienced a modest improvement in actual sales revenues during the same period, rising from £3.3m. in 1924 to £3.6m. in 1928 (+9.1%). This therefore had the corresponding effect of them improving their market share from 4.8% to 5.3% during this five-year period.

This difference in market performance between the two companies was also evident in terms of gross profit, with Cadbury experiencing a reduction from £3.4m. in 1924 down to £2.7m. by 1928. This reduction in actual gross profit was also reflected in the gross profit ratio (1924, 46.2%; 1928, 41.7%). By contrast, Rowntree improved their overall actual gross profit during this period by 16% (£1.2m. in 1924, £1.4m. in 1928), resulting in a corresponding increase in their gross profit ratio from 36.2% up to 38.2%. For both companies, however, after a period of raw material price reductions, this five-year period saw these begin to increase again, particularly ingredients, which was a contributory factor in the reduction of Cadbury's gross profit. The ingredients cost ratio for Cadbury rose significantly from 34.9% in 1924 to 42.3% by 1928. This ratio also increased for Rowntree's, but not by as much (33.6% in 1924 to 35.5% in 1928), which was a factor in their own overall gross profit performance. Packing materials costs, however, reduced as a percentage of

sales during this time for both companies. As a final component of the effect on gross profit, the quest for efficiency by Cadbury and Rowntree saw the direct labour ratio reduce during this period. As a comparator it is important to note that by 1928 this ratio was 16.1% for Rowntree, compared with 9.6% for Cadbury as a direct consequence of their increased mechanisation plans beginning to have the desired effect.

The differing gross profit performance of the two companies percolated down to their respective operating profit figures, with Cadbury's reducing by half from £1.4m. in 1924 to £0.7m. by 1928, resulting in a similar operating profit ratio reduction, falling from 19.3% to 10.2% in the same period. Moreover, whilst the general overhead ratio increased slightly for Cadbury, it was the sharp rise in advertising costs, (4.2% of sales revenues in 1924, rising to 7.9% in 1928), which had the greatest effect. The failure to attract sufficient sales to compensate for revenue reductions as a consequence of their price reduction strategy meant that Cadbury had little alternative but to invest more in consumer communication. For Cadbury, these deficiencies had a direct impact on their operating profit to net worth ratio, which reduced from 31.1% in 1924 down to 15.5% by 1928. By contrast, for Rowntree, as was the case with gross profit, their actual operating profit rose during this time from £0.2m. to £0.3m., with a corresponding increase in operating profit ratio from 5.4% to 7.7%. Similar to Cadbury, Rowntree maintained control of general overheads, but also recognised the need to increase their investment in advertising, resulting in the advertising costs rising to over 10% of sales revenues by 1928 for the first time since the end of the Great War. Despite this increase in advertising costs, the operating profit to net worth ratio rose for Rowntree from 6.7% in 1924 to 10.4% by 1928. Aside from 1919, this difference in this important measure for 1928 was to be the closest that Rowntree came to Cadbury for the whole inter-war period.

Despite the absolute advantage that Cadbury had over Rowntree regarding the operating to net worth ratio, their increasing capital investment in non-current assets (£1.4m. in 1923 to £2.0m. by 1928) was not producing the benefits that should have been expected. Similar to the previous five-year period, Cadbury's failed to generate sufficient sales as indicated by the sales to worth ratio. This ratio fell from 1.61 in 1924, to 1.53 in 1928. This was compared to a rise for Rowntree from 1.25 to 1.35 in the same period. Looking at the more specific ratio of sales to fixed assets, again we

see the Cadbury performance deteriorating from 5.0 in 1924 to 3.2 by 1928, further evidence of insufficient sales being generated for the level of increases in non-current assets that the company was making. Rowntree, on the other hand, experienced an improvement in their sales to fixed assets ratio, which improved from 3.1 to 3.6 during this period. An alternative measure of an over-investment of capital in non-current assets is the net worth to fixed assets ratio. For Cadbury, the decline in this ratio that started in the previous five-year period, continued over the next five years from 3.1 in 1924 down to 2.1 in 1928, implying a falling off in the earning power of money invested in non-current assets. By contrast, for Rowntree this ratio improved slightly by 0.1, suggesting a more efficient use of invested capital.

Management of working capital became an issue for both companies in this period, with the deterioration in liquidity for Cadbury which had started in the previous five-years, continued unabated for the company, and by 1928 the current ratio had been reduced to 1.0, this being the absolute minimum ensuring company survival suggested by contemporary commentators. This deterioration occurred for Rowntree's. They had previously enjoyed a comfortable current ratio, but by 1928 this had gradually fallen year by year to 1.8, and although better than Cadbury, was now below the theoretical recommended level of 2.0. However, efficiency in stocks management was evident as demonstrated by the sales to inventory ratio which for Cadbury slightly increased by 0.1 during the period, but was even more so for Rowntree by 1.1. But the measures to promote the continuing drive for increased sales that had begun in the previous five years continued, as exemplified by the extended credit arrangements provided to trade customers. This resulted in the reduction of the sales to receivables ratio for Cadbury from 7.5 in 1924 to 6.7 by 1928, and for Rowntree from 5.5 to 5.0.

Both Cadbury and Rowntree had not incurred any long-term debt obligations during this period resulting in zero debt to net worth ratios.

1929-33

The efforts by Cadbury and Rowntree to improve their sales revenues which had been a feature of the previous ten years, via increased advertising expenditure and extended credit terms for the trade, had mixed results. For Cadbury, from 1929

onwards, these initiatives appeared to bear fruit as absolute sales revenues increased up to £7.0m. before the worldwide depression of 1929 started to manifest itself on the UK economy, and consequently revenues declined to £6.5m. by 1933, which were approximately at the same level as ten years previous. For Rowntree, who had previously enjoyed modest improvements in sales, also succumbed to the realities of the economic climate and saw their revenues fall from £3.6m. at the end of the previous five-year period down to £2.7m. by 1933. However, along with the reductions in sales revenues for Cadbury, the general economic environment also saw total UK confectionery market revenues decline by 15.4% which had an even greater adverse effect on other manufacturers. Consequently, Cadbury actually gained some modest market share, which increased from 10.2% in 1929 to 11.6% by 1933, their highest since the end of the Great War. For Rowntree the position was less favourable, they experienced a modest reduction in their market share, from 5.1% to 4.8% in the same period, with their 1933 figure being the same as for 1924.

This changing economic landscape necessitated an even greater emphasis on cost and profitability information to ensure competitiveness. For Cadbury, the actual gross profit rose briefly in this five-year period and ended £0.2m higher in 1933 than in 1929 at £3.4m., resulting in an improvement in the gross profit ratio from 47.0% to 51.6% between 1929 and 1933. The general world economic depression caused raw material prices to fall, resulting in the ingredient cost ratio for Cadbury reducing from 37.8% in 1929 to 33.7% by 1933, this being one of the factors in the improvement in gross profit. However, one of the key drivers of the Cadbury strategy - the reduction of direct labour – resulted in minor improvements in the direct labour cost ratio, reducing from 8.6% in 1929 to 8.4% by 1933. This improvement in this ratio should have been better, but was tempered by the continuing failure by the company to generate sufficient additional sales revenues. In contrast, the actual gross profit for Rowntree during this period fell to £1.1m. by 1933, after a previous period of consolidation. This figure was the same as reported during 1923, some ten years earlier. This had the effect of slightly reducing the gross profit ratio for Rowntree from 41.8% in 1929 to 40.0% by 1933. However, it is worth pointing out that this gross profit ratio was significantly higher than the 1923 figure, demonstrating that the company was now generating a higher proportion of gross profits relative to sales revenues, emphasising the drive for efficiency. Unlike Cadbury, Rowntree were

unable to utilise lower raw material prices and saw their ingredients cost ratio increase, again albeit slightly, from 33.9% to 35.1%, although some benefits in the packing materials cost ratio were experienced. In addition, the gradual reduction in the direct labour ratio that had been achieved by Cadbury was not evident at Rowntree, and by 1933 had risen to 16.9% of sales revenues. This figure was now twice the level of Cadbury (8.4%), and was as a direct consequence of increased complexity due to the larger range of individual lines that the company was offering on its price list.

Despite the encouraging performance regarding gross profit during this period, the operating profit level for Cadbury can only be described as volatile. Throughout these five years, the absolute level of operating profit showed no level of consistency, ending up at £0.8m. in 1933, which was roughly the same level as at the end of the previous five-year period in 1928. This volatility was also mirrored in the operating profit ratio, which in the same way as the absolute operating profit, saw upwards and downwards swings throughout these five years, ranging from a low of 10.7% in 1930 to a high of 16.8% in the following year. As a determinant of the level of operating profit, advertising costs at Cadbury continued to grow year on year, with the advertising cost ratio peaking at 10.7% of sales revenue in 1933, the highest level that would be experienced during the entire inter-war period. However, an examination of the overheads cost ratio illustrates an inexorable rise during this period from 23.8% in 1929 up to 28.0% by 1933, despite the distribution savings made through the introduction of the railhead depot system, although as previously ascertained, these savings did not become fully realised until 1932. Moreover, the constant debate at Cadbury board level, on the level of overheads within the company provides evidence of an inability to control these effectively - a direct consequence of the absence of an integrated budgeting system within the company. Rowntree on the other hand, experienced stability regarding the absolute level of operating profit, reporting £0.2m. for every year except one during this five-year period. However, their operating profit ratio for the same time did decline overall from 8.1% in 1929 to 6.7% by 1933, but without the level of volatility experienced by Cadbury. Rowntree continued to invest in advertising as they had been doing consistently since the end of the Great War, and by 1933 the advertising cost ratio was 11.5%, which was as close to the Cadbury figure (10.7%) for the whole interwar period.

The volatility affecting the operating profit at Cadbury was also evident in the operating to net worth ratio, which having deteriorated in the previous five-year period, increased only slightly in the years 1929-33. For Rowntree, however, their operating profit to net worth ratio demonstrated a downward trend, falling from 10.1% in 1929, to 6.8% by 1933.

As in previous periods, the sales to net worth ratio also continued to fall for both companies, suggesting that the appropriate revenues to sustain investment were still not being achieved. It comes as no surprise therefore, that the sales to fixed assets ratio also deteriorated for both companies as the investment in non-current assets in the form of plant and machinery was not generating enough revenues. The sales to fixed assets ratio for Cadbury went down from 2.8 in 1929, down to 2.6 by 1933, and for Rowntree from 3.4 to 2.9 in the same period. Additionally, the net worth to fixed assets ratio also shows a decline for Cadbury, emphasising the fall in the earning power of its non-current assets, although for Rowntree this appears to have stabilised somewhat suggesting a more efficient usage.

The deterioration in liquidity, as demonstrated by the current ratio, that had been affecting both companies in the previous five years, continued to 1933. This was despite the fact that both had been operating below the accepted safety margin of 2.0 suggested by contemporary commentators. Indeed, for Cadbury, 1929 saw their current ratio slip below 1.0 to 0.9, effectively meaning that their current liabilities exceeded their current assets which for their stakeholders, put the company in a position of potential bankruptcy. This perilous position continued throughout this period, and by 1933 the ratio had fallen still further to 0.7. Cadbury were clearly operating their business in a state of heightened risk, for which an unexpected event could have catastrophic consequences. It is unclear whether Cadbury were aware of this heightened risk posed by their liquidity issues and it is inconceivable that the management of the company would have taken measures to deliberately exacerbate the situation. In the same way it was also the case for Rowntree, where their current ratio also slipped to 1.2 in 1931 and 1932 before recovering to 1.4 by 1933, although this was by far the worse position than at any time since the end of the Great War.

Efficiency in stocks management at Cadbury improved even further during this time, with the sales to inventory ratio rising from 5.0 in 1929 to 6.2 by 1933, further

evidence of the growing competence in internal planning of raw materials, work in progress and finished goods. Rowntree on the other hand saw their sales to inventory ratio decline for the first time during the inter-war period. Moreover, also impacting on effective management of working capital was the sales to receivables ratio which had been deteriorating for both companies, as they attempted to encourage more sales uptake from the trade. However, this downwards trend stabilised somewhat during this five-year period, especially for Cadbury which only reduced by 0.1, from 6.5 in 1929 to 6.4 in 1933. Rowntree also ended the period with a ratio of 5.5 which in fact was an improvement on the position during the previous five years. For both companies they must have arrived at a situation whereby they could not extend credit terms any further without damaging their overall cash flow position even more.

1934-38

Perhaps the most significant event in this five-year period, which affected performance evaluation was the formal merging of Cadbury with Fry in 1935. An amalgamation between the companies had already existed since 1918 under the umbrella of a holding company called the British Cocoa and Confectionery Company, although Cadbury and Fry had operated as independent businesses until 1935.

Absolute sales revenues at Cadbury, which had slowed during the previous five years, began to improve during 1934, and accelerated from 1935 onwards, a direct consequence of the inclusion of Fry's sales, but also as a result of the reversal of the years of price-cutting policy that the company had been following. So by 1938, Cadbury's actual revenues were £9.3m., a 32.9% increase over the 1934 figure. This resulted in an improvement in market share from 12.9% in 1934 to 15.3% by 1938. However, for Rowntree this period saw their sales revenues grow even faster, mainly due to the product and marketing initiatives described in chapter 2. The results were dramatic as their revenues increased by an impressive 88.8% during this period from £2.7m. to £5.1m., with a corresponding improvement in market share from 5.0% to 8.4%.

The gradual improvement in actual gross profit for Cadbury that had been in evidence in the previous five years now accelerated with an increase of 10.3% between 1934

and 1938 to £4.3m., which was their highest level during the inter-war period. However, despite this improvement in actual gross profit, the effect of the improvements in sales revenues were not translated by the same proportion, this being evident in the gross profit ratio which for Cadbury fell from 55.9% in 1934 down to 49.0% by 1938. The principal reason for this apparent failure was the sharp increase in ingredient prices that were being discussed at Cadbury board level previously identified. The ingredients cost ratio therefore increased from 29.8% to 38.6% in this period, with a peak of 46.0% during 1937. The other drivers of cost: packing materials and direct labour, both fell as a percentage of sales, thus highlighting the effect of ingredients as the major impact on gross profit. Meantime, Rowntree experienced a more substantial improvement in actual gross profit of 54.5% from £1.1m. in 1934 to £1.7m. by 1938, and similar to Cadbury this was their best performance of the inter-war period. But just as Cadbury suffered in terms of the gross profit ratio, Rowntree also saw this decline in much the same way as a consequence of the impact of increases in ingredient prices, with the ingredient cost ratio rising from 33.1% in 1934 to 40.6% by 1938, with 1937 being the worst year at 44.8% of sales. The packing materials cost ratio fell slightly and direct labour stabilised at just over 17.5%. So as with Cadbury, the major impact on gross profit was the variability of ingredient prices.

The absolute level of operating profit only improved marginally for Cadbury during this time, and the 1938 level of £1.2m. was exactly the same in 1919, some twenty years previously, with the impact of the ingredient price increases forcing the 1937 figure down to £0.7m., which was one of the worst of the inter-war period. This impacted on the operating profit ratio, reducing this from 19.1% in 1934 down to 12.9% by 1938, forced down by the ingredients cost, but also by the decision to increase advertising costs in 1938 after these had been falling during the previous three years. This meant that the advertising cost ratio climbed back to 7.3% by 1938, after reducing down to 6.0% the previous year. In addition, the burden of overheads remained an issue for the company, although by 1938 the overheads cost ratio had stabilised at 26.0%. For Rowntree this period saw the continuation of the stability of their absolute level of operating profit, which like the previous fifteen years had been at £0.2m./£0.3m. per annum. But like Cadbury, the trickle down of ingredient cost increases caused the operating profit ratio to decline to 5.3% by 1938, exacerbated by

a similar decision to increase advertising expenditure in 1938. Also like Cadbury, Rowntree were faced with increasing levels of actual overheads, although the overheads cost ratio was kept at 20.5% in 1938, and had even fallen to 15.0% during the previous year.

The impact on the operating profit to net worth ratio was therefore different for the two companies, with Cadbury seeing theirs fall from 29.3% in 1934, down to 18.8% by 1938, with a low of 14.7% in the difficult year of 1937. Rowntree, meanwhile, buoyed by successes in the marketplace due to the new product introductions described earlier, enjoyed an improvement in the operating profit to net worth ratio from 6.8% in 1934, and closing at 8.5%.

The sales to net worth ratio, which had been steadily declining for both companies since the early 1920's, experienced an improvement from around 1935. For Cadbury this meant an increase 1.49 in 1933 up to 2.02 by 1937, before slipping back to 1.46 in 1938. This was also the case for Rowntree who saw theirs rise from 1.0 to 1.6 during the same time, evidence that an appropriate rate of revenues was now being generated. This was also the case when examining the sales to fixed assets ratio, which saw similar movements in the right direction, although it is worth pointing out that for both companies these ratios were well below the early 1920's figures. However, the net worth to fixed assets ratio finally started to show signs of improvement for Cadbury, indicating a more efficient use of capital, whilst Rowntree's stability for this measure continued as it had been since the early 1920's.

The deterioration in the liquidity position, which had been affecting both companies during the preceding ten years, appeared to be resolved by the late 1930's. This was especially true for Cadbury, who had previously been exposed to a real threat of liquidation as they were constantly operating negative working capital for a number of years. However, in 1937 their current ratio reached 1.2, and in 1938 became 2.0, this being the accepted norm for a stable liquid business. This was the same for Rowntree, who had enjoyed a more acceptable range of current ratios in the previous ten years, and they too had improved on this situation by the late 1930's with a 1.5 ratio in 1938.

By comparison, the efficiencies in stock management that had been a feature of both companies since the end of the Great War were reversed during this period. The sales

to inventory ratio for Cadbury peaked in 1934 at 6.4, but declined thereafter to 3.7 by 1938, one of the lowest in the inter-war years, with Rowntree also suffering the same fate, falling from 5.2 down to 4.3 in the same period. Both businesses were clearly faced with a challenging and changing market environment in the last half of the 1930's, and consequently their ability to successfully manage stocks was clearly compromised. However, the management of debtors stabilised during this five-year period with the sales to receivables ratio for both Cadbury and Rowntree improving, suggesting that the previous policy of extended credit terms to trade customers was now at an end.

Finally, for the first time since 1920, Cadbury incurred some long-term debt from 1933, resulting in their debt to net worth ratio fluctuating during this period, ending at 0.097 in 1938, following a maximum of 0.201 in 1936. Rowntree meanwhile continued to have zero long-term debt obligations, as had been the case during the whole inter-war period.

6.6 Conclusions

Having charted the performance measures of Rowntree and Cadbury during the interwar years, a number of trends and key differences can be identified. In terms of the absolute measures, the trend in sales revenues performance for both companies was very similar, with growth only occurring from around 1934-5, although there was a constant £4 million per annum difference between the two companies. This was mirrored in the similarity in the trend for market share, whereby Cadbury enjoyed a constant superiority over Rowntree, but with significant growth obtained only from 1934-5 onwards. The upward trend in absolute gross profit show a better performance for Cadbury, but this was not translated into growth in their operating profit which was characterised by volatility. Rowntree's by comparison, experienced a more stable performance in both gross and operating profit, demonstrating better efficiency in control of overheads. The profitability ratios for the interwar period follow the same trend as the absolute measures, although the difference in the gross profit ratio between the two companies was not as marked.

The detailed trends in costs that impacted upon profitability again show some similarities, particularly in the important ingredients cost ratio. There were, however,

some key differences, especially in the packing materials cost ratio which constantly reduced for Rowntree's, and in the direct labour cost ratio, which lowered for Cadbury's. Those costs which affected operating profit: advertising and overheads, demonstrated similar trends but also differences. There was a strikingly similar trend for both companies in the advertising cost ratio throughout the interwar period, with Rowntree's exhibiting a higher ratio throughout. However, as alluded to above, the overheads cost ratio was constantly higher for Cadbury, with this increasing significantly from around 1931, whereby this ratio began to decrease significantly for Rowntree from the same period.

Looking at the ratios which measure the efficacy of capital employed, the operating profit to net worth ratio demonstrates a similarity to the operating profit ratio whereby the volatility at Cadbury's is contrasted with stability at Rowntree's, with neither company showing growth. Similarly, the effectiveness of the way in which sales revenues have been generated from the capital employed, as measured by the sales to net worth ratio and the sales to fixed assets ratio, also show similarities. These ratios demonstrate reductions for both companies, indicating failure to generate sufficient revenues to justify the level of investment made. This view is confirmed by the net worth to fixed assets ratio which showed a decline for the interwar period, meaning that there had been an over-investment in fixed assets for both companies, but particularly so for Cadbury's.

In terms of working capital arrangements, the measure of liquidity via the current ratio again shows a similar downward trend for both companies, with improvement only occurring after 1937. Indeed, for Cadbury the years 1929 to 1937 saw the company experience a period where their current liabilities exceeded their current assets, thereby exposing the company to risk of liquidation. Although Rowntree's were never in the same negative liquidity situation as Cadbury, they too were below the advisory minimum current ratio threshold for the majority of the 1930's. Continuing with measurements of the management of working capital, a similar trend in inventory management occurred between the two companies, but Cadbury's experienced greater volatility. This is measured by the sales to inventory ratio, and this measure began to decline for both Cadbury and Rowntree from around 1933-34. There was also similarity in the trend regarding decline in the sales to receivables

ratio, confirming the extending of credit facilities to the trade in a bid to secure additional sales.

Therefore, the question of which company performed better during the interwar period would depend on attitudes to risk, perception of what constitutes good management and in addition, what was the overall effect on each company's profitability and market share expectations? The next chapter will discuss the ways in which the development and operation of cost accounting methods contributed to the overall performance of Cadbury and Rowntree as measured in this chapter. Moreover, the next chapter will also consider where any shortcomings in cost accounting sophistication were the reasons for the performance failings that have been identified.

Section 3 – Data Analysis

Chapter 7

What was the contribution of cost accounting techniques to the overall performance of Cadbury & Rowntree between 1919 and 1938?

7.1 Introduction

The realisation by Cadbury and Rowntree of their respective company strategies during the interwar period resulted in performance outcomes as presented in Appendix 11 and discussed in the previous chapter. This chapter will focus on the ways in which the application of the cost accounting by the two companies described in chapters 4 and 5 supported this performance. In addition, it will also identify whether the level of sophistication that was achieved in cost accounting techniques contributed to any deficiencies in performance. The capabilities that would have had an influence on this performance, and would have been supported and informed by appropriate cost accounting techniques include:

- Pricing decisions
- Application and measurement of efficiency
- Control of overheads
- Planning, budgeting and forecasting

This chapter will examine the extent of these capabilities at Cadbury and Rowntree to ascertain the effectiveness of cost accounting techniques on the overall performance of both companies.

7.2 Pricing Decisions

Perhaps the single most important factor that influenced demand in the UK confectionery market during the interwar period was consumer pricing. As discussed earlier it was the strategic intent of Cadbury to compete on price, and, to a lesser extent on quality, during this period. Their ability to implement this strategy was predicated on their competence in making pricing decisions, supported and informed

by information generated through their cost accounting system. Despite the gradual reductions in consumer price during the interwar years, it was still believed by managers at Cadbury that this would provide an accepted level of profitability, enabled by cost reductions. Indeed, as described in chapter 5, the principal aim of the cost office at Cadbury was to ensure that each individual line on the price list achieved the company's pre-determined profit expectations, although it is not clear how the company arrived at what it considered to be an acceptable level.⁸⁸³ Moreover, as the cost office had been formally in operation since 1903, the company had by the interwar years built up the necessary experience to calculate product costs. The policy at Cadbury was to prepare product profitability on a 'total cost' basis, that is to include prime cost and, in addition, some allocation of factory and general overheads. However, the company's overheads apportionment method that was in place was based on an estimate of the projected sales volume and mix at the start of the year, and was never recalculated during the course of the year as more up-to-date information became available. Consequently, the overheads recovery rate assigned to product costs quickly became inappropriate. So whilst the company thought that the information emanating from the cost office relating to product costs was "accurate", this was only partially correct. Indeed, the archive at Cadbury shows no evidence that the company prepared any data during this time on the relationship between price reductions, cost savings and the additional volume that would be required to sell in order to generate an overall increase in profit. This point is made clear by Sanders in the contemporary literature:

"It would not be worthwhile to cut prices to the point where the net profit on the increased output was smaller than the net profit on the lesser output had hitherto been."⁸⁸⁴

Sanders also made the point that to pursue a strategy of price reduction requires the ability of a business to make careful forecasts of all the factors involved, especially in the way that costs behave relative to changes in output. Only by doing this can the decision to reduce prices be quantified and the increased level of required revenues be determined.

⁸⁸³ Price lists were protected from trade discounting by Resale Price Maintenance (see Chapter 1 for a full discussion).

⁸⁸⁴ Sanders, "Overheads in economics and accounting", p. 18.

Whilst Cadbury had built a cost-finding capability since 1903, and were to some extent the prime movers in the compilation and publication of the standard work on the subject for the whole UK confectionery industry,⁸⁸⁵ they had little idea whether or not the strategy that they were intent on following would produce the revenues or profits to justify this policy. This would account in some way for the volatility of both gross and operating profit for Cadbury during the interwar period, as described in chapter 6.

It is argued that despite Rowntree's having only formalised a functional cost office in 1918, the company had been preparing detailed product costs since the arrival of Joseph Rowntree into the company in 1861, and had therefore accumulated longer experience. Indeed, as demonstrated in chapter 4, the company were preparing product cost data which formed the basis of pricing decisions that had needed to take place from around 1870. From this, the company could then calculate product profitability to inform appropriate decision-making. Following the establishment of the cost office in 1918, the provision of this information became more formalised, rather than *ad-hoc* as was previously the case. Moreover, as discussed in chapter 4, Rowntree's had also by 1918 developed a capability in the provision of estimated costs/profitability, meaning that there could be a fast response to any proposed ideas for new lines into the market, which would hasten decision-making. This capability provided the company with competence in supporting the emergent strategy that was to profitably develop, manufacture and market a wide range of individual lines serving niche markets. In the absence of large volume lines based on mass production techniques that Cadbury enjoyed, this was clearly an alternative strategy that Rowntree could follow and still remain in business. The basis of the Rowntree model was that in addition to its standard branded lines, it would also sell cheaper unbranded products and also own label products to the growing number of chain stores.⁸⁸⁶ These stores were beginning to assert a growing influence on the market and the ways that manufacturers interfaced with the trade in terms of alternative product offerings.⁸⁸⁷ The increase in the number of individual lines that the company sold in the inter-war years is demonstrated in Table 7.1.

⁸⁸⁵ Amsdon, *Costing for the Cocoa, Chocolate and Sugar Confectionery Trades*

⁸⁸⁶ Fitzgerald, *Rowntree and the Marketing Revolution*, p. 169, p. 286 and p. 293.

⁸⁸⁷ See Chapter 1 for a full discussion on the rise of multiple retailers.

Table.7.1 Rowntree Total Number of Lines 1920-1935

	1920	1929	1935
Number of lines	205	368	440

Source: Fitzgerald, R. (1995) *Rowntree and the Marketing Revolution* (p. 88).

It should also be noted that Rowntree's also developed a market for "Fancy Boxes" (essentially special seasonal lines) during the early 1930's, and the main constituent of the increase in the number of packs offered by the company between 1929 and 1935 shown in Table 7.1 was based on these Fancy Boxes which grew from 7 in 1929 to 171 by 1935.⁸⁸⁸

This alternative strategy that Rowntree's were perhaps forced into, of having a range of standard branded products supplemented with additional cheaper unbranded offerings and also some short-term seasonal "Fancies", required a different approach to costing and pricing decisions. With this in mind, Rowntree's were substantial consumers of the latest theories surrounding management as demonstrated in chapter 4 and evidenced by the range of books and journals that were being added to the company's technical library at the request of practicing managers in the organisation. The seminal work by Williams of the Taylor Society that was received in the technical library and later identified by Seebohm Rowntree as the basis for the creation of a budgeting system, was also notable for the clear identification and use of marginal costs and marginal contribution.⁸⁸⁹ In addition, the idea of broadening the standard product range to include cheaper unbranded offerings was consistent with the theory of 'price discrimination' suggested by Clark, whereby a possible solution to the problem of unused capacity is for a company to offer essentially the same product to different markets at different prices.⁸⁹⁰ John Wardropper, chief cost accountant at Rowntree made reference to the concept of the marginal approach when assessing non-standard business in his own published work.⁸⁹¹ Evidence that the cost office understood the role of their variable and fixed elements, and consequently were calculating costs on certain of their lines on a marginal basis is provided in William Wallace's unpublished biography where he claimed that the company were pioneers

⁸⁸⁸ Fitzgerald, *Rowntree and the Marketing Revolution*, p. 88.

⁸⁸⁹ Williams, "A Technique for the Chief Executive", p 51.

⁸⁹⁰ Clark, *Studies in the Economics of Overhead Costs*, p. 23.

⁸⁹¹ Wardropper, *Records and Costing*, p. 231, in Northcott, *Factory Organization*.

in the use of marginal costing approaches to decision-making.⁸⁹² Therefore, the role of cost accounting at Rowntrees was crucial to their ability to follow a particular strategy and to maintain a relatively constant level of profitability between 1919 and 1936, from which date product development and marketing of the company's successful new range of count lines began to bear fruit c.1936.

7.3 Application and Measurement of Efficiency

As discussed in chapters 4 and 5, both Cadbury and Rowntree advocated the application of scientific management. Of the two companies it was perhaps Cadbury who first realised the potential benefits of scientific management following the appointment of Edward Cadbury as joint managing director in 1899.⁸⁹³ A key foundation of scientific management which the company quickly identified was pursuit of efficiency as the foundation for their ultimate strategy. As discussed in chapter 5, the quest for efficiency began prior to the Great War, with the cost office having been formally established in 1903, to measure the company's performance in this respect. The use of external American consultants for the identification and implementation of efficiency at the Bournville works in collaboration with the cost office was testament to its importance to the management at Cadbury. In addition, the application of mechanisation schemes that had commenced prior to the Great War, which were greatly increased following the Armistice, were to become the principal method by which efficiency could be achieved. The obvious way that efficiency would be measured was in increased productivity thereby reducing direct labour costs. The role of the cost office was vital in the assessment of proposed mechanisation schemes and the subsequent identification of labour savings. The reduction in the direct labour cost ratio at Cadbury which declined from a peak of 11.1% in 1922 to 7.6% by 1938, exemplifies the drive towards efficiency through mechanisation made possible by information emanating from their cost accounting systems.

Rowntree's, on the other hand, did not rely so heavily on mechanisation as Cadbury, although they did invest in non-current assets as appropriate. However, it was in their application of the knowledge of the market environment, combined with the

⁸⁹² Wallace, *I was Concerned*, p. 143. Unpublished autobiography. Borthwick.

⁸⁹³ Edward Cadbury articulated his understanding of Scientific Management and how this would be applied to Cadbury in his book *Experiments in Industrial Organisation*, pp. i – xxi.

subsequent introduction of appropriate product offerings that was to be their strength. A key enabler of this capability was the establishment of the Economic and Business Research office by William Wallace in 1924 to carefully monitor the external environment.⁸⁹⁴ This required close co-operation between sales, product development and the cost office, whereby any proposal for a new pack could be processed efficiently from a commercial, technical and financial perspective. Evidence of the way that Rowntree's improved the efficient introduction of new pack offerings is provided by the packing materials cost ratio which due to the additional complexity of this strategy, would normally increase. However efficiency in the development of new lines meant that the packing material ratio actually fell from a peak of 17.0% in 1920 down to 7.1% in 1936.⁸⁹⁵ Improved efficiency in the introduction of new lines was one of the cornerstones of Rowntree's ability to survive during the inter-war years.

Given that both companies sought to gain efficiencies through the appropriate investment in plant and machinery, the operating profit to net worth ratio would provide an indication as to whether the company's capital (net worth) was being used efficiently. As discussed in chapter 6, for Cadbury the inter-war years saw this ratio behave in a particularly volatile fashion which suggests this was less than efficient. In addition the sales to fixed assets ratio consistently fell during the same period which meant that insufficient sales were being generated for the level of investment that had been made. By comparison, Rowntree's operating profit to net worth ratio was more stable, although still lower than Cadbury, providing evidence of a more measured and conservative approach to the investment in capital assets. Therefore for Cadbury an explanation of their relative inefficient use of capital is that the company failed to utilise techniques of financial forecasting. This would have enabled them to ascertain the level of additional sales revenues that would be required to offset the reductions in price that had been enabled by cost reductions. It is argued that this was a major failing of the company in the execution of their strategy.

⁸⁹⁴ See Chapter 4 for a detailed description of the Economic and Business Research office.

⁸⁹⁵ Horrocks provided an explanation for this in the way that the Research Groups at Rowntree paid great attention to packing materials, and how these could be used more efficiently. (Horrocks, "Consuming science", p. 97).

7.4 Recognition and Control of Overheads

Perhaps the most important problem that confronted many companies during the period of rapid expansion and complexity at the beginning of the 20th century was the control of overheads. Cadbury and Rowntree were no exceptions. The recognition of the increased presence and importance of overhead costs to a business had been well known throughout most of the 19th century. The review of the literature in chapter 3 reveals that Babbage had identified the nature of overheads or indirect costs, and how these behaved differently from direct costs.⁸⁹⁶ Garcke and Fells developed this further by suggesting that these costs should also be incorporated in some way into total product costs.⁸⁹⁷ By the turn of the century, Church⁸⁹⁸, Whitemore⁸⁹⁹ and Emerson⁹⁰⁰ had all contributed suggestions to the ways by which overheads could be allocated to overall product costs. Examination of the archives at Cadbury and Rowntree, described in chapters 4 and 5, has demonstrated that by the outbreak of the Great War, both companies had recognised the role of overhead costs and consequently had put in place relatively sophisticated methodologies for the allocation and apportionment of these costs to individual products, in order to derive total cost for each line. However, whilst this ability to recognise and apply overhead costs is a key attribute of cost-finding, it requires managers to further develop this knowledge in the subsequent attempting to understand the nature of these costs. It was therefore vital to know which cost fluctuates in relation to output and those which don't, and importantly, how these can be controlled in a way which is of benefit to the whole firm. This interpretation of overheads leads to the identification of variable and fixed costs and how these should be recognised and then used for appropriate decision-making. Again, the literature contains evidence that this was recognised by Garcke and Fells⁹⁰¹ and then developed into techniques such as break-even analysis by Hess⁹⁰² and evolved into the concept of marginal costing by Williams.⁹⁰³

⁸⁹⁶ Babbage, *On the Economy of Machinery and Manufacture*.

⁸⁹⁷ Garcke and Fells, *Factory Accounts*.

⁸⁹⁸ Church, "The proper distribution".

⁸⁹⁹ Whitemore, "Factory Accounting".

⁹⁰⁰ Emerson, "Efficiency as a basis".

⁹⁰¹ Garcke and Fells, *Factory Accounts*.

⁹⁰² Hess, "Manufacturing: capital, costs, profits and dividends".

⁹⁰³ Williams, "A technique for the chief executive".

So, whilst Cadbury and Rowntree both had methodologies in place for the treatment of overheads in the role of product costing, the evidence suggests that the recognition of fixed and variable elements of costs was better understood by Rowntree as already demonstrated previously by Wardropper.⁹⁰⁴ One of the key concepts surrounding overhead costs is that when a company experiences reductions in demand this generates “idle time”. Indeed, Clark’s seminal work on the understanding of the dynamics of overheads in the contemporary literature centred upon the fact that whilst businesses attempt to assign overheads to product in a rational fashion, the issue of unused capacity is not taken into account, thereby rendering any calculations inaccurate and misleading.⁹⁰⁵ Clark stated quite simply that:

“The study of overhead costs is largely a study of unused capacity”⁹⁰⁶

Clark suggested that unless the implications of changes in output are both understood and anticipated in any cost computations, the resulting decisions would be erroneous. Under the new order of increased mass production and mechanisation, Sanders developed Clarks’ proposition by stating that a firm must still sell products at a price that will maintain its plant and equipment even if it is not being run at full capacity.⁹⁰⁷ In the examination of Rowntrees costing practices in chapter 4, the archival evidence suggests that senior managers at the company, notably T.H. Appleton, understood the concept surrounding overheads as demonstrated by Clark. Indeed, Clark suggested that the way to cope with overheads that are not absorbed due to idle time was to employ the concept of “discrimination”.⁹⁰⁸ This refers to the theory that the same basic product can be sold to different classes of customer at different levels of price. For Appleton this meant that Rowntree’s should try and source any potential business which would then take up any idle time and the income derived would then contribute to overhead costs. Although criticised by some within the company of this “scatter-gun” approach, but in the absence of any credible alternative, this would provide the solution to the problem of overheads that Clark had identified. Moreover, this policy continued throughout the interwar years by Rowntree and involved the move to own label and other unbranded products at one end of the price discrimination spectrum,

⁹⁰⁴ Wardropper., *Records and Costing*, p. 231, in Northcott, *Factory Organization*.

⁹⁰⁵ Clark, *Studies in the Economics of Overhead Costs*, p. 1.

⁹⁰⁶ *Ibid.*

⁹⁰⁷ Sanders “Overheads in economics and accounting”, p. 17.

⁹⁰⁸ *Ibid.*, p. 19.

and to the development of higher priced “Fancies” at the other end. For both, the product of confectionery was essentially the same but it was recognised by the company that this basic product could be sold in different ways, to different consumers at different prices. For Clark, writing slightly later, this gave rise to the concept of “differential costs”, where costs are considered under different sets of conditions⁹⁰⁹. This means putting to work any idle overhead whenever a product is worth its differential (or variable) cost. This concept dovetails with marginal costing and marginal contribution that was beginning to be suggested by Williams and others, as discussed in chapter 3. Under these principles, Rowntree’s were therefore agreeing to develop and market products under marginal costing criteria that would have otherwise been rejected if they had been evaluated using total costs. One of the principal arguments of this thesis is that the execution of this policy was the reason why Rowntree were able to survive during the interwar years whilst returning a relatively stable (albeit lower than Cadbury’s) level of operating profit. Their understanding of the role and behaviour of costs that were sympathetic to the ideas emanating in the literature from Clark and Williams meant that a strategy could be employed by the company which did not depend on a relatively few large volume mass-produced lines that was typified by Cadbury.

So whilst the complexities surrounding overheads appears to have been understood by Rowntree’s, the archival evidence does not suggest that this was considered at Cadbury. Given the latter’s strategy predicated on their ability to reduce selling prices based on reduced costs, the successful execution of this strategy required that overall total costs for each product be ascertained, including taking into account direct costs and an allocation of indirect costs or overheads. However, as Ashley indicated, for this to operate effectively it was important to understand the behaviour of overhead costs and the mechanism by which these are then apportioned to individual products:

“If overheads are to be charged to the cost of particular products, however the allocation is determined, that with the relatively fixed expenses, the percentage addition to prime costs will vary with the volume of business. This means that with every marked increase in the volume of business (realised or anticipated) a new percentage figure must be worked out for overhead charges”⁹¹⁰

⁹⁰⁹ Clark *Studies in the Economics of Overhead Costs*, p. 51.

⁹¹⁰ Ashley, *Business Economics*, p.13.

The archival evidence suggests that Cadbury calculated the overhead apportionment rate infrequently, meaning that their calculated total product costs (and the consequent rate of profit) was not being changed to take account of changes in output; pricing decisions were taken on outdated information. This is crucial because, as Ashley noted, the consideration of overheads is vitally important in the execution of business policy.⁹¹¹

As discussed in chapter 5, for Cadbury the issue of overheads was constantly being discussed at board level with appropriate levels of concern regarding reports of any overall increases in their absolute level. The company appeared to be constantly requesting information from the cost office regarding overheads, but without any formal mechanism of how these could be better controlled. This will be discussed later in this chapter. However, the company did consider an important element of overhead costs in their decision to introduce a railhead depot system, which would reduce their overall distribution costs. Whilst there is some evidence to support the suggestion that this initiative eventually produced cost savings on a per unit basis, the overall increase in sales volume during the interwar years meant that overall distribution costs actually increased, due in part to the variability of distribution costs. Of course these costs have to be viewed in the light of reducing revenues due to price reductions. The company was uncertain that the benefits of the railhead depot system would compensate for the reduction in sales revenues, and there is no archival evidence that any formal calculations were made to provide a financial justification.

The measures described in chapter 6 indicate how the various consideration of overheads by Cadbury and Rowntree contributed to their relative performance during the interwar period. As already discussed, Cadbury's overhead cost ratio was constantly higher than Rowntree's during this time, thereby reducing their ability to secure a clear advantage at absolute operating profit level. Cadbury's policy of constantly introducing new mechanisation schemes as a way of reducing production costs meant the relentless increase in investment in non-current assets, resulting in the inexorable rise in depreciation costs, which contributed to the overall rise in overheads. It is argued that the company did not recognise the relationship between costs, revenues and volumes and their combined effect on overall financial

⁹¹¹ Ibid.

performance. Given that their whole strategy was based on this dynamic, the company appear to have had no idea of the total consequences of their decisions. Perhaps it was based on the vague logic that if costs can be reduced, then consumer prices can also be reduced, leading to overall increases in sales volumes. However, these plans were never quantified and nobody in the organisation really knew how much extra overall volume (let alone which individual products) would be required to generate the additional revenues that were needed for the whole strategy to deliver the appropriate returns. This failing by Cadbury was a consequence of their ignorance or understanding of the economic theory concerning the price elasticity of demand.⁹¹² Knowledge of the extent to which demand for a product will react to a change in its price is vital in any pricing decision. This information can be used to calculate the effect of price changes on revenue and, for *given costs*, profits. If Cadbury had been able to assimilate this information, they would have been in a better position to understand their price reduction strategy in the formulation of an “optimum price” which would have led to profit maximisation. This issue at Cadbury was not uncommon at the time as demonstrated by a seminal work by Hall and Hitch.⁹¹³ In their paper, Hall and Hitch carried out an empirical study during the 1930’s of a wide range of British companies in the consumer goods, textiles, intermediate products, capital goods, retailing and building sectors, in an attempt to discover the nature of behaviour surrounding pricing decisions. From their study, Hall and Hitch discovered a situation which mirrored the Cadbury experience:

“Most of our informants were vague about anything so precise as elasticity, and since most of them produce a wide variety of products we did not know how to rely on illustrative figures of cost. In addition, many, perhaps most, apparently make no effort, even implicitly, to estimate elasticities of demand or marginal (as opposed to average prime) cost; and of those who do, the majority considered the information of little or no relevance to the pricing process save perhaps in very exceptional conditions. The most striking feature of the answers was the number of firms which apparently do not aim, in their pricing policy, at what appeared to us to be the maximization of profits.”⁹¹⁴

⁹¹² Price Elasticity of Demand was first identified in Marshall, A. (1890) *Principles of Economics*. London: Macmillan.

⁹¹³ Hall and Hitch, “Price Theory and Business Behaviour” pp. 12-45.

⁹¹⁴ *Ibid.*, p. 18.

In an attempt to understand why this should be so, Hall and Hitch postulated that this was because companies were considering long-term profits rather than short-term maximization. However, they discounted this by suggesting:

“But the large part of the explanation, we think, is that they are thinking in altogether different terms; that in pricing policy they try to apply a rule of thumb which we shall call ‘full cost’ and that maximum profits, if they result at all from the application of this rule, do so as an accidental (or possibly evolutionary) by-product.”⁹¹⁵

Considering these findings – which applied to a swathe of British business during the 1930s - it should come as little surprise that Cadbury were not alone in their failure to base key strategic decisions on little or no information regarding their potential consequences. In addition, it should also come as no surprise that there was disappointing levels of growth in operating profit, as suggested by the Hall and Hitch study.

For Rowntree, their better understanding and subsequent control of overheads resulted in a lower overheads cost ratio than Cadbury for most of the interwar years, and generated a more stable (albeit lower) operating profit performance which sustained the company as a viable business until the product and marketing successes of the late 1930’s. It is argued here that this can be attributed to the way in which the company was aware of the latest cost accounting thinking, particularly on the behaviour of costs, informed by knowledge of the concept of marginal costing derived from the contemporary literature that was being digested by senior managers at the company.

7.5 Budgeting & Forecasting

As already discussed in chapters 4 and 5, the archival evidence for both Cadbury and Rowntree suggests that the contemporary techniques of budgeting had not been fully incorporated in either company prior to the outbreak of World War II. This is despite the fact that managers from both companies were exposed to the latest thinking on budgeting techniques through the literature, papers presented by leading speakers at the Oxford Conferences, discussions within the MRG’s and attendance at the important conference in Geneva organised by the International Management Institute.

⁹¹⁵ Ibid., p. 19.

The reasons for this failure are grounded in the fact that although the theoretical processes were well established by as early as 1922, the practical examples of budgeting in practice were quite rare in the UK.⁹¹⁶ However, as previously argued the evidence indicates that although senior managers at both companies were enthusiastic regarding the implementation of budgeting, the practical mechanics of doing so were not well known or perhaps understood. Indeed, McKinsey made the point that successful implementation of a budgeting system depends on the appointment of a senior executive to administer the complex process.⁹¹⁷ Both Cadbury and Rowntree do not appear to have understood the importance of having a senior representative taking charge, and it is therefore suggested that the chief cost accountant at each company did not consider himself as operating at that level of authority. So in the absence of a “champion” responsible for driving the process, the successful implementation of a fully integrated budgetary control system was unlikely to happen. In addition, there is evidence to suggest that it was only at Rowntree’s that the essential building block of budgeting - that of the preparation of standard costs - was in general operation within the company during the interwar years. By comparison, there is no evidence that Cadbury’s had established standard costs at Bournville prior to World War II. However, many of the other components of a budgeting system were established at both Cadbury and Rowntree, including the provision of detailed sales and production plans along with a rudimentary form of the estimation of overheads, but this was probably more of a permission to spend by departmental managers rather than a detailed appraisal of resources required.

Therefore, given that neither company had established a comprehensive method of budgeting as discussed in chapters 4 and 5, what effect did this anomaly have on their respective performances? For Rowntree, their strategy up to 1936 was to apply their knowledge of the market and to quickly develop product and pack offerings designed to exploit various niche markets which would contribute to overheads and profit. For Cadbury, their strategy was one of price cutting based on cost efficiencies driven by mechanisation. McKinsey suggested a framework for assessing the benefits to a company that a fully integrated budgetary control system could provide.⁹¹⁸ By

⁹¹⁶ Seminal work by McKinsey, *Budgetary Control*.

⁹¹⁷ McKinsey, *Budgetary Control*, p. 49.

⁹¹⁸ *Ibid.*, pp. 416-421.

employing the McKinsey framework⁹¹⁹ to Cadbury and Rowntree, it is possible to assess how their respective businesses benefitted by some of the partial budgeting processes that they had in place, and also to identify how the failure to fully incorporate a fully integrated budgetary control system contributed to deficiencies in their relative performance:

Coordination of Sales and Production – As previously identified in chapters 4 and 5, both Cadbury and Rowntree recognised the benefits to their respective businesses of successfully managing the complexities of their operations by the coordination of sales and production. This resulted in the fact that they were both able to determine the most efficient production plan to meet sales expectations, thereby preventing excessive inventories. The inventory to sales ratio detailed in chapter 6 measures the efficiency of inventory management and a rise in this ratio demonstrates improvements for both Cadbury and Rowntree during the interwar years. However, for Cadbury this had in fact peaked in 1934, so the final years of the 1930's did see this measure deteriorate somewhat. Also for Rowntree, this had also risen in much the same way as Cadbury between 1919 and 1938, also with a peak in 1934.

Formulation of a Profitable Sales and Production Programme – The application of cost accounting at both Cadbury and Rowntree meant that selling prices, costs and subsequent profitability were calculated and published for each product line, based on current information. Indeed as we have seen, this function was deemed to be the principal role of the cost office at both companies post-1918. In addition, both companies attempted to compile a sales plan, from which an appropriate production plan could then be assimilated. However, whilst the individual components appeared to be in place, the absence of a mandatory budgetary requirement meant that there was no attempt to bring these components together in order to try and formulate a view as to whether the current plan was profitable. Therefore whilst there was disparate information regarding individual product profitability and proposed sales/production plans at both Cadbury and Rowntree, there was no aggregation of this data to provide senior managers of the extent of the possible overall profitability for the whole company. The effect on performance is that attention was provided at a micro level which was then deemed to confirm appropriate performance at a macro

⁹¹⁹ Ibid.

level, but without the appropriate analysis to confirm this was the case. This failure meant that overall profit performance could have been improved for both companies if they could have used a standard cost system and applied this to the sales plan to try and formulate optimum profitability.

Coordination of Sales and Production with Finances – Effective management of working capital would have been greatly enhanced at both companies if the planned sales and production programmes could have been considered regarding the short-term financial requirements necessary to fulfil the proposed plan. This was especially true for Cadbury, whose liquidity position, as measured by the current ratio was a major deficiency for the company throughout the inter-war years. Indeed, this lack of coordination between sales, production and finance could have invoked bankruptcy for Cadbury, particularly during the 1930's when their current liabilities were greater than their current assets for much of this decade. Whilst Cadbury's working capital position was critical, Rowntree's situation was only marginally better and they too operated at well below the 2:1 accepted norm in their current ratio for most of the 1930's. This lack of planning of the financial requirements for the sales and production requirements at both companies is viewed as a major flaw in their overall management, and particularly so for Cadbury, as this could have been the cause of business failure.

Proper Control of Overhead Expenses – As previously discussed, the recognition, understanding and control of overhead expenses was a significant challenge for both Cadbury and Rowntree, driven as these costs were by the increasing size and complexity of their respective businesses. The archive at both companies as analysed in chapters 4 and 5 reveals attempts at director level to provide some leadership in the control of overheads, with varying degrees of success. However, whilst Rowntree better understood the behaviour of overheads, what is apparent is that for both companies there was little in the way of attempting to coordinate the activities of the various elements of overhead expenditure as an effective method in the efficient allocation of resources. Also in the absence of a coordinated budgeting system of overheads, this meant that comparison with actual could not take place in the identification of over or under spend in the application of responsibility accounting. This also meant that effective control through feedback and feed forward measures was also absent.

Formulation of a Financial Programme – Given the emphasis placed on improvements in efficiency by both companies which were to be provided by investment in plant and equipment, then it should have been a priority to place emphasis on the careful planning in the provision of capital. However, whilst the archive demonstrates that the cost offices at both Cadbury and Rowntree carried out individual piecemeal appraisals of potential investments in mechanisation schemes and the likely savings to be accrued, there does not appear to be any overall coordination in the allocation of capital resources, which would have been part of the overall budgeting process. If this had been carried out systematically then an appropriate examination of the overall effectiveness of capital expenditure could have been carried out to ascertain an optimum return on capital as measured by the operating profit to net worth ratio. For both companies, this measure in the effectiveness of investment in capital deteriorated throughout the inter-war period, with Cadbury experiencing the most volatility, which demonstrates their inability to relate return to investment, and to plan for its improvement. This capability had been successfully developed by companies in the United States and elevated to a sophisticated level by Du Pont through which the company used to create a competitive advantage,⁹²⁰ and extended at General Motors with a similar effect.⁹²¹

Coordination of all Activities of the Business – There is archival evidence that both Cadbury and Rowntree placed great emphasis on the coordination of the disparate activities of their organisations, principally through effective use of the committee system that both companies used extensively.⁹²² However, a fully integrated budgeting system would have provided a more structured mechanism for the effective coordination not only of activities, but also of resources through the submission of estimates to a budget committee tasked with ensuring the overall company financial objectives are met. This would be enabled by the aggregation of inputs by the cost office to provide a forecast estimated income statement and balance sheet showing the anticipated results provided for by the budgetary programme. Only by doing this could the board of either company be satisfied that the overall financial objectives would be accomplished. Failure to do so effectively meant that they were running

⁹²⁰ Kline and Hessler, *The Du Pont Chart System for Appraising Operating Performance* in Thomas, *Readings in Cost Accounting, Budgeting and Control*.

⁹²¹ Brown, *Some Reminiscences of an Industrialist*.

⁹²² See Chapter 4, and Chapter 5 for a full discussion on the committee systems at Rowntree and Cadbury respectively.

their businesses blind with no real notion of what the proceeding year would deliver, or indeed if the business could even survive.

7.6 Conclusions

The development of cost accounting capabilities at both Cadbury and Rowntree was a significant factor in the growth of both companies and also in the support of their respective strategies. The ability to prepare cost and profitability information in a timely fashion enabled them to effect pricing decisions that would support an assessment of company profitability, although the inaccuracies regarding the apportionment of overheads could have provided a misleading guide to the contribution of individual products. For Rowntree, their understanding of marginal costing principles meant that they could approach pricing decisions for small volume non-standard business in a much more effective way, enabling them to evolve a strategy based on niche markets, based on superior knowledge of the environmental and market conditions through the extensive and systematic use of intelligence gathering.

In addition, the drive towards efficiency which was regarded as an essential foundation for both Cadbury and Rowntree, meant that information derived from the cost office was a key enabler in the measurement of initiatives designed to achieve this goal. For both companies the implementation of efficiency schemes had a significant effect on performance, although the strategy by Cadbury of converting efficiency savings into price reductions appeared to be compromised by their inability to know how much additional sales revenues was required to maximise the profit for this strategy. This was caused by the inability to apply price elasticities to their products, meaning that the effect of price reductions on volumes, costs and revenues could never be adequately quantified.

The understanding and treatment of overheads was an important consideration for companies that had been growing rapidly since the latter part of the nineteenth century. Whilst both Cadbury and Rowntree developed appropriate methodologies of allocating and apportioning overheads to products thereby ensuring adequate information to make decisions such as pricing, it was perhaps Rowntree who recognised the notion that overheads behaved in different ways than direct production

costs, and had to be viewed accordingly. Despite initiatives at board level, Cadbury's ability to control overheads effectively is demonstrated in their inferior overheads cost ratio throughout the interwar period which had the effect of lowering overall operating profit performance. Rowntree's superior management of overheads enabled the company to achieve a relatively stable level of operating profit performance, albeit lower overall than Cadbury's.

The capabilities discussed so far were supported by cost accounting development at Cadbury and Rowntree and had been enabled by the introduction and operation of cost-keeping and cost-finding techniques as was recognised by contemporary commentators. However, the next level of costing sophistication via the operation of a standard costing system to support a budgetary control process was only in operation at Rowntree's prior to the outbreak of World War II. Some elements of standardisation, forecasting and budgeting were present in both companies, but a fully integrated system that would coordinate, communicate and control the business, in addition to providing an effective means of resource allocation, was absent. This effectively meant that there was no scientific means by senior executives at Cadbury and Rowntree of having any reliable information of the future financial consequence regarding the strategy being employed, or indeed, if the company would survive at all.

Performance at both companies was undoubtedly improved and assisted by the implementation of cost accounting techniques during the inter-war years, but it is also important to recognise that failure to embrace some of the latest developments, particularly in budgeting, meant that strategic decisions were being taken with only a vague notion, or even hope, that this would result in overall future company performance improvement.

Section 4 – Conclusions

Chapter 8

Conclusions

8.1 Introduction

The central contention of this thesis is that two UK companies that had similar backgrounds rooted in family and Quaker traditions, that had both been formed during the mid-nineteenth century and were primarily in the same industry offering similar products, could have competed and performed differently based on their respective cost accounting capabilities.

Whilst previous studies of Cadbury and Rowntree have focussed on marketing, production, distribution and organisational issues, as reported previously in the literature review, this new study provides substantial evidence which contributes to knowledge by examining how cost accounting techniques that were in operation by the two organisations during the interwar years allowed them to compete differently in the UK confectionery market. Fundamental differences in performance for each are observed.

In this concluding chapter, it is argued that there were differences in how each company interfaced with prevailing environmental conditions and the subsequent impact this had on the formulation and implementation of strategy. From this base, the disparate pathways that each company took in the development of cost accounting techniques is evaluated, combined with the level of sophistication that was eventually achieved prior to the outbreak of World War II. Finally, conclusions are drawn on the overall effect on the performance of Cadbury and Rowntree, as comparable businesses, that cost accounting provided, which is in addition to the capabilities that has already been formulated in the literature and is a substantial contribution to knowledge.

8.2 Relationship with the Environment

Given the overall environmental conditions described in chapter 1, which formed the bases of the formulation, growth and development of Cadbury and Rowntree, it is

necessary to evaluate the ways in which each company contributed, interfaced and embraced these factors.

Economic Factors

A study of economic growth in the UK from the mid-nineteenth century to the outbreak of World War II paints a picture of an economy lagging behind its major international competitors, in certain sectors, with suggestions in the literature that this was due in part to the failure of UK companies to invest in technology, R&D and modern management techniques. However, both Cadbury and Rowntree were active in these crucial areas, but with the caveat that family dominance at senior level meant that this was to be a limiting factor to success, conforming to the Chandlerian view that personal capitalism was a barrier to effective management by the reluctance to delegate responsibility.⁹²³

The measures of actual improvements in living standards such as real wages, cost of living, life expectancy and infant mortality, all demonstrate that the majority of the population of the UK benefitted, particularly in the years 1900-39. This improvement was driven in part by the gradual urbanization of the population which provided rises in real wages. This trend meant the concentration of people, combined with greater disposable incomes that was to be exploited by companies offering everyday treats and luxuries like confectionery. Both Cadbury and Rowntree recognised these factors and offered products that would appeal to this new expanding market.

Although the interwar years witnessed a period of depravation caused by high unemployment, a closer analysis demonstrates that high rates of unemployment were chiefly confined to specific areas of the UK which experienced structural decline in traditional industries, along with unskilled and elderly workers. Those in the UK unaffected by these specific categories enjoyed the benefits of improved living standards, and were therefore the focus of efforts by Cadbury, Rowntree and the other confectionery manufacturers in developing products to satisfy a growing market in which choice was becoming a significant factor.

The dramatic improvements in transport links from the inland waterways system to the building of the rail network and the road infrastructure during the nineteenth and

⁹²³ Wilson and Thomson *The Making of Modern Management*, pp. 61-62.

early twentieth centuries was the foundation for the growth of many companies, including Cadbury and Rowntree as it provided them with the ability to distribute large volumes of product quickly to all parts of the UK for immediate consumption. Indeed the decision for the site of the Bournville factory was based on its proximity to transport links. Both companies therefore took advantage of their ability to reach large populations, but Cadbury was more proactive in developing a transport capability in the establishment of the railhead depot system which integrated rail and road networks to provide a superior and efficient method of distribution.

The revolution in the retail trade at the end of the nineteenth century and the beginning of the twentieth century was as a direct response to the cultural, social and economic changes that were also taking place at this time. Indeed, as already mentioned, the modern retail trade was the oxygen that provided the growth in the consumer society that companies like Cadbury and Rowntree thrived upon. A key element in this changing retail landscape was the growth of the multiple retailer, and Rowntree's responded to this by offering specific packs to the multiples as a way of ensuring sufficient sales and production within the factory. This business was assessed under a 'marginal costing' basis and was accepted in order to absorb overheads that were still necessary to run the business effectively. Cadbury were also aware of the opportunities offered by the changing retail landscape, but were also concerned of the potential threats this posed to the overall profitability of their business. This concern became evident in their extensive and innovative study of the retail trade, as discussed in chapter 5, which concluded that inefficiencies in the number of retail outlets caused reductions in profit for both the manufacturers and the retailers themselves. Despite the official publication of the findings of the study, this proved futile and no positive action or remedies were carried out.

In addition to the ways that Cadbury and Rowntree interfaced with the retail trade, the operation of resale price maintenance at this time also meant that these and other manufacturers would benefit in the implementation of their marketing strategies, particularly in the growth of branded products.

Socio-Cultural Factors

The changes in population and demographics that occurred during the early part of the twentieth century, particularly in the advent and growth of the middle class, meant greater opportunities for those companies seeking to promote goods which could be interpreted as being “luxury”.⁹²⁴ This greater buying power was at the heart of the rise of consumerism and the subsequent demand for an ever-widening range of consumer goods. This new phenomena posed not only a greater opportunity for companies like Cadbury and Rowntree, but also challenges in the introduction and use of mechanisation and also the adoption of innovative organisational capabilities combined with transport and distribution systems to be able to serve and compete in this new market environment.

Combined with the opportunities of a population that was becoming increasingly concerned with choice and differential that defines a “consumer society”, Cadbury and Rowntree operated in an industry which had also been part of the revolution in the UK diet, driven in part by large scale reductions in commodity prices on sugar and cocoa, providing the opportunity to create branded products which not only also served the purpose of broadening the variety in the diet of the population, but also created a demand for indulgence, gifting and special occasion.

The creation of the consumer society meant the widespread use of branded products by the leading manufacturers to differentiate their products, which required the increasing use of advertising techniques to communicate this to consumers. Both Cadbury and Rowntree became extensive investors in all forms of advertising, with Rowntree particularly in the interwar years spending a larger proportion as a percentage of sales.

Technological Factors

Perhaps the most surprising component of the growth of Cadbury and Rowntree in the UK confectionery market is the fact that neither were responsible for fundamental technological breakthroughs in the development of either cocoa or confectionery processes. Both were content in scouring the world for innovations of both process

⁹²⁴ The definition of what constitutes a “luxury” good is discussed by Bourdieu (1984), and is cited in chapter 1.

and technology which they could then convert into products to service the new consumer society. Indeed, both Cadbury and Rowntree were followers of the developments that had taken place throughout the world and were content to imitate rather than provide fundamental additions to technology. However, both companies were active in establishing research and development departments, and for Cadbury especially, this capability was focussed on developing products for mass production using the latest mechanisation facilities that could be sourced internationally. Cadbury's desire for increasing use of machinery at Bournville was demonstrated by the fact that shortly after the signing of the Armistice, they sent a delegation to leading machinery manufacturers that were located in war-torn areas of Europe with the specific remit to source the most up-to-date technology for both manufacturing and packing operations, as discussed in chapter 5.

8.3 Organisational Capabilities

One of the key components of a company's ability to compete in any market is the choice and establishment of an appropriate organisational structure. The growing size and complexity of organisations meant that senior executives had to find ways of managing the internal processes of their businesses through the use of systems and procedures. The growing pains of organisations like Cadbury and Rowntree from closely controlled family businesses to large scale corporate entities meant the embracing of structures that had to be consistent with their values and objectives.

The change from a paternalistic and personal form of management at Cadbury, to a more structured approach was hastened by the unexpected death of Richard Cadbury in 1899, forcing the dissolving of the organisation as a partnership and the establishment of Cadbury as a private limited company. The four sons of the original Cadbury Brothers became joint managing directors of the new company and immediately commenced plans for a new structure that included the establishment of functional departments combined with the founding of committees designed to co-ordinate these activities. However, overall control and decision-making of the company was still in the hands of the Cadbury family to which all the newly created committees reported. This newly created organisational structure, albeit with some criticisms in the literature as identified in chapter 5, regarding the cumbersome nature of decision-making that is inherent with a committee system, provided Cadbury with

a platform from which to further its ambitions. The notion of a functional organisation structure was to be one of the key principles surrounding scientific management and so Cadbury appear to be at the forefront of the application of this theory into a practical application thereby providing the company with a form of competitive advantage.

Whilst Cadbury's hand had been forced somewhat in the change to a more formalised organisational structure, for Rowntree the continued overall control by Joseph Rowntree meant a much slower pace of change, even though incorporation had occurred before Cadbury in 1897. A consequence of the long-standing chairmanship of the company by Joseph Rowntree was that the modernisation of the company organisationally that had been occurring at Cadbury since 1900, had not been taking place. The separate diversions for Joseph Rowntree in both the Quaker movement and his involvement in advising the Government during the Great War meant that his attentions were not entirely focused on his principal business. It was not until after the Great War had ended and more responsibilities were handed to his son Seebohm as chairman elect, that Rowntrees also began to move towards a more modern approach to the management of the company. Seebohm began by recruiting professionals shortly after the Armistice to oversee the creation of a new structure, with Oliver Sheldon in particular tasked with the introduction of functionalization in 1919. However, whilst the changes were effected with gusto during the years that followed, being closely related to scientific management theories, the fact is that Cadbury had a twenty year start on Rowntree in the creation of an organisational capability that was capable of providing the internal efficiencies that enabled them to consider and implement a precise strategy that the whole company could follow.

However despite this time lapse in the creation of a functionalised company the company were determined to make up for lost time. Rowntree's under the effective management of Sheldon, Urwick, Appleton, Northcott, Wallace and Morrell, quickly developed an organisation that could co-ordinate its internal activities. This capability of being able to combine internal effectiveness with an understanding of the external environmental threats and opportunities would provide the basis for their competitiveness during the inter-war years.

8.4 Formulation and Implementation of Strategy

The ways that Cadbury and Rowntree interfaced with, and embraced, the environmental conditions described above were essential components in the formulation and subsequent implementation of their respective strategies. The changed UK market landscape that all confectionery manufacturers found themselves in after the end of the Great War meant that opportunities now existed to create a domestic-led market, and to carve appropriate market shares within it. The emphasis on the UK market was driven by the lack of commercial opportunities regarding exports as a consequence of the Great War, limiting Cadbury and Rowntree to establishing subsidiaries in countries of the Empire, which themselves were of little financial value due to domestic tax considerations.⁹²⁵ However, a positive implication of the Great War was that at a stroke it severed most of the UK imported confectionery products from leading European sources, particularly from Switzerland, France, Germany and Holland. Moreover the ravages of the war meant that it would be difficult for these competitors to resume the same level of business in the UK that they had enjoyed prior to 1914. This meant that the UK market had become a much more lucrative proposition that could be exploited by domestic manufacturers.

As a consequence of this new post-war order, Cadbury, who had struggled against Swiss companies in the milk chocolate blocks sector prior to 1914, viewed this new market environment as an opportunity to utilise their extensive use of efficiency programmes, based on scientific management principles, that they had been developing since the beginning of the twentieth century. This focus on operational efficiency combined with appropriate investment in mechanisation and managed effectively by their functional organisation structure would have the direct consequence of forcing down unit costs. This, they reasoned, would be the enabler that would then allow them to reduce consumer prices below that which the competition could go, and particularly for any future Europe-led competitor, whilst still maintaining product quality. The benefits derived from sustained mass production would then lead to further reductions in costs which could then be converted into lower consumer prices leading to even further increases in sales

⁹²⁵ See Introduction.

volume for the company. However, given this rationale, the actual quantification of how this would work did not take place, meaning that the company could not provide an adequate measure of its potential efficacy. Despite the lack of any analysis for its justification, this strategy was formulated after the end of the Great War by Cadbury and implemented immediately with the consequence of driving down consumer prices for the whole UK market as previously demonstrated (see Table 6.5). The sustained overall reduction in the sales revenue per ton continued during much of the interwar period, and was only arrested in 1936 with the success of competitor activity by Rowntrees and also with the establishment of Mars as a major player in the UK confectionery market.

The implementation of this strategy by Cadbury meant that the whole organisation was dedicated to the principles surrounding efficiency and the utilisation of mechanisation, demonstrated for example in the way in which the research department was set up as an enabler in the development of ideas into products whose sole criteria was that they had to be able to be mass produced. This thinking was also embedded into the way in which products were marketed, with advertising campaigns focussing on price reductions and also with salesmen being instructed to focus their customers on those products which could be produced efficiently, rather than attempting to establish what the consumer actually wanted. However, whilst the logic behind this strategy appeared to be sound, and this was demonstrated by the company increasing its sales volumes and revenues during the inter-war years, there was never any attempt to provide any analysis of the financial consequences of this policy, or indeed what the actual relationship was between cost reduction, price reduction, sales volume, sales revenues and overall profitability. In other words the company was never able to quantify the effects of the strategy or to provide adequate evidence of its continued success, or otherwise. This occurred despite there being advice in the literature identified in chapter 3 - notably by Sanders⁹²⁶ and Ashley⁹²⁷ - that a price cutting strategy had to be carefully assessed and quantified prior to implementation. Indeed, as already discussed, Ashley emphasised the point that for a price-reduction

⁹²⁶ Sanders, "Overheads in economics and accounting".

⁹²⁷ Ashley, *Business Economics*.

strategy to succeed, the additional sales required had to be “substantial”⁹²⁸, and the evidence reported in chapter 6 is that for Cadbury this was not achieved.

Therefore, whilst the precise components underpinning the formulation of Cadbury’s price-cutting strategy in the immediate post-1918 period were well-known and quite well articulated at the time, the long-term consequences were not so well thought out. Furthermore, any strategy focusing on reducing consumer prices has a single theme and has a finite life up to the point where price cannot be lowered any further and their competitors will eventually either catch up through their own internal efficiencies or offer alternative reasons for consumers to buy their products instead. This argument was never accepted by senior managers at Cadbury during the inter-war years and also into the 1940’s on the publication of “Industrial Record – A Review of the Inter-War Years” in which they reiterated this belief, and they continued to maintain that purchasing decisions regarding confectionery are made by consumers based primarily on the relative price and perceived value that a product provides. This, they maintained, was the key driver in the UK confectionery market. It is therefore concluded that Cadbury were not particularly attune to the changes that were taking place in the UK confectionery market and the ways that consumers were becoming more sophisticated in their choice of products that were not based entirely on value for money.

The determined focus by Cadbury to promote a strategy which they were able to implement as a consequence of their internal organisational capabilities, combined with the willingness to invest heavily in capital assets to facilitate mechanisation savings, is contrasted with Rowntree’s apparent failure to offer their own alternative overt strategic intentions. An examination of the objectives of the company, as outlined by Seebom Rowntree prior to his official appointment as chairman in 1923 (although he had in fact already been carrying out these duties since the end of the Great War), provides no real clue as to exactly how these are to be achieved.⁹²⁹

Like Cadbury, Rowntree had also been an enthusiastic promoter of the principles of scientific management combined with the central theme of efficiency as a clear enabler in the provision of an effective company capable of competing in the UK

⁹²⁸ Ibid., p. 40.

⁹²⁹ Rowntree, B.S. (1922) “Questions concerning the policy of the business considered as a whole.” R&Co93/IV/3. Borthwick.

confectionery market. However, unlike Cadbury, Rowntree did not have the additional vision of leveraging efficiency into a capability that would enable them to influence the market as a whole. For Cadbury this meant that for a significant part of the inter-war years they were able to lead the market through the control of consumer pricing.

This apparent lack of a clear formalised strategy by Rowntree that could be compared to the more overt Cadbury strategy needs to be examined in a more analytical way. The earlier discussion in this chapter of the ways that both companies related to the complex and rapidly changing environment clearly shows that this was crucial in the ability to compete in the UK confectionery market. Therefore the knowledge and understanding of the environmental conditions and how to change, react and satisfy these circumstances was also a clear pre-requisite for survival and for success. As previously identified in chapter 4, Rowntree's clearly considered this aspect to be of crucial importance and subsequently established an Economic and Business Research function in 1924 headed by William Wallace as part of Finance, with the specific brief to formally collect all relevant environmental data that could inform the internal management of the company. The range of information collected on a regular basis included economic conditions, financial and banking trends, population, wages and trade prospects. This extensive repository of knowledge provided the company with an effective and sound basis from which to identify possible opportunities in the market which it could then exploit far quicker than its rivals, enabled by its internal capability of efficient product development. Furthermore, Urwick explained the significance of 'market research' in the deliberations of marketing, by noting that the enterprise must "relate his product to the consumer, by assembling particulars as to the habits and economic position of the people who will buy his goods", particularly emphasising the fact that the data gathered should be "subjected to the most rigorous statistical treatment", thereby accepting the best-practice that any raw information that had been gathered required to be analysed in a skilful way to avoid misinterpretation.⁹³⁰ An examination of the Rowntree Technical Library accessions register shows that standard texts on statistical analysis were being added to the

⁹³⁰ Urwick, *Marketing and Selling*, p. 158, in Norhcott, *Factory Organisation*.

library for use by managers in the correct interpretation of data.⁹³¹ In addition, a recent biography of Urwick suggested that there was a recognition of best-practice in the area of distribution by Rowntree's, and go further by suggesting that the Urwick contribution described above actually enhanced the accepted knowledge in this field in the 1920's.⁹³²

So rather than crafting a specific and structured strategy similar to the Cadbury approach, Rowntree's were more reliant on their 'swiftness of foot' ability to react to environmental conditions, based on a capability of superior intelligence, this being in sympathy to the Mintzberg and Waters suggestion of an "emerging strategy".⁹³³

8.5 Pathways to Cost Accounting

The archival evidence sourced at Cadbury and Rowntree, and subsequently discussed in chapters 4 and 5, demonstrates the different pathways to cost accounting that the two companies took from the latter part of the nineteenth century up to the outbreak of World War II, driven in part by the dynamism of the senior directors at each company. For Cadbury, within the original partnership of brothers George Snr. and Richard, there appeared to be little in the way of attention to formal costing procedures, with the only attempt being rough jottings in George Snr.'s pocket notebook. Whilst this cursory attitude to costing appeared to be appropriate to the business at that time - with the death of Richard in 1899 and the succession by the four young Cadbury sons as joint managing directors - this position had to change. The organisational changes described earlier in this chapter included the establishment of a formal cost office in 1903, and was part of a company-wide initiative to create separate research, planning, sales, advertising, purchasing and other functions.

By comparison, Rowntrees introduced formal cost accounting procedures within the business much earlier as a direct consequence of the arrival of Joseph Rowntree in 1869 and driven by his particular interest in the quantitative side of management,

⁹³¹ Joseph Rowntree Historical Archive. Technical Library Accessions Register 1922-56. R/DH/TL/4/1-2. Borthwick.

⁹³² Brech, Thomson and Wilson, *Lyndall Urwick, Management Pioneer*, p. 73.

⁹³³ Mintzberg and Waters, "Of strategies, deliberate and emergent", p. 269. They suggest that cost leadership strategies are usually more deliberate, whereas a differentiation or niche strategy tends to be more emergent.

which included his requirement for cost information to be available throughout the organisation. However, as already concluded, there was no attempt by Joseph Rowntree to formalise the organisational structure of the business prior to 1918 with the consequence that the extensive costing techniques in operation were carried out on a piecemeal departmental basis and appeared to be uncoordinated. However, as was the case with Cadbury, the election of a younger person in the form of Joseph's son, Seebohm, to chairman-elect after the end of the Great War witnessed a more enlightened attitude in the establishment of a modern functional organisation structure. The creation of a formal cost office in 1918, was part of this larger plan for change. And as with the experience of Cadbury, other functional departments were established in subsequent years.

So we had a situation whereby Rowntree's had been utilizing some quite sophisticated cost accounting processes since 1869, but in a very loose and unstructured way throughout the business. This contrasted with Cadbury's who didn't provide much in the way of cost information until 1903 following the creation of the cost office. This then went on to be a crucial component in the way that the company operated by way of scientific management principles, and the crafting of their strategy. Rowntree's in 1918 thought that they had much catching up to do with regard to costing and sent a delegation to Cadbury to assess their own operation at Bournville. However, whilst they returned from this visit with ideas relating to the role of a functional cost office and how this inter-related with the other functions in the provision of information, the actual costing techniques themselves were already in operation at York, and had been so for many years.

It can be concluded that whilst Cadbury had created a formal cost office as early as 1903, from a near zero base, Rowntree's had already established a longer tradition of a culture of cost accounting, alongside the provision of other statistical data within the business as a direct consequence of the influence of Joseph Rowntree. The criticism of this state of affairs is the fact that no attempt was made prior to 1918 to formalise procedures as part of a structured organisational model. Despite this failing, Rowntree's were in as fortunate a position as Cadbury in the ability to utilise cost accounting as a capability in order to compete in the UK confectionery market during the interwar years.

8.6 Cost Accounting Sophistication

For both Cadbury and Rowntree the different paths to the implementation and subsequent development of cost accounting techniques had been influenced by the attitudes of the senior family board members. Indeed, the motivation surrounding cost accounting development in each company was the realisation by the controlling family executives that this could provide the information necessary to formulate appropriate strategies. However, once established as an internal capability, cost accounting was identified as a key enabler in the ability to compete in the UK confectionery market in the interwar years.

The examination of the archival evidence at Cadbury and Rowntree regarding the progress of cost accounting procedures, and the subsequent description in chapters 4 and 5 provides evidence of some similarities in their respective approaches, but also some key differences that were necessary to fulfil the individual organisational objectives. This meant that the progress of the two companies towards what can be described as “cost accounting sophistication” was different, thus providing some associated consequences. The definition of what is actually meant by cost accounting sophistication is provided by Epstein who described a taxonomy of progress:

“Cost-keeping is being defined as those activities concerned primarily with the recording and classification of actual manufacturing costs for purposes of financial statement preparation. Cost-finding is being defined as those activities concerned primarily with the determination of actual product costs to aid in cost control and overall managerial decision-making. These activities are to be further distinguished from the more advanced methods involved in standard cost systems.”⁹³⁴

For Epstein, the ultimate test of the development of cost accounting for any organisation meant they had to follow this taxonomy with the ultimate goal being the establishment of a standard cost system which would then form the foundations for the introduction and operation of an integrated company-wide budgetary control procedure.

With reference to the Epstein model described above, both companies had established by 1900 their cost-keeping abilities in the provision of the annual financial accounting statements as required of a private limited company. However, within the

⁹³⁴ Epstein, *The Effect of Scientific Management*, p. 3.

definition of cost-finding, the evidence described in chapter 4 demonstrates that Rowntree's had advanced procedures within the York factory that had been driven by the vision of Joseph Rowntree and his desire for management to be informed by statistical information, of which costing was part. Indeed, the additional evidence from the archive as described, also suggests that they had in place by 1891 a rudimentary standard cost system from which actuals were compared to provide some basic variance analysis, although it is suggested that the significance of this apparent costing breakthrough was not readily recognised at the time and the archive suggests that it fell out of favour within the company. This is not surprising given the fact that cost accounting was not a centralised functional activity at this time, but consisted of a piece-meal approach by different middle managers in different factory departments. Despite this deficiency in organisational sophistication, there is evidence in the thoughtful way that Rowntree's were approaching the issue of overheads and their subsequent allocation to product, with formal debates taking place in 1898 with their auditor, A.J. Cudworth, regarding alternative methodologies. Although Cudworth was principally a chartered financial accountant, he had already published in the literature on matters relating to the new role of cost accounting within companies and by 1904 Rowntree's were compiling cost reports in accordance with his recommendations.

The eventual establishment of a functional cost office in 1918, under T.J. Evans, meant the centralisation of cost accounting effort under the direction of a professional cost office manager, and by 1922 had in place a comprehensive cost information gathering and reporting system that was informing all key managers of cost-related data on either a weekly, monthly or ad-hoc basis. This effort during the early 1920's was bound up in the company's concern with efficiency that was being debated internally within the company and also externally in forums such as the Oxford Conferences, and later the Management Research Groups (MRG's) in accordance with scientific management philosophy. The drive by Seebohm Rowntree in the creation of a culture based on the quest for efficiency within the company, and informed by the knowledge of senior managers derived from interaction with the latest literature, meant that the latest managerial techniques were constantly being applied within the company. This is also demonstrated by the fact that not only were Rowntree's applying the latest cost-keeping techniques in terms of factory reporting, but as a consequence of their subscription to the *Bulletin of the Taylor Society*, along

with other management journals, had also been exposed to the potential of the application of marginal costing, especially the views of John Williams.⁹³⁵ As a consequence, Rowntree's were clearly making decisions based on marginal costing methods. The knowledge of the theories concerning overheads by the seminal work by Clark, that had been requested by the technical library on behalf of senior managers, is further evidence of the desire by the company to implement the latest knowledge from the literature into practical application.⁹³⁶ It is argued that the knowledge gained from understanding the nature of overheads, combined with the role of price discrimination, as suggested by Clark and the application of marginal costing principles suggested by Williams proved to be a key contributor to the way that Rowntree's competed in the UK confectionery market in the interwar years, and the subsequent effect on performance.

Enormous steps were taken by Rowntree's to fully recognise and apply the latest cost accounting techniques during the 1920's. This included progress to the ultimate level of costing sophistication, that being the elevation to a standard costing environment, as described by Epstein. The basis that a formal standard costing system provides in supporting budgetary control procedures was well recognised during the 1920's. However, despite sending delegates to the prestigious Budgetary Control Conference held in Geneva in 1930, and the subsequent initiatives from Seebohm himself, little progress was made. The reasons for this failure to adopt formal budgetary control processes are principally due to the failure to understand the significant effort required to establish a company-wide procedure, the failure to appoint a senior director to drive the project through and as has already been established in the discussion in chapter 4, the realisation by some managers was the perception that the company had become too complex for a budgetary control system to be introduced.⁹³⁷

By contrast, Cadbury had followed a protracted road to cost accounting sophistication, especially coming from a very low base prior to the incorporation of the business in 1899 with the elevation of the younger Cadbury brothers to joint managing directors in the same year. Prior to this date, cost-keeping was virtually non-existent within the company. The responsibility for costing fell to Edward

⁹³⁵ Williams, "A technique for the chief executive".

⁹³⁶ Clark, *Studies in the Economics of Overhead Costs*.

⁹³⁷ These considerations had been made aware by McKinsey, *Budgetary Control*, in the seminal work on the subject.

Cadbury, who, given that he had no real experience or knowledge of the subject, had the foresight to recruit an experienced professional from outside the company to head up the costing function. The sourcing of a suitable candidate was accomplished through the Birmingham Quaker network. This appointment led to the establishment in 1903 of a functional cost office, where the newly appointed cost office manager, A.E. Cater found that the basic information to produce cost data was practically non-existent and the first two years were spent establishing appropriate processes for the efficient flow of information through the factory and the setting up of the necessary records and documentation. Indeed, the cost office soon became the custodian and repository of all official production documents. The decision to appoint an experienced professional cost accountant to provide a dedicated service in the establishment of a fully operational cost office proved to be decisive in the building of cost accounting into a capability. This would inform and support the company's eventual strategy based on price cutting brought about by cost reductions.

The years leading up to the outbreak of the Great War witnessed rapid growth of the cost office under Cater in which the latest cost-finding techniques were applied to the Bournville factory, including for example, the appropriate allocation and apportionment of overheads to product. In addition to normal product cost information and factory reporting, the cost office was central in the provision of ad-hoc information relating to prospective efficiency schemes, which were gradually to become a central theme during the early years of the cost office. These projects were suggested, developed and subsequently assessed through the close co-operation between other newly established functions such as engineering and research departments working alongside the cost office. This work towards the quest for efficiency was also reinforced by the early appointment of American-based efficiency consultants in 1912, who also worked with the cost office in the establishment of appropriate savings within the factory. Therefore by the onset of the Great War, Cadbury had established an efficient and productive cost accounting capability that was providing a range of information in the support of the company's objectives, based on efficiency.

This single-mindedness in the creation of an efficient company was demonstrated after the end of the Great War in the rapid expansion of mass production techniques at Bournville based on investment in buildings, plant and machinery designed to

progressively lower unit product cost. Whilst the cost office was instrumental in providing the information that would identify the required cost savings due to mechanisation, there is no evidence to suggest that any form of Return on Investment (ROI) calculations were prepared to fully appraise any proposed capital expenditure project. The decision to invest in capital equipment was taken if cost savings were found to accrue from that investment. There was a lack of forward looking analysis that would have forced the company in the forecasting of future sales volumes and revenues along with associated cost predictions. This analysis could have estimated potential future returns, and therefore inform the management decision. It is argued that this failing was a major flaw in the efficacy of the cost office as a key informer of company strategy that was predicated on returns provided by investment in mechanisation schemes.

A.E. Cater, the original cost office manager since 1903 was promoted to the board of the newly merged Fry company in 1919, and was succeeded by R.R. Sly who had been appointed as second-in-command in 1909, and who was to remain in this position until the outbreak of World War II. Under Sly's leadership the cost office was involved in the expansion of its remit, and also to widen its level of costing provision, to include those activities that were outside the normal production areas, notably those that were collectively known as distribution costs. The most significant project that came under this category was regarding the company's changes in transport, with the establishment of a railhead depot system that would eventually lead to unit cost savings in this area. The company also identified inefficiencies in the way that the trade was organised due to the proliferation of the number of outlets, and subsequently produced cost information to support this belief. The recommendations for a drastic re-organisation of the trade proved futile and the status-quo remained until market forces determined this long after the end of World War II.

Whilst Cadbury had approached the notion of overheads from different perspectives and were clearly aware of the need to reduce these as appropriate, the evidence suggests that the company did not understand the nature and behaviour of overheads in a complex manufacturing environment in which mechanisation was central to the way that the company operated.

Unlike Rowntree's, Cadbury's only achieved the development in their cost accounting sophistication, as suggested by Epstein, up to the level of cost finding.⁹³⁸ They failed in the establishment of an appropriate standard costing system from which budgetary control procedures could be built. Also like their main competitor, the benefits that would accrue from budgeting were well recognised at board level and despite various requests and the formation of working parties to report on the establishment of budgeting, little progress was made during the interwar years. For a company whose strategy was based on understanding the complex interactions of capital investment, sales volume, sales revenues, costs (variable and fixed) and profitability, the inability to model these variables and their interaction is concluded as a major deficiency that must rest within the cost office. Indeed, the publication of the standard work on cost accounting within the confectionery industry published in 1934 and chaired by Cater⁹³⁹, demonstrated sophistication to the level of cost finding. In this publication, there is scant reference to the more advanced techniques such as standard costing, budgeting or marginal costing. From this it can be concluded that Cadbury thought that they were at the cutting edge of cost accounting sophistication, given that they had had such a long experience in the development and application of cost-finding.⁹⁴⁰ It is argued that they believed that competence in cost-finding was all that was required to demonstrate excellence in cost accounting, when clearly this was not the case. The management of the cost office by Cater/Sly from 1903 to 1939 suggests that although they were instrumental in the initial success of the cost office, progress in cost accounting techniques were to pass them by and their conservatism and their inability to embrace change in the application of more sophisticated methods are crucial failings prior to the outbreak of World War II.

8.7 Overall Implications for Cadbury and Rowntree 1919-38

The interwar years represented a time of environmental change and turbulence that affected all aspects of life in the UK. This was reflected in the microcosm of the UK confectionery market, where the leading manufacturers had to take account of the

⁹³⁸ Epstein, *The Effect of Scientific Management*, p. 3.

⁹³⁹ Although representatives on the working party that contributed to the eventual published document included one from Rowntrees, it is clear that the driving force for the project came from Cadbury, and the content is a description of the way that cost accounting was carried out at Bournville.

⁹⁴⁰ This misguided belief is supported by comments made by Edward Cadbury at the Representatives' Conference on 28th June 1925: "Few of our competitors can claim to have such a scientific basis of costing as us".

external forces and to subsequently establish internal systems and processes in order to compete effectively in this market.

The overt strategy that Cadbury crafted after the end of the Great War could be interpreted as one designed to influence and ultimately control the UK confectionery market based on their ability to establish, maintain and control the consumer selling price. All decisions and efforts within Cadbury were focused on the constant attention to efficiency, both internal and external to the firm, which would then lead to cost reductions, being the foundation of their strategy. This thinking was flawed in that for this to be successful, an ability to forecast and plan ahead, both operationally and financially was crucial in the measurement of the efficacy of such a strategy. This could only be achieved by an understanding of price elasticity and the subsequent measurement of the effect of a price change on demand. As appeared to the general case in the UK at the time, demonstrated by the Hall and Hitch study⁹⁴¹, Cadbury never appeared to take this into account. Therefore, in the absence of the capability to ascertain target sales volumes and revenues necessary to take account of the cost and subsequent selling price reductions, combined with the lack of method to allocate resources, it is incomprehensible that any measure of success could be achieved. This is in addition to the fact that a consumer price reduction strategy has a finite life once the price for the same product cannot be lowered any further. It is also predicated on the belief that value is all that the consumer is concerned about when purchasing a product like confectionery. The conclusion is drawn that for Cadbury, the understanding of the external factors was not a key concern as they saw themselves as a shaper of the environment, rather than a follower of it. Indeed, part of this thinking was the belief that they employed the latest management techniques combined with an efficient organisation structure that would support their stance. Part of this belief was that they thought they were at the cutting edge of the knowledge and application of cost accounting techniques that would therefore contribute to their success, and as has been discovered in this thesis, this was not the case.

Rowntree's, on the other hand, took a more realist stance, and made it a clear priority that it was a necessity to be able to have constant up-to-date information and knowledge of all aspects of the environment to inform the company regarding its

⁹⁴¹ See chapter 7.

decision-making. From this understanding, the company could therefore embrace, or even predict, environmental factors and then subsequently design and develop products quickly and profitably to take advantage of any changes. So whereas Cadbury held the conviction that change will not happen, especially if they could control it, the Rowntree view was that change was inevitable and that a company must recognise that, be prepared for that and be in a position to react to it. This importance in the understanding of environmental forces is recognised in the literature and can be measured by four factors:

“1) the degree of competition 2) the type of competition 3) the rate of growth in any sector 4) the degree to which they can trust the information they have collected.”⁹⁴²

The internal functions, processes and techniques that Rowntree established during the 1920's, that were informed by environmental conditions. The role of the cost office was instrumental in their ability to compete effectively in the UK confectionery market. Further insights from the literature have suggested that it is the resource, capabilities and knowledge-based theories of the firm that explain the ways in which companies like Rowntree were able to organise themselves in such a way so as to be able to compete as they did during the interwar years.⁹⁴³ In addition to the accepted fundamentals of the resource based view of the firm, it is further suggested that it is the source of the functionality of the resources within an organisation which are important, and crucially the extent to which the value of a resource can be viewed in the application to the product market and how this relates to the satisfaction of consumer needs.⁹⁴⁴

Therefore in comparing the cost accounting resource and capabilities of the two companies, the way in which Rowntree's incorporated marginal costing techniques to take account of potential sales that were available outside what might be called its 'core' business which included own-label and fancies, is an example of the way that customer requirements were accommodated in the operation of the cost office. This is consistent with the suggestion from the literature that “firms compete not on the basis

⁹⁴² Berland as cited by Berland, N. and Boyns, “The development of budgetary control in France and Britain”.

⁹⁴³ Penrose, *The Theory of the Firm*.

⁹⁴⁴ Peteraf, and Bergen, “Scanning dynamic competitive landscapes”.

of similar resources, but on the basis of whether these resources can be employed to meet similar customer needs”.⁹⁴⁵

This ability to ensure that resources were directed to the satisfaction of the needs of the consumer had a dual payoff for Rowntree. Not only were they exploiting niche markets, but by accepting orders on a marginal basis, this also meant that a more efficient utilisation of plant, machinery and labour could be obtained. This had the knock-on effect of being able to absorb overheads and contribute to profit. Indeed, for all the efforts that both Cadbury and Rowntree placed in the quest for efficiency previously discussed in chapters 4 and 5, it is suggested by Clark that the ultimate key to the discovery of efficiency is in the sourcing of alternative business for essentially the same product at different prices, at no added overhead.⁹⁴⁶ This according to Clark eliminates idle capacity which he regarded as the core of the problem in the study and control of overheads, and any company which has unused productive capacity is not able to manage their business effectively.⁹⁴⁷ The implications of this for Cadbury is that, as has already been reported in chapter 6, the sales revenues generated by the company during the interwar period were insufficient to justify the increases in capital expenditure. In other words the growth in capacity was not being fully utilised as demonstrated in the sales to fixed assets ratio and also the net worth to fixed assets ratio, leading to inefficiencies in overheads, and ultimately to reductions in operating profit and return on investment performance. For Cadbury, this was at the core of their failure to convert a seemingly appropriate and sound strategy into overwhelmingly superior financial performance, and the cause of this was their inability to understand the complex relationships between investment, sales revenues, costs and profitability. For all the sterling work carried out by the cost office at Cadbury, particularly in the early years, when it was the central fulcrum in the storing, processing and control of production information, and also in the identification of inefficiency within the factory, the inability to be able to inform senior management of the consequences of their decisions was the ultimate cause of this shortfall. It is argued that the fact that the senior managers at Cadbury made these decisions almost blind can be concluded as foolhardy. Moreover, this had an effect on the company's dire working capital arrangements, as measured by the current ratio,

⁹⁴⁵ Ibid., p. 1039.

⁹⁴⁶ Clark, *Studies in the Economics of Overhead Costs.*, p. 23.

⁹⁴⁷ Ibid.

when for most of the 1930's Cadbury's current liabilities exceeded their current assets. This was a clear symptom of their inability to plan for and allocate resources effectively. Therefore, the argument suggested by this thesis is that decision-making at the company was taken in the absence of adequate information and consequently placed the business in grave jeopardy of insolvency.

Rowntree's financial performance during the interwar years was also unspectacular, and in terms of absolute measures of sales revenues, market share, gross profit and operating profit, lagged behind Cadbury for the entire interwar period. In addition, there were insignificant gains in growth of the rate of profit as a percentage of sales revenues or in return on investment as measured by the operating profit to net worth ratio. However, for a company which did not possess the product advantage that Cadbury had established, particularly in terms of milk chocolate, they achieved a level of performance founded on a strategy based on the ability to identify and exploit niche markets, that was both consistent and stable, unlike the volatility that characterised Cadbury. In addition, although Rowntree's also suffered with their working capital, especially during the 1930's, their current assets were consistently greater than their current liabilities, making them less of a risk in terms of potential business failure due to cash flow problems.

It is concluded that both companies could have achieved a better performance in the interwar period if they had established and implemented fully operational budgetary control procedures. This would have demanded company-wide attention to the need for forecasting, control and the effective allocation of resources. Despite the exposure to the accepted techniques by representatives of both companies, and the expressed desire by senior directors for this to happen, both Cadbury and Rowntree failed to introduce a fully integrated budgetary control system prior to the outbreak of World War II. The main reason for this failure perhaps lies in the proprietorial nature of the management of both Cadbury and Rowntree which tended to foster the idea that middle managers should not assume responsibility that they perceived they did not in fact possess.⁹⁴⁸ The implementation of a complex company-wide initiative like budgeting requires the nomination of a manager who is recognised by all in the organisation as being responsible for its control and completion. For both Cadbury

⁹⁴⁸ See Quail, "The proprietorial theory of the firm and its consequences", pp. 1-28.

and Rowntree this key arrangement was never in place, so in the absence of a champion for the driving of a budget process, the desire for its implementation always remained so, and budgeting persisted to be an ad-hoc uncoordinated technique that was only present in a limited form in disparate parts of their organisations.

The consequences of the failure to implement budgetary control was more serious for Cadbury, given that their strategy was predicated on the ability to plan, measure and evaluate the implications of price reductions, based on cost savings. The superior financial performance which they perceived would result, could never be quantified in advance. Also given the emphasis on cost savings being driven by investment in mechanisation schemes, the appropriation of resources was also crucial to this policy. The fact that they were never able to do so during the interwar years because of the absence of the appropriate techniques meant that performance under any measure was always unpredictable and at risk. This fact is demonstrated in the examination of the company's financial performance in chapter 6. For Rowntree's, the real benefit of budgeting would have accrued in the ability to achieve a superior level of efficiency through the identification of problems exposed by rigorous variance analysis and responsibility accounting. This capability could have contributed to a more acceptable absolute financial performance for the company as a direct consequence of the managerial control that budgeting provides.

Overall, the popular conception in the literature, as reviewed in chapter 2, was that Cadbury's were more successful than Rowntree's. However, as has been demonstrated in this thesis, this common-held view is not that simplistic and, depending on attitudes to risk and the identification of a wide range of performance measures, it has been argued here that Rowntree's had in place a cost accounting capability which meant that they were able to survive and compete in a market that was effectively dominated in terms of price by a major competitor. However, this perceived dominance by Cadbury was never converted into the performance that it was capable of because of a lack of sophistication regarding cost accounting techniques that would have better informed their decision-making. Indeed, it is concluded that as a direct consequence of this lack of sophistication, the principal strategy of Cadbury was unsuccessful, and the performance measures that have been identified and utilised in this thesis only improved when the price-cutting policy was

reversed in 1935 due to competitive pressure from Rowntree and the establishment of a new player in the market, Mars.

Finally, the conclusion is that Rowntree absorbed, and indeed contributed to the latest thinking regarding management techniques, and as a consequence were able to apply this knowledge in terms of organisational efficiency and effectiveness during the interwar years. Cadbury on the other hand, were less concerned with the theoretical outpourings in the contemporary management literature, but were interested in more practical solutions that could be provided by consultants, for example. This attitude was rooted in the belief that they had superior products over those of its competitors, and as long as they had control over the market price, then performance would be guaranteed. However, the lack of attention to the information required for this strategy to be confirmed as appropriate and sustainable, meant that Cadbury were not as successful as they thought they were, or indeed Rowntree were not as unsuccessful, as has been portrayed and identified in the business history literature. The reasons for this misconception have been founded on a simplistic view of performance. This thesis provides a heterogeneous approach to the alternative and comprehensive measures of performance, thereby providing a different and balanced perspective of achievement than hitherto, and how the alternative capability of cost accounting contributed to this revised view.

8.8 Publications and Further Research

The possibilities for further work suggested by this thesis include:

a) Methodology

The application of contemporary financial performance measures used in this thesis could be extended further into other key sectors such as motor vehicle manufacturers, representing durable industries. The comparator case studies could be Austin and Morris. In contrast to the non-durable industries, as studied in this thesis, durables are more concerned with specific measures such as liquidity, stock control and working capital management.

In a more general sense, there could be further critical investigation of how changes in the use of accounting ratios over time affect the rating of overall company performance, say into the 1960's and 1970's.

b) Cost Accounting

The development of cost accounting techniques during the interwar period, as identified in this thesis, were greatly influenced by the impact of World War I and its economic, social and technological effects. Further work could therefore be in the identification of the greater challenges posed by the aftermath of World War II, and its consequences for the development of cost accounting techniques, especially the much broadening use of budgetary control in the UK.

c) Rowntree and Cadbury 1919-38

Further research into Rowntree and Cadbury could centre on specific areas such as the introduction and operation of the Cadbury railhead depot distribution system during the interwar years. For Rowntree, future work could include the degree of professionalism in management and the extent to which this contributed to decision-making and the ultimate formulation of policies designed to ensure company survival in the interwar years.

d) UK Confectionery Market

The growth of the UK confectionery market in the years prior to World War I, as identified in this thesis, particularly in chocolate blocks, was driven principally by imports from European, and especially by Swiss companies. Further study could be undertaken to understand how the Swiss confectionery manufacturers were able to establish dominance in the UK within a short period of time at the start of the twentieth century, and which capabilities were required to affect their successful strategy.

Appendix 1											
UK Confectionery Market Share 1900-1938 by Sales Value											
Year	Fry's		Cadbury's		Rowntree's		Mackintosh's		Total	Total	Total
	£'millions	% share	£'millions	% share	£'millions	% share	£'millions	% share	£'millions	Tons(000)	£/Ton
1900	1.33	8.2	1.2	7.6	0.5	2.8	0.0	0.2	16.25	187.0	87
1905	1.37	6.6	1.4	6.5	1.0	4.8	0.1	0.5	20.77	204.0	102
1910	1.64	6.4	1.7	6.6	1.2	4.8	0.1	0.5	25.43	239.0	106
1919	n/a	n/a	5.7	9.7	4.2	7.1	1.1	1.9	58.58	189.0	310
1920	n/a	n/a	8.2	8.0	5.1	5.0	1.1	1.1	102.70	295.0	348
1921	n/a	n/a	7.5	8.3	4.1	4.5	n/a	n/a	90.00	295.0	305
1922	n/a	n/a	6.6	8.7	3.6	4.7	n/a	n/a	76.30	308.0	248
1923	n/a	n/a	6.6	9.6	3.2	4.6	n/a	n/a	69.00	314.0	220
1924	n/a	n/a	7.2	10.6	3.3	4.8	n/a	n/a	68.10	322.0	211
1925	n/a	n/a	7.2	10.1	3.4	4.8	n/a	n/a	71.40	357.0	200
1926	n/a	n/a	7.2	10.2	3.2	4.6	n/a	n/a	70.70	366.0	193
1927	n/a	n/a	6.8	9.9	3.6	5.3	n/a	n/a	68.90	375.0	184
1928	n/a	n/a	6.6	9.8	3.7	5.4	0.6	0.9	67.50	381.0	177
1929	n/a	n/a	6.8	10.2	3.4	5.2	0.9	1.3	66.40	382.0	174
1930	n/a	n/a	7.0	11.1	2.9	4.6	n/a	n/a	63.30	375.0	169
1931	n/a	n/a	6.8	11.6	2.8	4.7	n/a	n/a	58.80	371.0	158
1932	n/a	n/a	6.5	11.3	3.0	5.1	n/a	n/a	57.60	396.0	145
1933	n/a	n/a	6.5	11.6	2.8	4.9	n/a	n/a	56.20	416.0	135
1934	n/a	n/a	7.0	12.9	2.7	5.0	n/a	n/a	54.10	427.0	127
1935	n/a	n/a	7.7	13.8	3.1	5.5	n/a	n/a	55.70	455.0	122
1936	n/a	n/a	8.6	14.9	4.4	7.6	n/a	n/a	57.60	462.5	125
1937	n/a	n/a	9.2	15.2	5.2	8.6	n/a	n/a	60.40	485.0	125
1938	n/a	n/a	9.3	15.3	5.2	8.5	n/a	n/a	60.90	481.0	127
Source: Fitzgerald (1995); Rowntree Income Statements; Cadbury Income Statements											

Appendix 2
Confectionery Manufacturers in UK Market 1919-38

Company	Principal Category
Barker & Dobson Ltd. Liverpool	Chocolate, Sugar
Angelas Ltd London	Sugar, Chocolate
Parkes Classic Confectionery Birmingham	Sugar
Voile & Wortley Ltd London	Sugar
Lings Ltd London	Sugar
Bristows Ltd Crediton	Sugar
Beech's Chocolates Preston	Chocolate
Jameson's Chocolates Ltd London	Chocolate
Eclipse Candy Co. Ltd Salford	Sugar
Carsons Ltd Glasgow	Chocolate
Cecil Coleman Ltd London	Sugar
Whitefields Ltd London	Chocolate
Needlers Ltd Hull	Sugar, Chocolate
Walker & Hartley Ltd Blackpool	Sugar

Company	Principal Category
Reeves Ltd London/Glasgow	Chocolate
Cleeves Ltd London	Sugar
C. Kunzle Ltd Birmingham	Chocolate
Harry Vincent Ltd Worcester	Sugar
JS Fry & Son Ltd Bristol	Chocolate, Sugar
Meltis Ltd Bradford	Sugar
Fryer & Son Nelson	Sugar
Walter Palmer Toffee Ltd London	Sugar
Fillery's Toffees Ltd Birmingham	Sugar
John Mackintosh Ltd Halifax	Sugar, Chocolate
RS Murray & Co. Ltd London	Sugar
W & M Duncan Ltd Edinburgh	Chocolate
Edward Sharp Ltd Maidstone	Sugar
Fox Glacier Mints Ltd Leicester	Sugar
Charles Bond Bristol	Chocolate

Company	Principal Category
HJ Packer & Co. Ltd Bristol	Chocolate
AS Wilkin Ltd Newcastle	Sugar
Dunhills Pontefract	Sugar
Maynards Ltd London	Sugar
Rowntee Ltd York	Chocolate, Sugar
Cadbury Bros. Ltd Birmingham	Chocolate
Clarke, Nicholls & Coombs Ltd (Clarnico) London	Sugar, Chocolate
James Pascall Ltd Mitcham	Sugar
Anglo-American Chewing Gum Co Ltd London	Sugar
Matlow Bros Ltd London	Sugar
Callard & Bowser Ltd London	Sugar
George Lee Essex	Sugar
WR Wilkinson & Co Ltd Pontefract	Sugar
Sovereign Confectionery Ltd Warrington	Sugar, Chocolate
Joseph Terry & Sons Ltd York	Sugar, Chocolate

Company**Principal Category**

Brierley, Collier & Hartley
Rochdale

Sugar

AJ Caley & Son Ltd
Bristol & Norwich

Chocolate, Sugar

Source: Catalogues of Annual Confectionery Exhibitions, Olympia, London (Various 1924-38).

CADBURY, BIRMINGHAM

July 8th, 1909.

Cadbury Bros.^{rs}
Bournville, Limited. To
Near Birmingham

The Board,

395
28th Oct

TO SAVE DELAY PLEASE
HEAD YOUR LETTER
CO A/26
ADDRESS CORRESPONDENCE CADBURY BROS. LTD.
NOT TO INDIVIDUALS

Snip Cutting Machine.

Mr. Edward Cadbury wishes to bring before the Board the question of putting down a Machine to cut our own Snip.

We have got out a statement of cost showing value of Snip purchased for the year 1908, & a comparison of what it would have cost if we had cut the raw material into Snip at Bournville.

The output of the Machine is very great & we should only keep it going about 6 months in the year, but after fully covering cost during this idle period, we save £383 on the year's requirements.

Other advantages are:-

- 1st. Saving in Stores by stocking the raw material in rooms instead of cut Snip.
- 2nd. Snip will go further when freshly cut than after being tightly bagged up as at present.

Alb. Baker

Appendix 3 (continued)

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COMPARISON OF COST OF SHIP FOR ONE YEAR
WITH ESTIMATED COST OF PRODUCTION BY MEANS OF
PROPOSED MACHINE.

Quantity of Ship Consumed, 1902.		Estimated Cost by means of M/c.	
	£ s d		£ s d
White Ship Cwts. @ 5 1/2 lbs.	1758 3 4	Cost of proposed M/c. £250. Depn. 10%	25 0 0
Green Ship Cwts. @ 5 1/2 lb.	385 0 0	Repairs & Renewals	12 0 0
Green Ship Cwts. @ 5 1/2 lb.	115 10 0	5 H.P.	60 0 0
White Ship Cwts. @ 24/- Cwt.	64 16 0	Rates, Taxes, Heating, Lighting, &c. 23 x 7' - 161 sq. ft. @ 4d.	2 13 8
White Ship Cwts. @ 38/- Cwt.	108 6 0	Labor - Man & Youth 10%	65 0 0 6 10 0
Brown Cwts. @ 24/3 Cwt.	161 5 4	<u>Paper.</u> Fine 860 Cwts. @ 5d less 10%	1248 0 0
Green Ship Cwts. @ 36/- Cwt.	144 18 0	Coarse White 54 Cwts. @ 1s. Cwt.	54 0 0
Green Ship Cwts. @ 36/- Cwt.	153 0 0	Coarse White 57 Cwts. @ 3/4 - "	96 18 0
Red Ship Cwts. @ 36/-	7 4 0	Nature Brown 149 Cwts. @ 14/6 Cwt.	108 7 9
White Ship Cwts. @ 3 1/2 lb.	60 13 3	Heliotrope 80 Cwts. @ 1/4 lb. less than Fine Green Ship 85 Cwts. Price Red Glazed @ 1/4 lb. 4 Cwts. less than Robson's White Ship 2 Tons Price.	265 11 0 51 6 8
	<u>£2,978 15 11</u>		<u>£2,595 7 1</u>

Saving by Introduction of M/c. on quantity as
consumed, 1902 = £383. 8. 10.

Appendix 4

Department	1907 Grs.		1908 Grs.		1909 Grs.		1910 Grs.	
	Sugar	Glucose Proportion	Sugar	Glucose Proportion	Sugar	Glucose Proportion	Sugar	Glucose Proportion
Isolate Mill	37,079	-	40,370	-	34,452	-	44,733	-
at Milling	20,703	4.	18,730	4.2	18,752	4.42	22,130	4.3
Plant Shop	5,902	4.7	5,222	4.3	5,446	1.169	6,434	965
Black	15,526	4.3	16,044	3.8	17,015	4.300	20,410	4,965
at Food	13,730	-	12,133	-	15,314	-	37,004	-
and Soap	1,038	-	1,108	-	835	-	904	-
at Soapstone	-	-	-	-	232	-	310	-
Plant Factory	-	-	-	-	550	-	1,534	20
Totals	94,189	-	94,613	-	94,335	-	134,254	10,551

Increase in proportion of sugar due to decrease in sales of Naughtmuller, etc. because Marsano biscuits are now crystallized in this department.

F. A. Gaddbury,

Payville,
January 10th, 1911.



Approved of A. Smith.

MACHINERY RETURNS - COMPARISON OF FIGURES.
Year Ending December 16th, 1915.

Depreciation	1914		1915		1913		Total Value of plant December, 1915.
	Value December, 1914.	Value December, 1915.	Depreciation on Machinery bought prior to 1915.	Additions to Plant, Capital Outlay Value	Depreciation on Additions to Plant.	Standard Percent-age.	
Engines, Pumps, &c.	18097.2	19378.0	3507.4	1953.2	92.6	10 %	16851.2
Boilers, } Engines, Boilers, } Pumps, &c.	262.3	1994.5	488.1	1694.4	341.3	Special	2759.5
Tools	9820.6	9369.9	2889.7	1277.6	90.9	10 %	7687.1
General Tools	589.1	2520.5	520.0	1927.5	540.3	Special	3378.7
Chocolate, Confecty, &c.	14945.2	13710.5	2803.8	427.0	18.9	10 %	10314.8
Cocoa, Chocolate, } Confectionery, &c. }	14316.4	23066.4	5069.4	12048.0	4566.9	Special	24678.1
Food, Paper, Card, } Anting, &c. }	8395.9	8697.3	1874.2	16.2	1.6	10 %	6837.7
Tim, Wood, Card, } Paper, Printing, &c. }	4224.2	5891.1	1395.9	1271.6	379.5	Special	5387.5
Stock & Fire } Business, }	4182.8	5343.1	769.5	192.9	8.9	5 %	3757.8
Rolling Stock, &c.	2602.3	3008.8	1023.7	1098.6	580.1	Special	2764.0
	<u>277654.0</u>	<u>289999.5</u>	<u>187349.7</u>	<u>21197.2</u>	<u>26340.8</u>		<u>283416.2</u>

As requested by
Feb. 27th, 1915 -
ent.

et Office,
urnville.

W sent to:-
The Board,
Mr. W.A.C.

Mr. G.C.
Mr. G.C.Jr.

Mr. G.C.
Mr. G.C.Jr.

February 15th, 1915.

Prepared by A. E. Lodge.

Handwritten: Total 283416.2

Handwritten: 28045.12.0
2500.0.0
Total 28295.12.0

PRESS DEPARTMENT
ADVERTISING BUDGET

December 17/1914 - December 16/15.

	1914 Cost	1915 Estimate	1915 Cost	1916 Estimate	
Newspapers	14,750	11,500	9,348	500	Author Handsh Graph
Magazines	9,842		2,359	11,000	
Posting & Printing	1,200	500	562	500	
Solus	2,359	1,000	1,231	800	
Vans	9,245	8,000	8,334	6,000	
Price Lists	1,716	1,700	1,233	1,300	
Public Resorts Railway Stns. & Theatres	2,949	3,000	2,999	3,000	
Trade Papers Grocers Assoc. Menus etc.	1,017	1,100	997	1,000	
Cinematograph	340	350	221	350	
Trams			1,150	-	
Sundries	3,248	1,250	1,572	1,600	
	47,666	28,400	30,006	25,950	

*
SPECIAL QUANT
TRANS INTO
KIMBLETON
TO AGENT 3700

Normal Annual expenditure before the war was £49,000 per annum.

Appendix 7

Cadbury Balance Sheets 1919-23

	1919	1920	1921	1922	1923
Assets					
Non-Current					
Land & Buildings	267345	317944	507945	625306	668742
Plant & Machinery	68643	119717	196272	266038	299386
Goodwill	390000	390000	390000	390000	390000
	725988	827661	1094217	1281344	1358128
Investments	590032	446631	613229	1066505	1734811
Current					
Cash	44059	94428	640571	778509	503204
Debtors	694285	815541	908948	840333	839532
Inventories	2183640	2491672	1812216	1595759	1335683
	2921984	3401641	3361735	3214601	2678419
Liabilities					
Current					
Reserves	340043	298258	543444	899879	1240677
Trade Creditors	636034	569887	368031	472968	400971
	976077	868145	911475	1372847	1641648
Non-Current					
Long-Term Loans	0	257386	107981	100124	0
Net Assets	<u>3261927</u>	<u>3550402</u>	<u>4049725</u>	<u>4089479</u>	<u>4129710</u>
Capital					
Subscribed Shares	2176140	3027654	3027654	3027654	3224156
Reserves	575191	348103	951484	1002239	845968
Excess Profits	510596	174645	70587	59586	59586
Total Capital	<u>3261927</u>	<u>3550402</u>	<u>4049725</u>	<u>4089479</u>	<u>4129710</u>

Source: Cadbury Brothers Ltd. Company Archive, Bournville.

Appendix 7 (continued)

Cadbury Balance Sheets 1924-28

	1924	1925	1926	1927	1928
Assets					
Non-Current					
Land & Buildings	736410	817026	909607	1070733	1142699
Plant & Machinery	318883	382272	388688	437807	516571
Goodwill	390000	390000	390000	390000	390000
	1445293	1589298	1688295	1898540	2049270
Investments	1930566	1944754	2247684	2287445	2197595
Current					
Cash	570937	363984	302900	142895	203538
Debtors	966760	950658	809064	888992	977632
Inventories	1345632	1598552	1736500	1400951	1204176
	2883329	2913194	2848464	2432838	2385346
Liabilities					
Current					
Reserves	1353456	1699326	1907078	1740706	1709046
Trade Creditors	409516	471464	604349	630953	616953
	1762972	2170790	2511427	2371659	2325999
Non-Current					
Long-Term Loans	0	0	0	0	0
Net Assets	<u>4496216</u>	<u>4276456</u>	<u>4273016</u>	<u>4247164</u>	<u>4306212</u>
Capital					
Subscribed Shares	3224156	3224156	3224156	3224156	3224156
Reserves	1212474	992714	989274	963422	1022470
Excess Profits	59586	59586	59586	59586	59586
Total Capital	<u>4496216</u>	<u>4276456</u>	<u>4273016</u>	<u>4247164</u>	<u>4306212</u>

Source: Cadbury Brothers Ltd. Company Archive, Bournville.

Appendix 7 (continued)

Cadbury Balance Sheets 1929-33

	1929	1930	1931	1932	1933
Assets					
Non-Current					
Land & Buildings	1548006	1542326	1559149	1584452	1721618
Plant & Machinery	532596	491548	457792	433558	424172
Goodwill	390000	390000	390000	390000	390000
	2470602	2423874	2406941	2408010	2535790
Investments	2270505	2337122	2234063	2794778	2989841
Current					
Cash	149393	529866	937761	404375	177084
Debtors	1053101	948431	907541	974139	1022930
Inventories	1642948	1290908	1117679	1285533	1041037
	2845442	2769205	2962981	2664047	2241051
Liabilities					
Current					
Reserves	1984849	2042285	2066209	2137451	2398149
Trade Creditors	1205546	1023012	828626	1088239	800657
	3190395	3065297	2894835	3225690	3198806
Non-Current					
Long-Term Loans	0	0	0	0	200258
Net Assets	<u>4396154</u>	<u>4464904</u>	<u>4709150</u>	<u>4641145</u>	<u>4367618</u>
Capital					
Subscribed Shares	3224156	3224156	3224156	3224156	3224156
Reserves	1171998	1240748	1484994	1416989	1143462
Excess Profits	0	0	0	0	0
Total Capital	<u>4396154</u>	<u>4464904</u>	<u>4709150</u>	<u>4641145</u>	<u>4367618</u>

Source: Cadbury Brothers Ltd. Company Archive, Bournville.

Appendix 7 (continued)

Cadbury Balance Sheets 1934-38

	1934	1935	1936	1937	1938
Assets					
Non-Current					
Land & Buildings	1128942	1170470	1288042	1449171	1592922
Plant & Machinery	478214	499264	502974	550753	646295
Goodwill	390000	390000	390000	390000	390000
Investments	1997156 3218247	2059734 3225868	2181016 3629770	2389924 2250642	2629217 2318617
Current					
Cash	254637	17800	67363	789251	258807
Debtors	1019458	1204462	1178289	1303841	1333537
Inventories	1102282	1491926	1752775	1881997	2494750
	2376377	2714188	2998427	3975089	4087094
Liabilities					
Current					
Reserves	1773872	1773938	1801862	2049403	570427
Trade Creditors	1131169	1116991	1481082	1295039	1455635
	2905041	2890929	3282944	3344442	2026062
Non-Current					
Long-Term Loans	93488	258730	926000	714500	619500
Net Assets	<u>4593251</u>	<u>4850131</u>	<u>4600269</u>	<u>4556713</u>	<u>6389366</u>
Capital					
Subscribed Shares	3224156	3224156	3244156	3244156	5831035
Reserves	1369095	1625975	1356113	1312557	558331
Excess Profits	0	0	0	0	0
Total Capital	<u>4593251</u>	<u>4850131</u>	<u>4600269</u>	<u>4556713</u>	<u>6389366</u>

Source: Cadbury Brothers Ltd. Company Archive, Bournville.

Appendix 8**Cadbury Income Statements 1919-23**

	1919	1920	1921	1922	1923
Sales Revenues	5668468	8178124	7503116	6628107	6646609
Ingredients	2418349	4461407	2921322	2228443	2503135
Packing Materials	367999	820071	553010	408617	406627
Labour	521330	804281	785239	732986	689437
Discounts	150820	215380	217626	197716	185843
Other Income	4146	14151	14266	13097	18320
Gross Profit	2214116	1891136	3040185	3073442	2879887
Advertising	74584	116358	152434	215906	235563
Other Overheads	988662	1429493	1626460	1565847	1503159
Operating Profit (EBIT)	1150870	345285	1261291	1291689	1141165

Appendix 8 (continued)**Cadbury Income Statements 1924-28**

	1924	1925	1926	1927	1928
Sales Revenues	7246279	7218574	7182260	6816656	6581158
Ingredients	2531289	2536226	2455765	2657814	2783446
Packing Materials	446476	468545	443199	373377	340468
Labour	758171	819681	782011	699255	629240
Discounts	190117	199216	206153	211204	205310
Other Income	30986	57413	101612	119011	118400
Gross Profit	3351212	3252319	3396744	2994017	2741094
Advertising	307470	386235	488946	549161	522052
Other Overheads	1645361	1725663	1797678	1649563	1549935
Operating Profit (EBIT)	1398381	1140421	1110120	795293	669107

Source: Cadbury Brothers Ltd. Company Archive, Bournville.

Appendix 8 (continued)**Cadbury Income Statements 1929-33**

	1929	1930	1931	1932	1933
Sales Revenues	6814709	7026539	6805515	6504101	6506189
Ingredients	2577090	2736042	2157348	2076030	2194372
Packing Materials	365151	504051	459866	505189	510120
Labour	586871	560682	544605	550264	545000
Discounts	212920	210638	210266	0	0
Other Income	132191	107712	80461	81273	100279
Gross Profit	3204868	3122838	3513891	3453891	3356976
Advertising	503862	586984	552321	621051	696453
Other Overheads	1619217	1787437	1816571	1796122	1821491
Operating Profit (EBIT)	1081789	748417	1144999	1036718	839032

Appendix 8 (continued)**Cadbury Income Statements 1934-38**

	1934	1935	1936	1937	1938
Sales Revenues	7032449	7730252	8560142	9215630	9315690
Ingredients	2092843	2635222	2994721	4242914	3599961
Packing Materials	545380	534310	597772	649358	701498
Labour	602079	626537	670491	703056	710050
Discounts	0	0	0	0	0
Other Income	136799	96014	0	0	0
Gross Profit	3928946	4030197	4297158	3620302	4304181
Advertising	577766	589649	591890	549156	679589
Other Overheads	2004878	2223915	2277660	2399415	2425512
Operating Profit (EBIT)	1346302	1216633	1427608	671731	1199080

Source: Cadbury Brothers Ltd. Company Archive, Bournville.

Appendix 9**Rowntree Balance Sheets 1919-23**

	1919	1920	1921	1922	1923
Assets					
Non-Current					
Land & Buildings	349400	460180	510790	531763	554707
Plant & Machinery	150023	218384	408453	440389	476516
West Indies	20462	30689	49572	21739	19530
Investments	519885 43885	709253 46677	968815 323150	993891 706495	1050753 463453
Current					
Cash	11925	64280	320599	9858	49345
Debtors	464894	448106	473256	545911	552954
Inventories	1763870	1662148	1103495	986288	976127
Excess Profits	2240689 0	2174534 259629	1897350 0	1542057 0	1578426 0
Liabilities					
Current					
Reserves	500274	192601	278126	338310	239414
Trade Creditors	503560	394188	255650	272101	224979
Long-Term Loans	1003834 0	586789 0	533776 0	610411 0	464393 0
Non-Current					
Net Assets					
	<u>1800625</u>	<u>2603304</u>	<u>2655539</u>	<u>2632032</u>	<u>2628239</u>
Capital					
Preference Shares	750000	1500000	1500000	1500000	1500000
Ordinary Shares	750000	1000000	1000000	1000000	1000000
Reserves	300625	103304	155539	132032	128239
Total Capital	<u>1800625</u>	<u>2603304</u>	<u>2655539</u>	<u>2632032</u>	<u>2628239</u>

Source: Rowntree Ltd. Company Archive, Borthwick

Appendix 9 (continued)

Rowntree Balance Sheets 1924-28

	1924	1925	1926	1927	1928
Assets					
Non-Current					
Land & Buildings	555390	556989	546150	533071	520215
Plant & Machinery	489034	466353	473711	489534	494099
West Indies	18833	18040	15573	14791	12031
	1063257		1041382	1035434	1037396
Investments	579933		731873	916859	1085327
					1026345
					1002328
Current					
Cash	53664	21222	7920	5066	9647
Debtors	589537	656669	585362	684785	723233
Inventories	846835	736365	797777	797167	735713
	1490036		1414256	1391059	1487018
Excess Profits	0		0	0	0
					1468593
					0
Liabilities					
Current					
Reserves	234565	184159	210000	260000	310000
Trade Creditors	288694	356516	436829	654009	489028
	523259		540675	646829	914009
					799028
Non-Current					
Long-Term Loans	0		0	0	0
Net Assets	<u>2609967</u>	<u>2646836</u>	<u>2696523</u>	<u>2695732</u>	<u>2698238</u>
Capital					
Preference Shares	1500000	1500000	1500000	2250000	2250000
Ordinary Shares	1000000	1000000	1000000	250000	250000
Reserves	109967	146836	196523	195732	198238
Total Capital	<u>2609967</u>	<u>2646836</u>	<u>2696523</u>	<u>2695732</u>	<u>2698238</u>

Source: Rowntree Ltd. Company Archive, Borthwick

Appendix 9 (continued)

Rowntree Balance Sheets 1929-33

	1929	1930	1931	1932	1933
Assets					
Non-Current					
Land & Buildings	505997	496087	488769	484651	474903
Plant & Machinery	488650	457240	457588	481284	463124
West Indies	10293	9674	9668	9103	8462
Investments	1004940	963001	956025	975038	946489
	1296874	1355987	1461389	1430774	1365906
Current					
Cash	5609	11723	12720	11784	14414
Debtors	584604	507203	570814	514999	495409
Inventories	681291	599728	603851	643166	581023
Excess Profits	1271504	1118654	1187385	1169949	1090846
	0	0	0	0	0
Liabilities					
Current					
Reserves	375597	408807	427114	393728	399481
Trade Creditors	488603	398239	544485	544309	363472
	864200	807046	971599	938037	762953
Non-Current					
Long-Term Loans	0	0	0	0	0
Net Assets	<u>2709118</u>	<u>2630596</u>	<u>2633200</u>	<u>2637724</u>	<u>2640288</u>
Capital					
Preference Shares	2265000	2265000	2265000	2265000	2265000
Ordinary Shares	250000	250000	250000	250000	250000
Reserves	194118	115596	118200	122724	125288
Total Capital	<u>2709118</u>	<u>2630596</u>	<u>2633200</u>	<u>2637724</u>	<u>2640288</u>

Source: Rowntree Ltd. Company Archive, Borthwick

Appendix 9 (continued)

Rowntree Balance Sheets 1934-38

		1935	1936	1937	1938
Assets					
Non-Current					
Land & Buildings	462256	444441	483517	536903	589011
Plant & Machinery	455239	480081	573157	631643	642555
West Indies	284	91	135	69	4
	917779	924613	1056809	1168615	1231570
Investments	1480181	1448510	1322451	1213805	1243316
Current					
Cash	10556	10661	15727	39070	106041
Debtors	453545	557723	732084	779169	761349
Inventories	510781	568005	859440	1204145	1188691
	974882	1136389	1607251	2022384	2056081
Excess Profits	0	0	0	0	0
Liabilities					
Current					
Reserves	415371	410398	404830	490165	685855
Trade Creditors	312042	434875	851970	673424	720613
	727413	845273	1256800	1163589	1406468
Non-Current					
Long-Term Loans	0	0	0	0	0
Net Assets	<u>2645429</u>	<u>2664239</u>	<u>2729711</u>	<u>3241215</u>	<u>3124499</u>
Capital					
Preference Shares	2265000	2265000	2265000	2515000	2515000
Ordinary Shares	250000	250000	250000	500000	500000
Reserves	130429	149239	214711	226215	109499
Total Capital	<u>2645429</u>	<u>2664239</u>	<u>2729711</u>	<u>3241215</u>	<u>3124499</u>

Source: Rowntree Ltd. Company Archive, Borthwick

Appendix 10**Rowntree Income Statements 1919-23**

	1919	1920	1921	1922	1923
Sales Revenues	4148152	5133250	4058450	3612426	3152721
Ingredients	1792448	2623436	1661907	1228799	1157439
Packing Materials	597483	874478	543932	440132	399753
Direct Labour	315488	523644	632330	612025	534563
Discounts	116491	155041	141728	118460	102294
Other Income	112728	416542	96339	101882	123252
Gross Profit	1438970	1373193	1174892	1314892	1081924
Advertising	78357	193296	149754	242175	140432
Other Overheads	741439	907672	804812	847318	776698
Operating Profit (EBIT)	619174	272225	220326	225399	164794

Appendix 10 (continued)**Rowntree Income Statements 1924-2**

	1924	1925	1926	1927	1928
Sales Revenues	3270338	3399627	3305698	3616553	3648137
Ingredients	1099451	1026193	966033	1254663	1295868
Packing Materials	448469	492919	427386	421298	377583
Direct Labour	542545	634841	609542	623193	586575
Discounts	117424	122478	120164	125773	133505
Other Income	122960	102114	102544	128261	140772
Gross Profit	1185409	1225310	1285117	1319887	1395378
Advertising	227999	284037	306536	318676	383418
Other Overheads	781979	722353	724808	726446	730375
Operating Profit (EBIT)	175431	218920	253773	274765	281585

Source: Rowntree Ltd. Company Archive, Borthwick.

Appendix 10 (continued)**Rowntree Income Statements 1929-33**

	1929	1930	1931	1932	1933
Sales Revenues	3387224	2890348	2671463	2880854	2702369
Ingredients	1148007	951338	800676	999225	947645
Packing Materials	346178	327310	317920	229954	196555
Direct Labour	522569	466182	425205	447194	457224
Discounts	118736	119217	126311	146377	124536
Other Income	162961	168548	138666	134428	104938
Gross Profit	1414695	1194849	1140017	1192532	1081347
Advertising	384021	306362	271479	344317	312066
Other Overheads	756841	703320	681432	659848	589237
Operating Profit (EBIT)	273833	185167	187106	188367	180044

Appendix 10 (continued)**Rowntree Income Statements 1934-38**

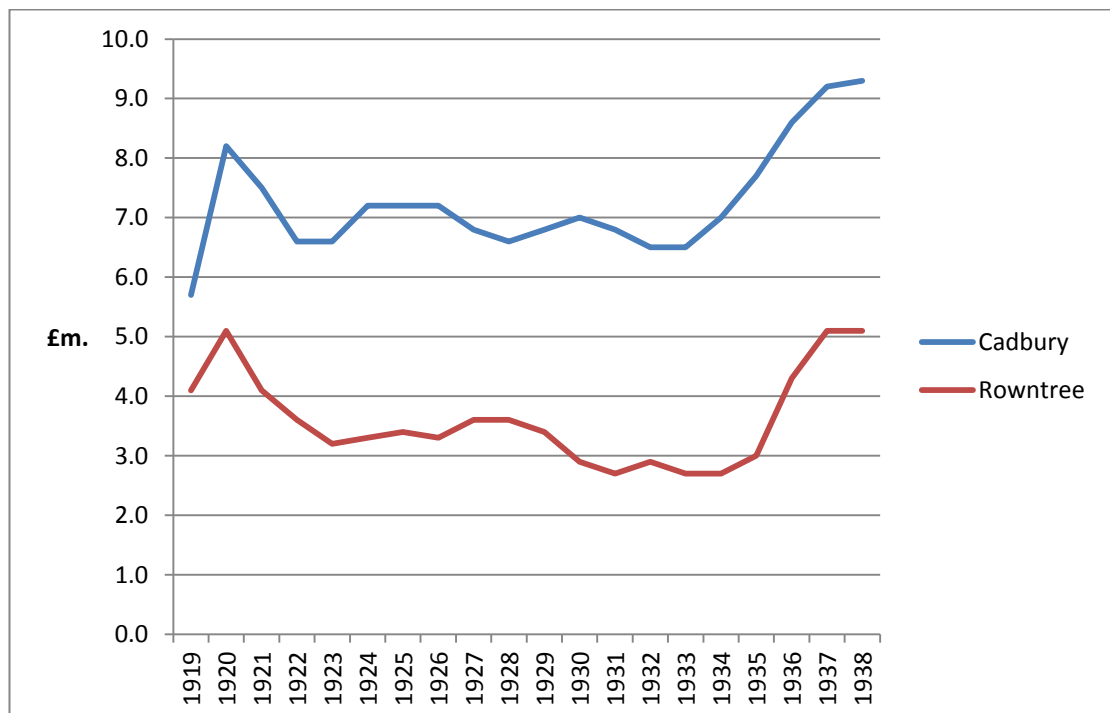
	1934	1935	1936	1937	1938
Sales Revenues	2670680	3017728	4295536	5057497	5054854
Ingredients	884389	1047427	1759606	2264219	2049819
Packing Materials	254885	287814	304164	388873	413972
Direct Labour	466001	534448	778352	891686	898547
Discounts	88321	86832	126191	123712	126371
Other Income	88988	101442	96073	108167	119508
Gross Profit	1066072	1162649	1423296	1497174	1685653
Advertising	317747	343480	440763	493874	508695
Other Overheads	569057	618534	709884	760284	910320
Operating Profit (EBIT)	179268	200635	272649	243016	266638

Source: Rowntree Ltd. Company Archive, Borthwick.

Appendix 11 – Performance Metrics

Absolute Performance: Sales Revenue

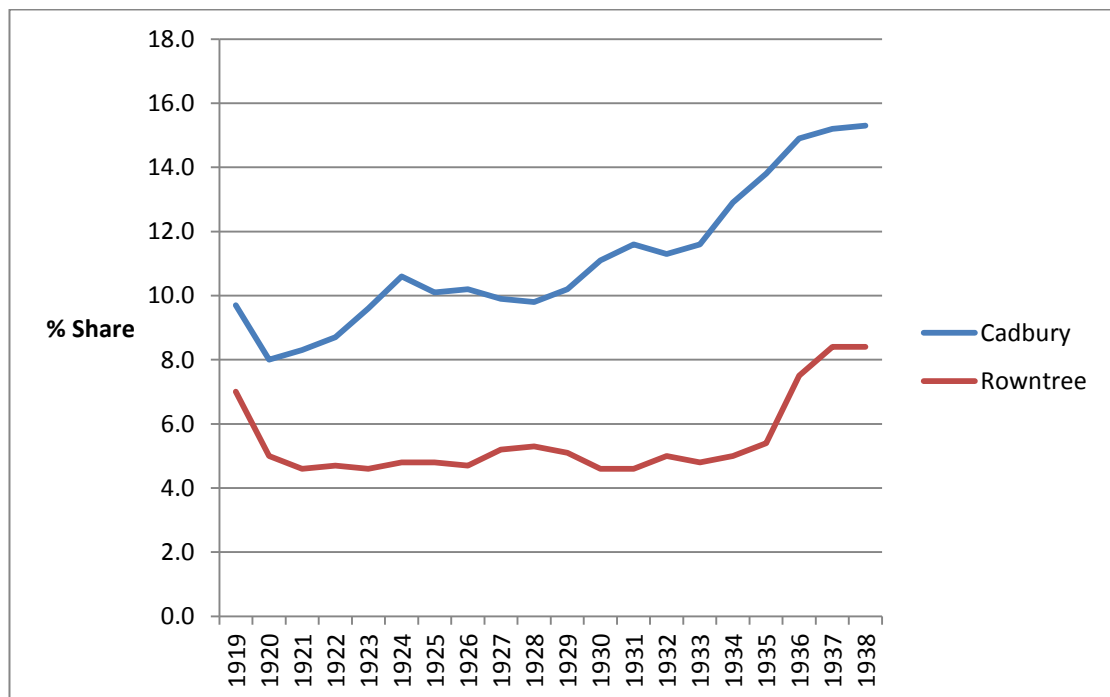
	Cadbury	Rowntree
	£.m	£.m
1919	5.7	4.1
1920	8.2	5.1
1921	7.5	4.1
1922	6.6	3.6
1923	6.6	3.2
1924	7.2	3.3
1925	7.2	3.4
1926	7.2	3.3
1927	6.8	3.6
1928	6.6	3.6
1929	6.8	3.4
1930	7.0	2.9
1931	6.8	2.7
1932	6.5	2.9
1933	6.5	2.7
1934	7.0	2.7
1935	7.7	3.0
1936	8.6	4.3
1937	9.2	5.1
1938	9.3	5.1



Appendix 11 Performance Metrics (continued)

Absolute Performance: Market Share (by Sales Revenue)

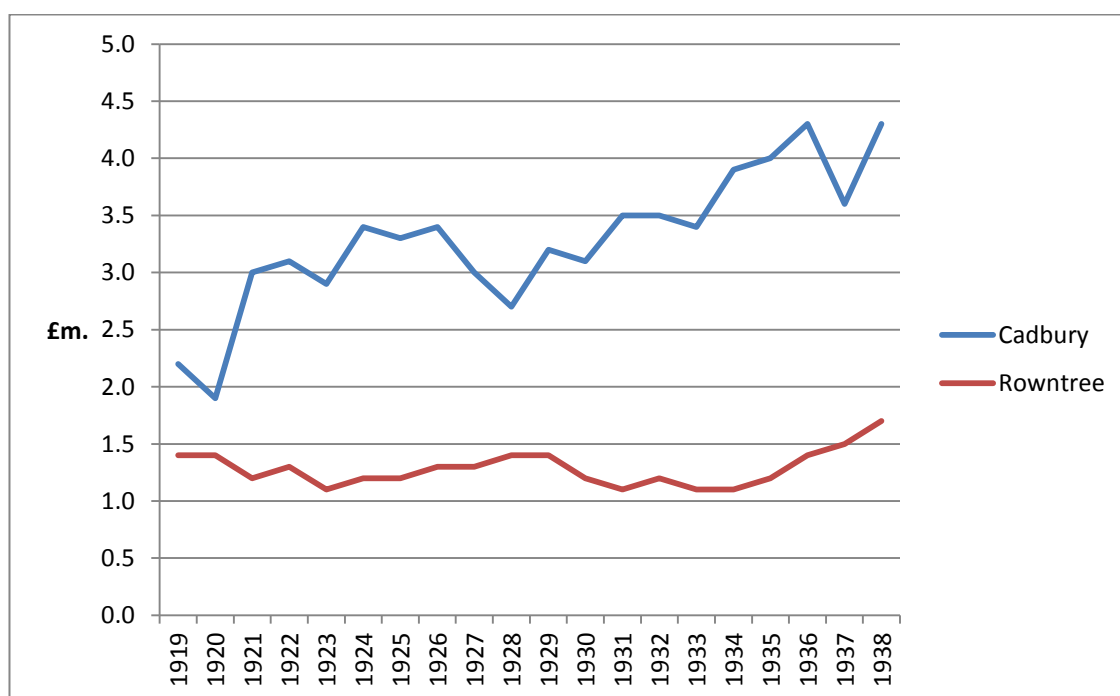
	Cadbury	Rowntree
	%	%
1919	9.7	7.0
1920	8.0	5.0
1921	8.3	4.6
1922	8.7	4.7
1923	9.6	4.6
1924	10.6	4.8
1925	10.1	4.8
1926	10.2	4.7
1927	9.9	5.2
1928	9.8	5.3
1929	10.2	5.1
1930	11.1	4.6
1931	11.6	4.6
1932	11.3	5.0
1933	11.6	4.8
1934	12.9	5.0
1935	13.8	5.4
1936	14.9	7.5
1937	15.2	8.4
1938	15.3	8.4



Appendix 11 Performance Metrics (continued)

Absolute Performance: Gross Profit

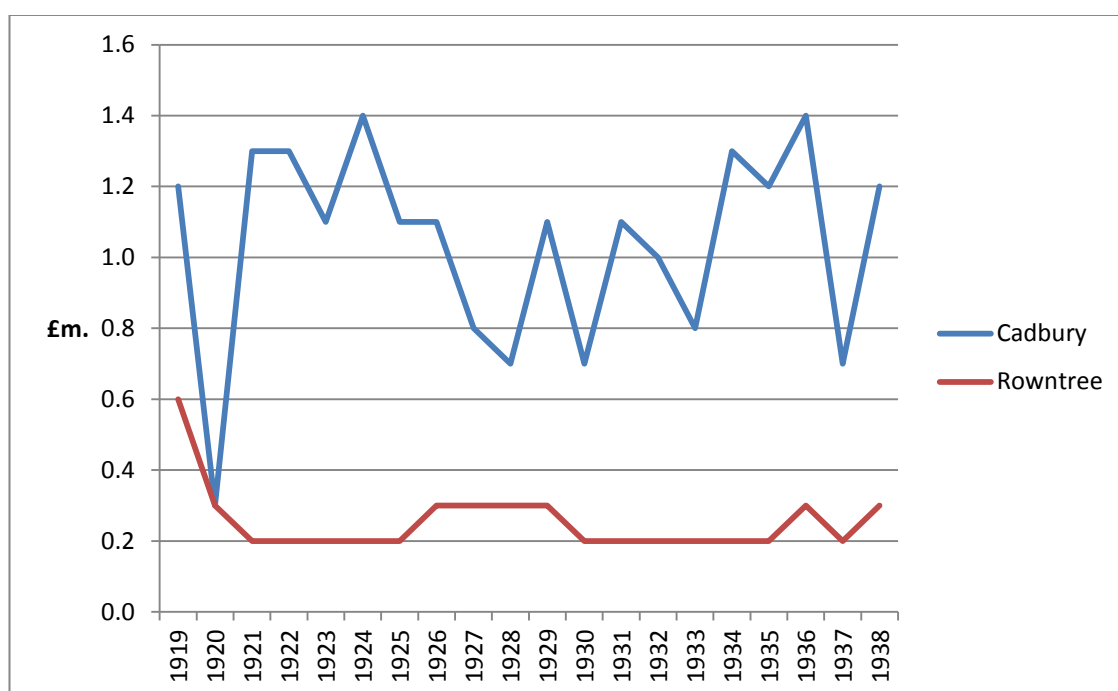
	Cadbury	Rowntree
	£m.	£m.
1919	2.2	1.4
1920	1.9	1.4
1921	3.0	1.2
1922	3.1	1.3
1923	2.9	1.1
1924	3.4	1.2
1925	3.3	1.2
1926	3.4	1.3
1927	3.0	1.3
1928	2.7	1.4
1929	3.2	1.4
1930	3.1	1.2
1931	3.5	1.1
1932	3.5	1.2
1933	3.4	1.1
1934	3.9	1.1
1935	4.0	1.2
1936	4.3	1.4
1937	3.6	1.5
1938	4.3	0.9



Appendix 11 Performance Metrics (continued)

Absolute Performance: Operating Profit

	Cadbury	Rowntree
	£m.	£m.
1919	1.2	0.6
1920	0.3	0.3
1921	1.3	0.2
1922	1.3	0.2
1923	1.1	0.2
1924	1.4	0.2
1925	1.1	0.2
1926	1.1	0.3
1927	0.8	0.3
1928	0.7	0.3
1929	1.1	0.3
1930	0.7	0.2
1931	1.1	0.2
1932	1.0	0.2
1933	0.8	0.2
1934	1.3	0.2
1935	1.2	0.2
1936	1.4	0.3
1937	0.7	0.2
1938	1.2	0.3



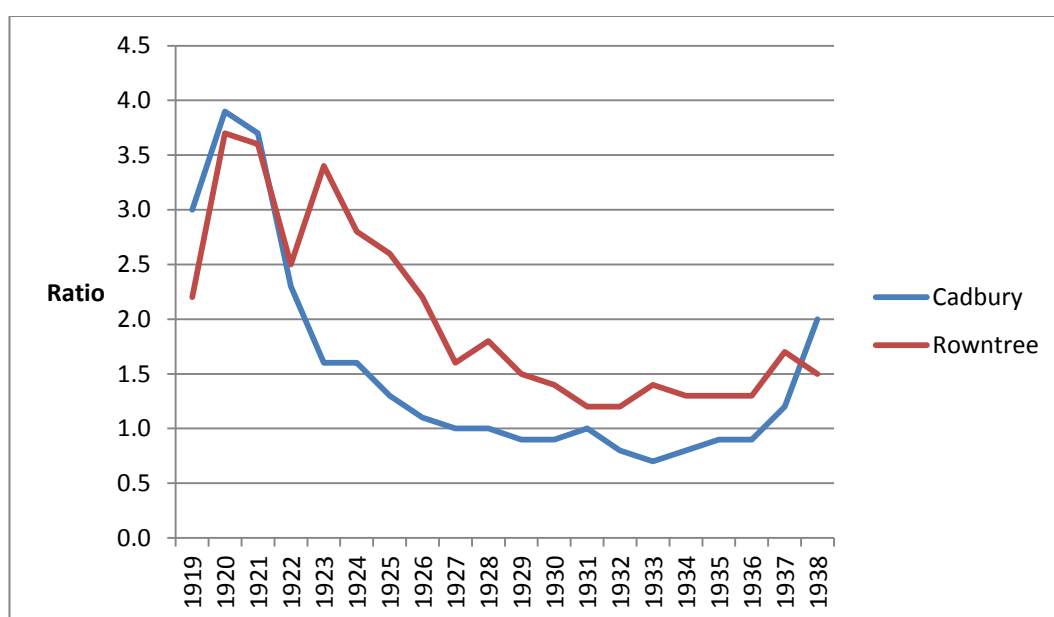
Appendix 11 Performance Metrics (continued)

Primary Ratio: Current Ratio

Calculation: Current Assets divided by Current Liabilities

Expressed as: Ratio

	Cadbury	Rowntree
1919	3.0	2.2
1920	3.9	3.7
1921	3.7	3.6
1922	2.3	2.5
1923	1.6	3.4
1924	1.6	2.8
1925	1.3	2.6
1926	1.1	2.2
1927	1.0	1.6
1928	1.0	1.8
1929	0.9	1.5
1930	0.9	1.4
1931	1.0	1.2
1932	0.8	1.2
1933	0.7	1.4
1934	0.8	1.3
1935	0.9	1.3
1936	0.9	1.3
1937	1.2	1.7
1938	2.0	1.5



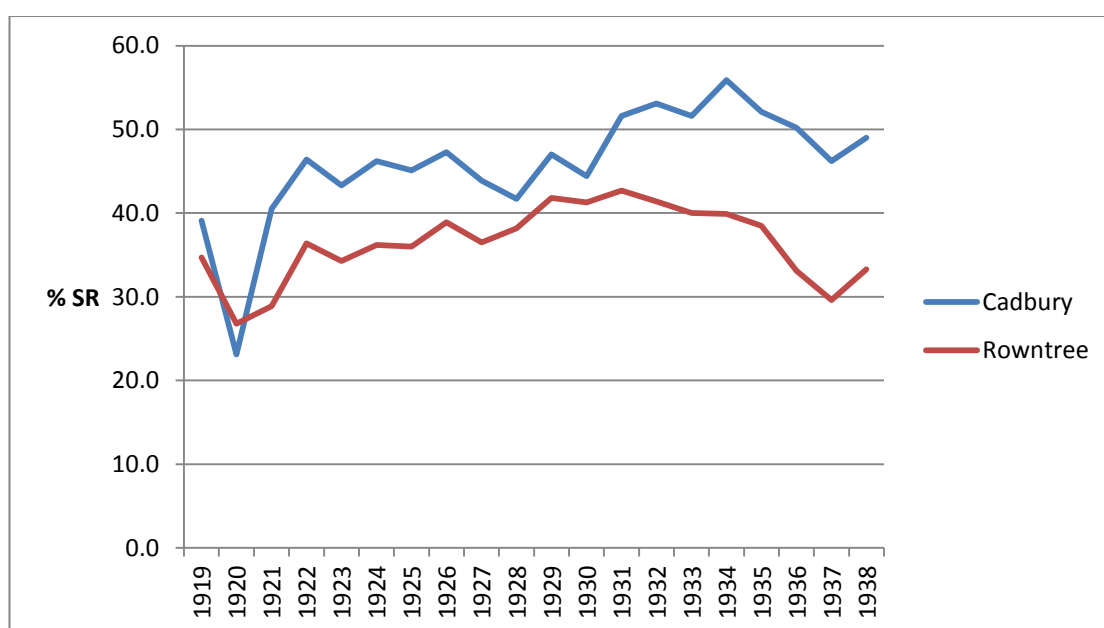
Appendix 11 Performance Metrics (continued)

Primary Ratio: Gross Profit Ratio

Calculation: Gross Profit divided by Sales Revenues

Expressed as: %

	Cadbury	Rowntree
1919	39.1	34.7
1920	23.1	26.8
1921	40.5	28.9
1922	46.4	36.4
1923	43.3	34.3
1924	46.2	36.2
1925	45.1	36.0
1926	47.3	38.9
1927	43.9	36.5
1928	41.7	38.2
1929	47.0	41.8
1930	44.4	41.3
1931	51.6	42.7
1932	53.1	41.4
1933	51.6	40.0
1934	55.9	39.9
1935	52.1	38.5
1936	50.2	33.1
1937	46.2	29.6
1938	49.0	33.3



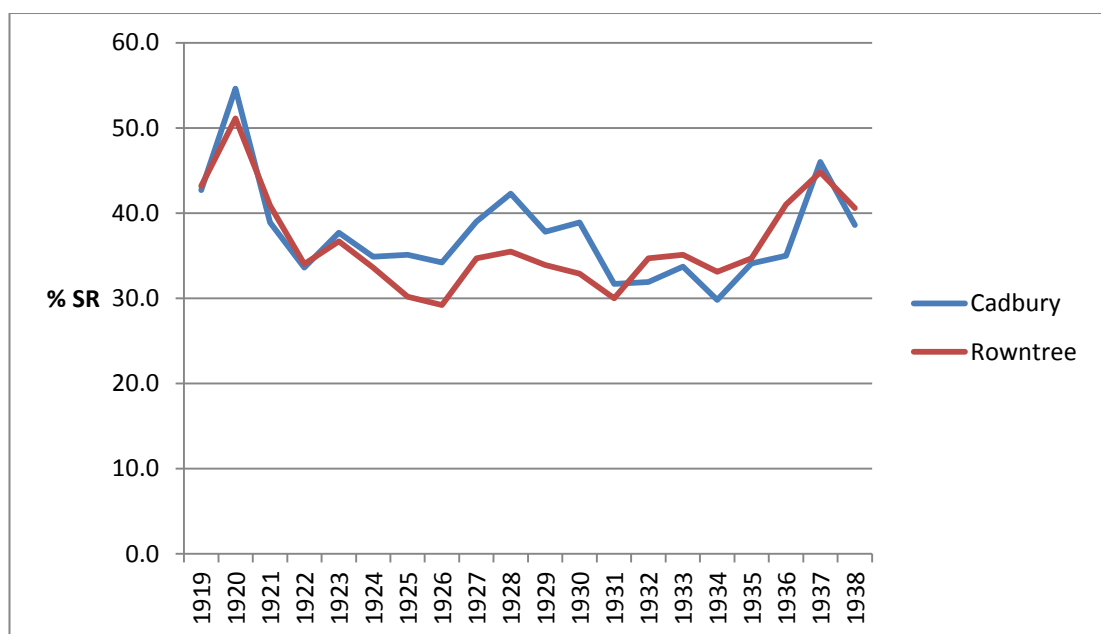
Appendix 11 Performance Metrics (continued)

Supporting Ratio: Ingredients Cost Ratio

Calculation: Ingredients Cost divided by Sales Revenues

Expressed as: %

	Cadbury	Rowntree
1919	42.7	43.2
1920	54.6	51.1
1921	38.9	40.9
1922	33.6	34.0
1923	37.7	36.7
1924	34.9	33.6
1925	35.1	30.2
1926	34.2	29.2
1927	39.0	34.7
1928	42.3	35.5
1929	37.8	33.9
1930	38.9	32.9
1931	31.7	30.0
1932	31.9	34.7
1933	33.7	35.1
1934	29.8	33.1
1935	34.1	34.7
1936	35.0	41.0
1937	46.0	44.8
1938	38.6	40.6



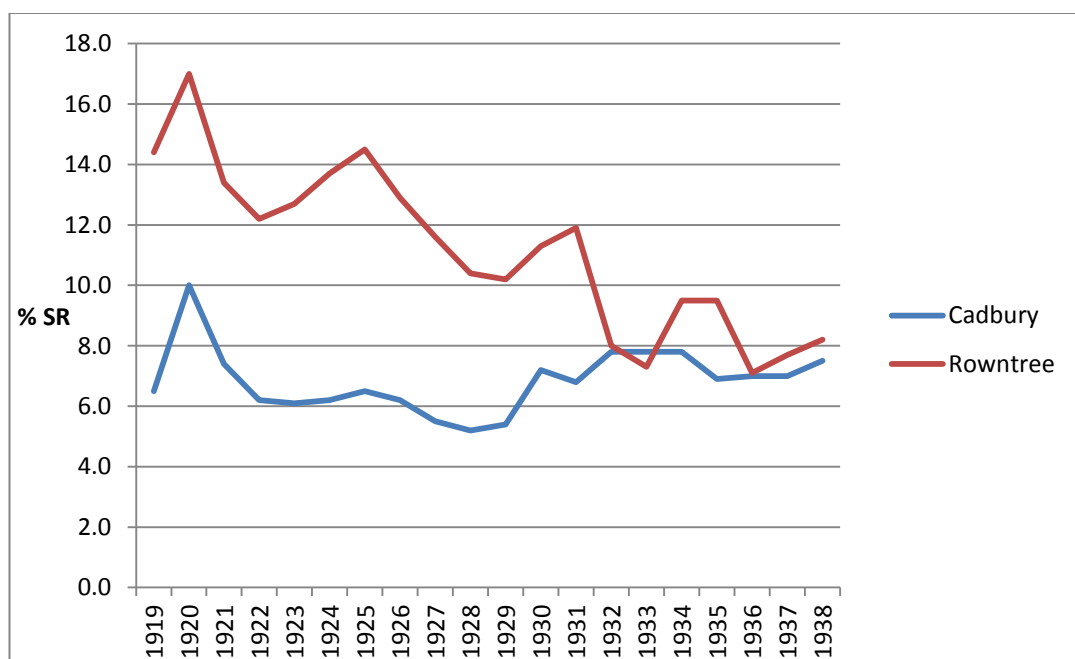
Appendix 11 Performance Metrics (continued)

Supporting Ratio: Packing Materials Cost Ratio

Calculation: Packing Materials Cost divided by Sales Revenues

Expressed as: %

	Cadbury	Rowntree
1919	6.5	14.4
1920	10.0	17.0
1921	7.4	13.4
1922	6.2	12.2
1923	6.1	12.7
1924	6.2	13.7
1925	6.5	14.5
1926	6.2	12.9
1927	5.5	11.6
1928	5.2	10.4
1929	5.4	10.2
1930	7.2	11.3
1931	6.8	11.9
1932	7.8	8.0
1933	7.8	7.3
1934	7.8	9.5
1935	6.9	9.5
1936	7.0	7.1
1937	7.0	7.7
1938	7.5	8.2



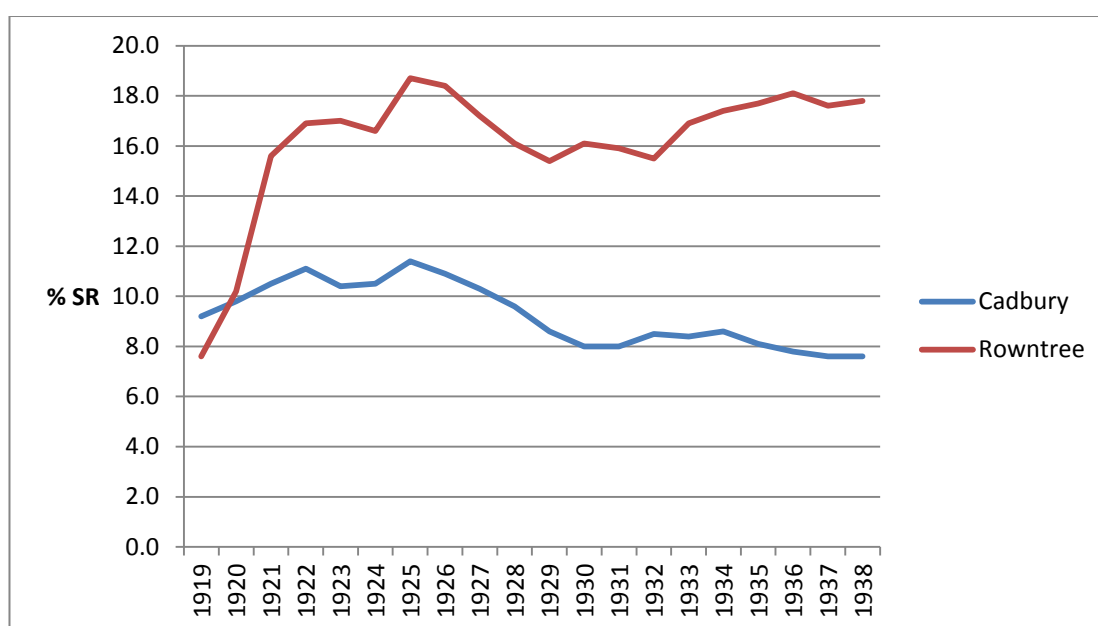
Appendix 11 Performance Metrics (continued)

Supporting Ratio: Direct Labour Cost Ratio

Calculation: Direct Labour Cost divided by Sales Revenues

Expressed as: %

	Cadbury	Rowntree
1919	9.2	7.6
1920	9.8	10.2
1921	10.5	15.6
1922	11.1	16.9
1923	10.4	17.0
1924	10.5	16.6
1925	11.4	18.7
1926	10.9	18.4
1927	10.3	17.2
1928	9.6	16.1
1929	8.6	15.4
1930	8.0	16.1
1931	8.0	15.9
1932	8.5	15.5
1933	8.4	16.9
1934	8.6	17.4
1935	8.1	17.7
1936	7.8	18.1
1937	7.6	17.6
1938	7.6	17.8



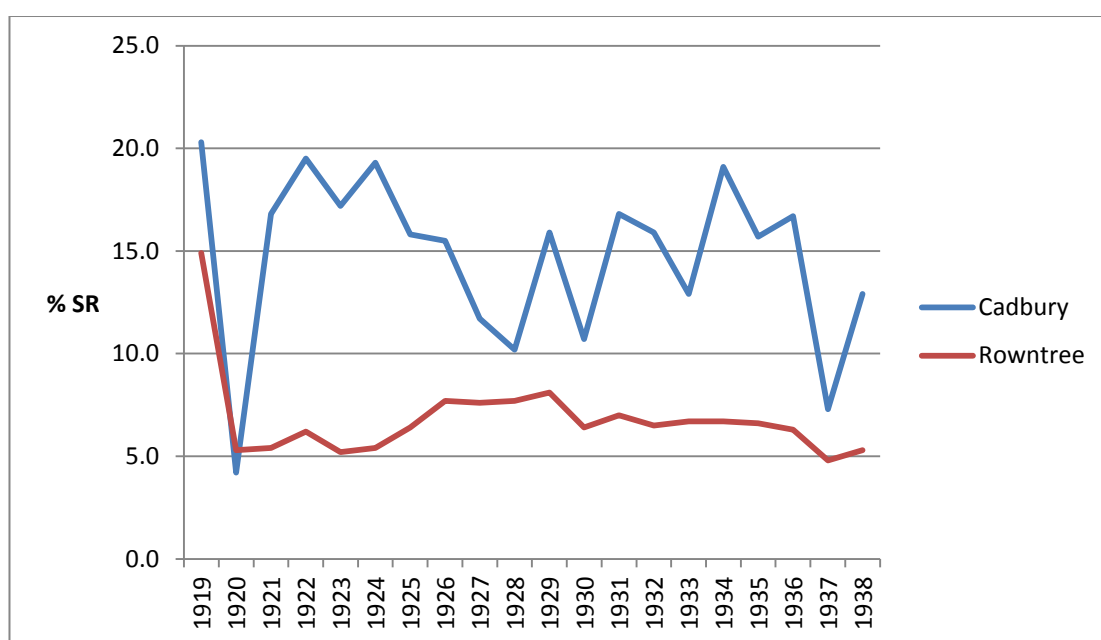
Appendix 11 Performance Metrics (continued)

Primary Ratio: Operating Profit Ratio

Calculation: Operating Profit divided by Sales Revenues

Expressed as: %

	Cadbury	Rowntree
1919	20.3	14.9
1920	4.2	5.3
1921	16.8	5.4
1922	19.5	6.2
1923	17.2	5.2
1924	19.3	5.4
1925	15.8	6.4
1926	15.5	7.7
1927	11.7	7.6
1928	10.2	7.7
1929	15.9	8.1
1930	10.7	6.4
1931	16.8	7.0
1932	15.9	6.5
1933	12.9	6.7
1934	19.1	6.7
1935	15.7	6.6
1936	16.7	6.3
1937	7.3	4.8
1938	12.9	5.3



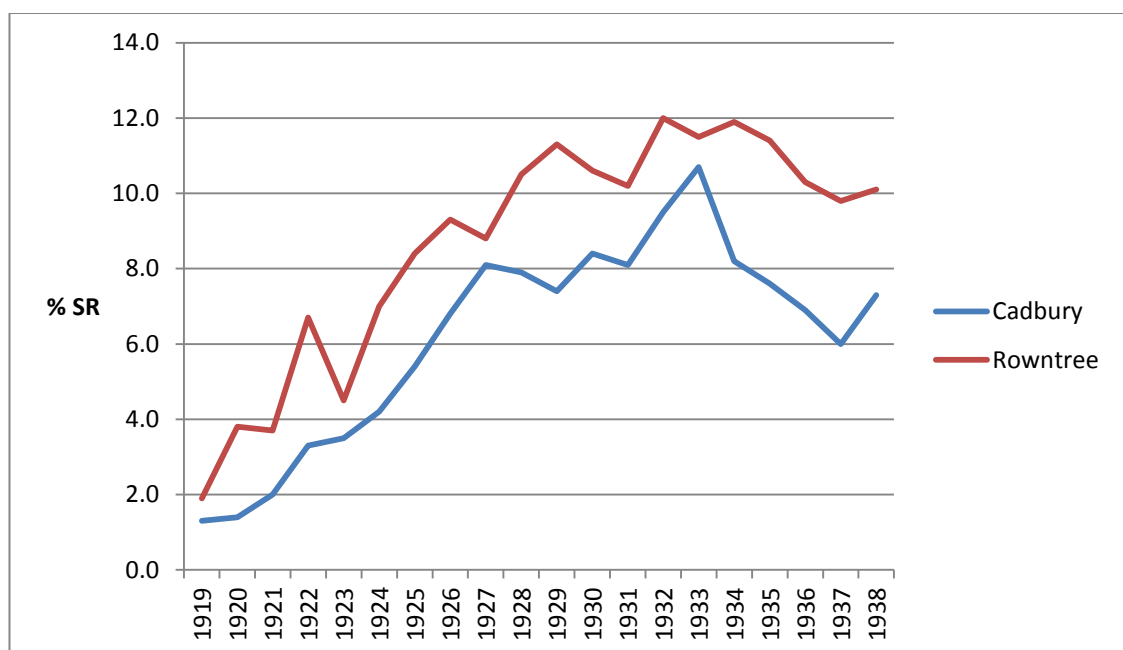
Appendix 11 Performance Metrics (continued)

Supporting Ratio: Advertising Cost Ratio

Calculation: Advertising Cost divided by Sales Revenues

Expressed as: %

	Cadbury	Rowntree
1919	1.3	1.9
1920	1.4	3.8
1921	2.0	3.7
1922	3.3	6.7
1923	3.5	4.5
1924	4.2	7.0
1925	5.4	8.4
1926	6.8	9.3
1927	8.1	8.8
1928	7.9	10.5
1929	7.4	11.3
1930	8.4	10.6
1931	8.1	10.2
1932	9.5	12.0
1933	10.7	11.5
1934	8.2	11.9
1935	7.6	11.4
1936	6.9	10.3
1937	6.0	9.8
1938	7.3	10.1



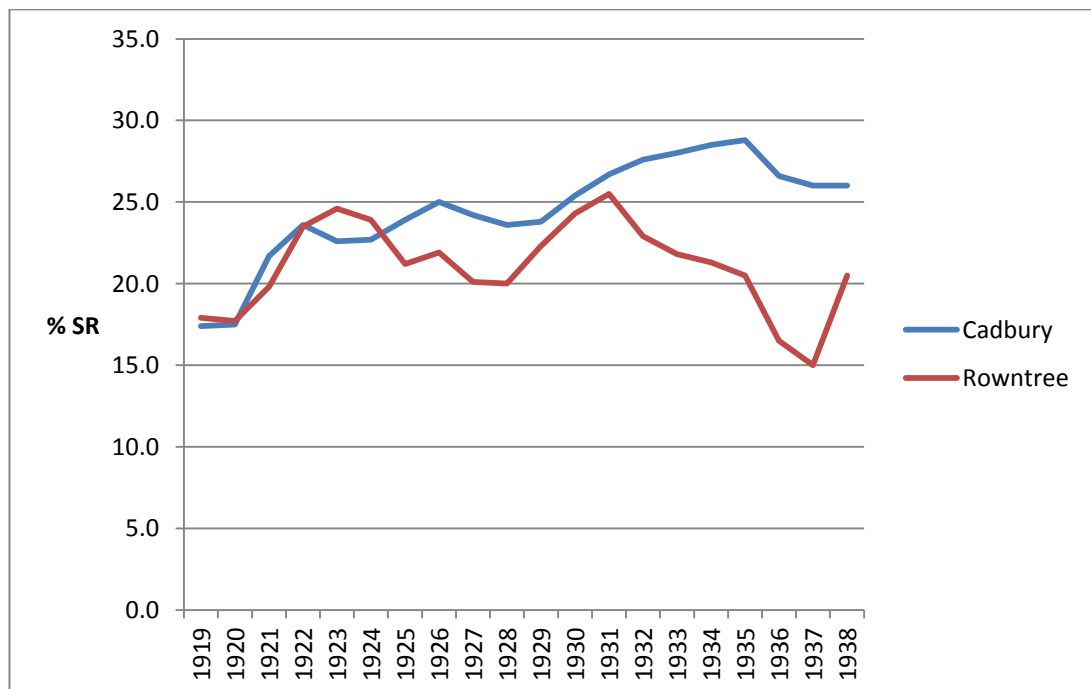
Appendix 11 Performance Metrics (continued)

Supporting Ratio: Overheads Cost Ratio

Calculation: Overheads Cost divided by Sales Revenues

Expressed as: %

	Cadbury	Rowntree
1919	17.4	17.9
1920	17.5	17.7
1921	21.7	19.8
1922	23.6	23.5
1923	22.6	24.6
1924	22.7	23.9
1925	23.9	21.2
1926	25.0	21.9
1927	24.2	20.1
1928	23.6	20.0
1929	23.8	22.3
1930	25.4	24.3
1931	26.7	25.5
1932	27.6	22.9
1933	28.0	21.8
1934	28.5	21.3
1935	28.8	20.5
1936	26.6	16.5
1937	26.0	15.0
1938	26.0	20.5



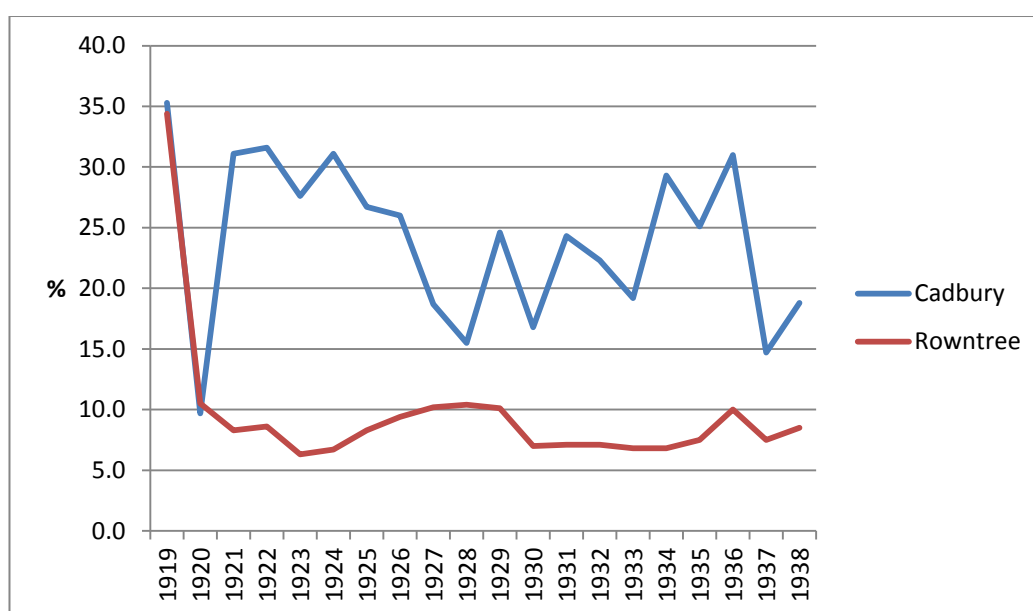
Appendix 11 Performance Metrics (continued)

Primary Ratio: Operating Profit to Net Worth Ratio

Calculation: Operating Profit divided by Total Capital

Expressed as: %

	Cadbury	Rowntree
1919	35.3	34.4
1920	9.7	10.5
1921	31.1	8.3
1922	31.6	8.6
1923	27.6	6.3
1924	31.1	6.7
1925	26.7	8.3
1926	26.0	9.4
1927	18.7	10.2
1928	15.5	10.4
1929	24.6	10.1
1930	16.8	7.0
1931	24.3	7.1
1932	22.3	7.1
1933	19.2	6.8
1934	29.3	6.8
1935	25.1	7.5
1936	31.0	10.0
1937	14.7	7.5
1938	18.8	8.5



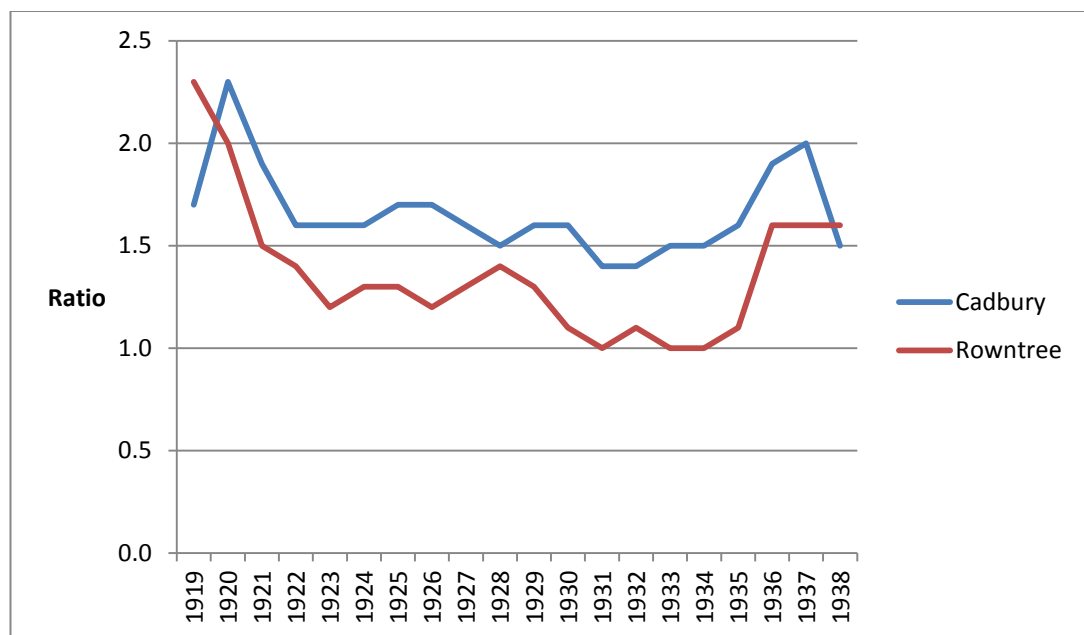
Appendix 11 Performance Metrics (continued)

Primary Ratio: Sales to Net Worth Ratio

Calculation: Sales Revenue divided by Total Capital

Expressed as: Ratio

	Cadbury	Rowntree
1919	1.7	2.3
1920	2.3	2.0
1921	1.9	1.5
1922	1.6	1.4
1923	1.6	1.2
1924	1.6	1.3
1925	1.7	1.3
1926	1.7	1.2
1927	1.6	1.3
1928	1.5	1.4
1929	1.6	1.3
1930	1.6	1.1
1931	1.4	1.0
1932	1.4	1.1
1933	1.5	1.0
1934	1.5	1.0
1935	1.6	1.1
1936	1.9	1.6
1937	2.0	1.6
1938	1.5	1.6



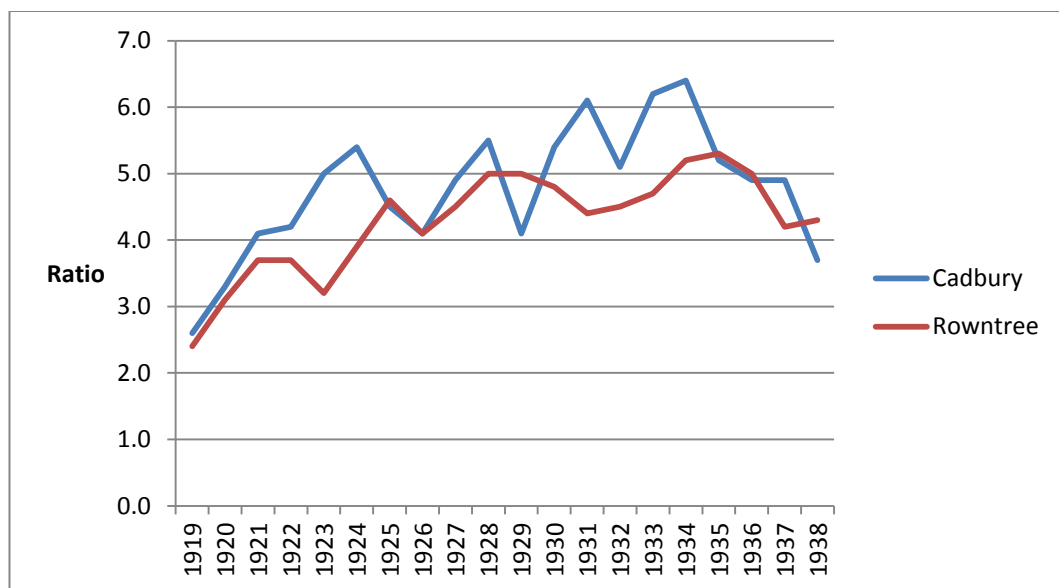
Appendix 11 Performance Metrics (continued)

Primary Ratio: Sales to Inventory Ratio

Calculation: Sales Revenue divided by Inventory

Expressed as: Ratio

	Cadbury	Rowntree
1919	2.6	2.4
1920	3.3	3.1
1921	4.1	3.7
1922	4.2	3.7
1923	5.0	3.2
1924	5.4	3.9
1925	4.5	4.6
1926	4.1	4.1
1927	4.9	4.5
1928	5.5	5.0
1929	4.1	5.0
1930	5.4	4.8
1931	6.1	4.4
1932	5.1	4.5
1933	6.2	4.7
1934	6.4	5.2
1935	5.2	5.3
1936	4.9	5.0
1937	4.9	4.2
1938	3.7	4.3



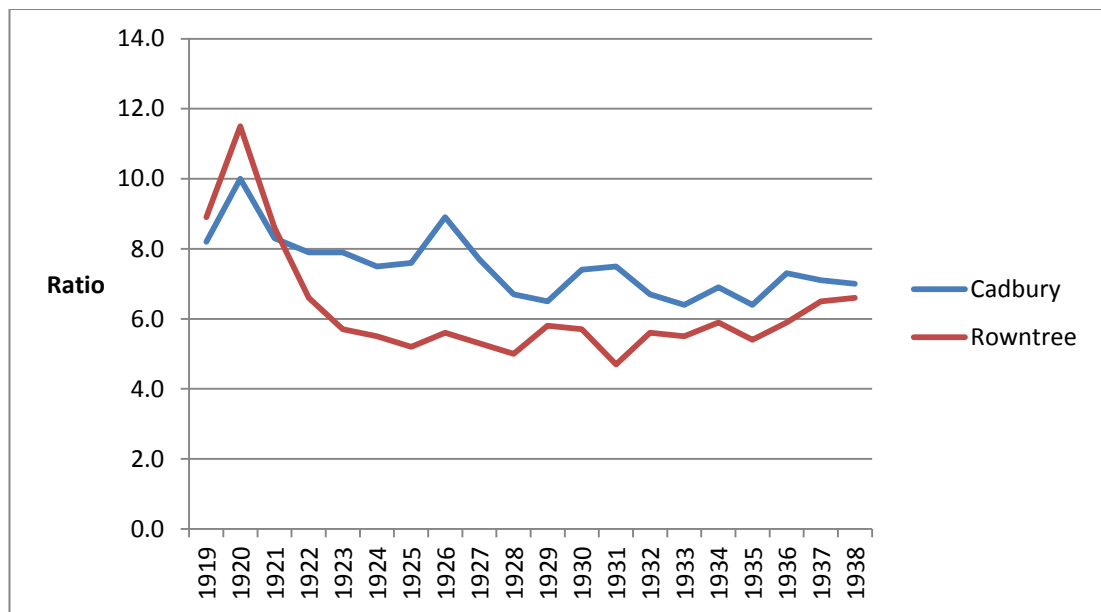
Appendix 11 Performance Metrics (continued)

Primary Ratio: Sales to Receivables Ratio

Calculation: Sales Revenue divided by Receivables

Expressed as: Ratio

	Cadbury	Rowntree
1919	8.2	8.9
1920	10.0	11.5
1921	8.3	8.6
1922	7.9	6.6
1923	7.9	5.7
1924	7.5	5.5
1925	7.6	5.2
1926	8.9	5.6
1927	7.7	5.3
1928	6.7	5.0
1929	6.5	5.8
1930	7.4	5.7
1931	7.5	4.7
1932	6.7	5.6
1933	6.4	5.5
1934	6.9	5.9
1935	6.4	5.4
1936	7.3	5.9
1937	7.1	6.5
1938	7.0	6.6



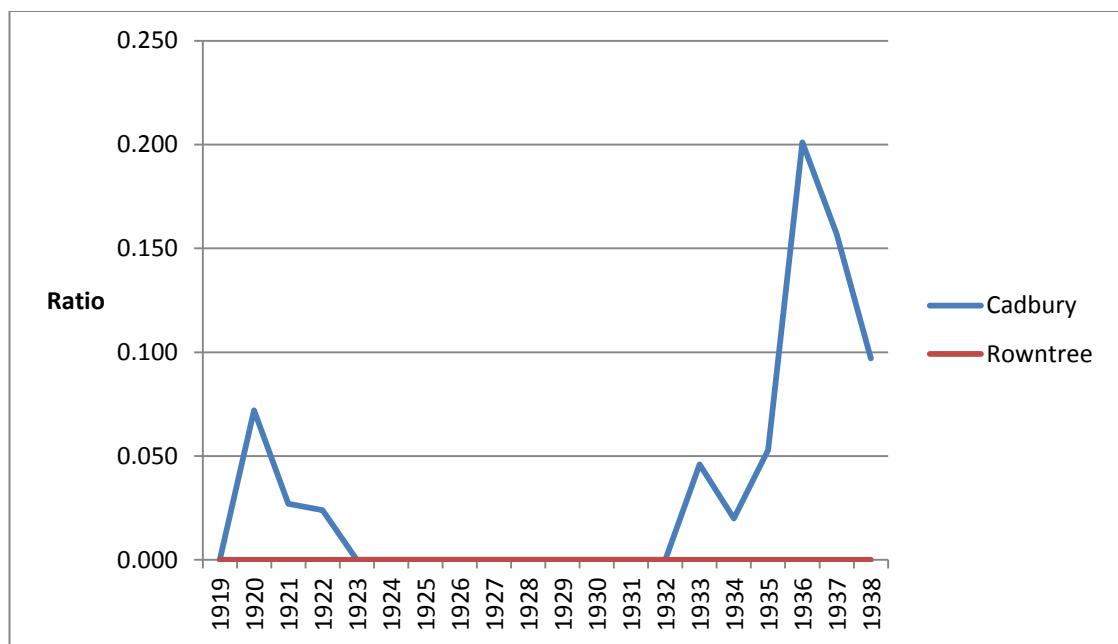
Appendix 11 Performance Metrics (continued)

Primary Ratio: Debt to Net Worth

Calculation: Debt divided by Capital Employed

Expressed as: Ratio

	Cadbury	Rowntree
1919	0.000	0.000
1920	0.072	0.000
1921	0.027	0.000
1922	0.024	0.000
1923	0.000	0.000
1924	0.000	0.000
1925	0.000	0.000
1926	0.000	0.000
1927	0.000	0.000
1928	0.000	0.000
1929	0.000	0.000
1930	0.000	0.000
1931	0.000	0.000
1932	0.000	0.000
1933	0.046	0.000
1934	0.020	0.000
1935	0.053	0.000
1936	0.201	0.000
1937	0.157	0.000
1938	0.097	0.000



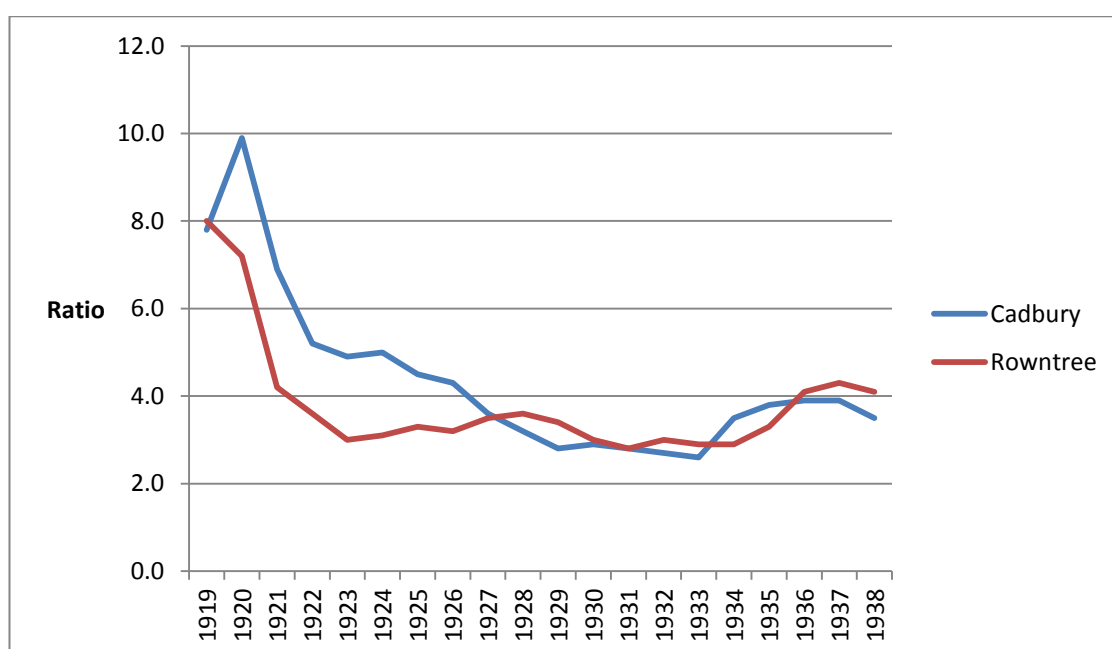
Appendix 11 Performance Metrics (continued)

Primary Ratio: Sales to Fixed Assets

Calculation: Sales divided by Non-Current Assets

Expressed as: Ratio

	Cadbury	Rowntree
1919	7.8	8.0
1920	9.9	7.2
1921	6.9	4.2
1922	5.2	3.6
1923	4.9	3.0
1924	5.0	3.1
1925	4.5	3.3
1926	4.3	3.2
1927	3.6	3.5
1928	3.2	3.6
1929	2.8	3.4
1930	2.9	3.0
1931	2.8	2.8
1932	2.7	3.0
1933	2.6	2.9
1934	3.5	2.9
1935	3.8	3.3
1936	3.9	4.1
1937	3.9	4.3
1938	3.5	4.1



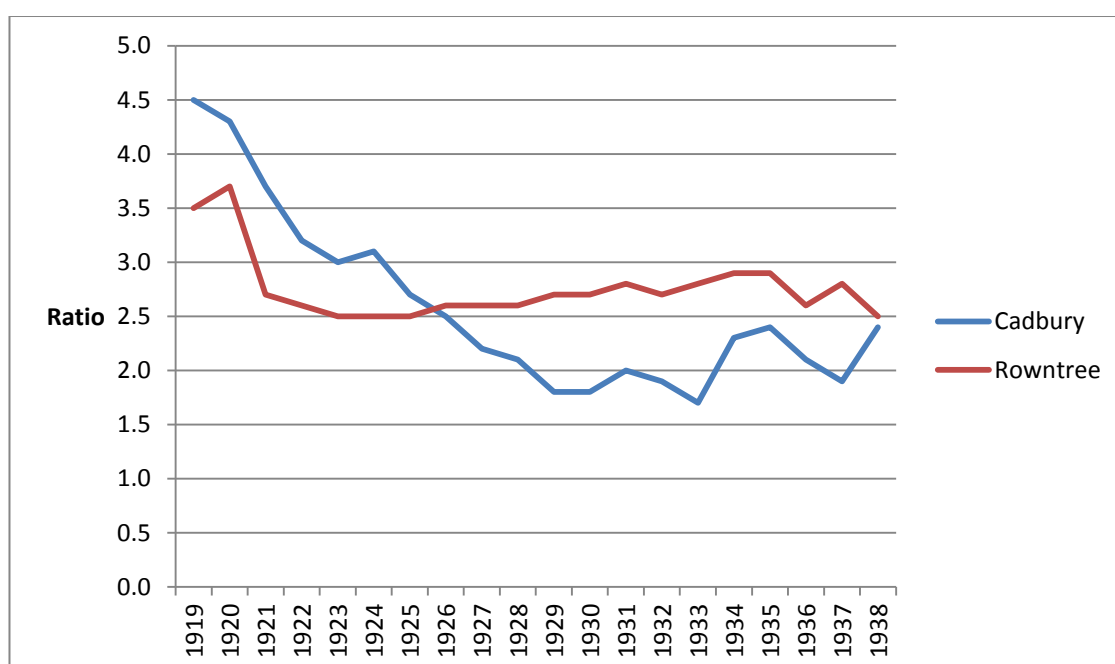
Appendix 11 Performance Metrics (continued)

Primary Ratio: Net Worth to Fixed Assets

Calculation: Capital Employed divided by Non-Current Assets

Expressed as: Ratio

	Cadbury	Rowntree
1919	4.5	3.5
1920	4.3	3.7
1921	3.7	2.7
1922	3.2	2.6
1923	3.0	2.5
1924	3.1	2.5
1925	2.7	2.5
1926	2.5	2.6
1927	2.2	2.6
1928	2.1	2.6
1929	1.8	2.7
1930	1.8	2.7
1931	2.0	2.8
1932	1.9	2.7
1933	1.7	2.8
1934	2.3	2.9
1935	2.4	2.9
1936	2.1	2.6
1937	1.9	2.8
1938	2.4	2.5



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