An Examination of the Impact of Resources and the External Environment Amongst Providers of U.K Banking Services

by

Charles Duncan Thornton

Doctoral Thesis

Submitted in partial fulfillment of the requirements
for the award of
Ph.D of Loughborough University

18 December 2012

An Examination of the Impact of Resources and the External Environment on Product Diversification Amongst Providers of U.K Banking Services

Abstract

This thesis answers calls for fine-grained studies of product diversification, in this case, predominantly using the resource based view of the firm. The context is UK providers of banking services.

The thesis has developed the concept of resource matching. Resource matching combines levels of: resource heterogeneity, resource similarity and difference, and the external environmental setting of the organisation with the business performance of product diversification. Resource matching significantly increases the limited conceptual underpinning of diversification RBV by adapting and developing concepts from single firm RBV literature.

Two new research strategies were developed to gather data on multiple resources and external factors. One was unused due to access issues during the credit crunch. The other, which was used, utilised multiple sources of publicly available information both qualitative and quantitative.

These conceptual and methodological developments offer a way to restart the research on the impact of product diversification on business performance. This research has stalled due to conflicting results and methodological issues.

Twenty nine providers of banking services in the UK where examined: building societies; other providers of retail banking services; providers of investment banking services; and combined banks which offer both investment and retail banking services.

This thesis found: varying amounts of resource heterogeneity, resource bundles can be constructed from publicly available external data, performance in diversification does not adhere to the previously posited curvilinear pattern but to one of the greater

the product diversification the greater the business performance risk and reward, with rewards being both positive and negative, and finally the external environment does vary within the industry. The results on product diversification performance suggest of a new way of looking at product diversification which might reconcile the previous conflicting results. A modified version of the conceptual model of resource matching was developed to take account of the results.

Opportunities for further work include; studying other industries and providers of banking services in other countries, refining the single industry fine grained research methods and further developing the resource matching model.

Acknowledgements

This is the opportunity for the author to recognise without whose support this thesis would not have been produced.

I would like to thank my family, my wife Mignonne, and sons Timothy and Alex who have had family holidays dictated by the requirements of my thesis and not complained about the long hours worked. Whilst the boys are too young to remember life without Dad's Ph. D, Mignonne is not and it would not have been finished without her help and support. From my parents I learnt the virtue of hard work and determination to finish a task, essential requirements for part-time thesis. Whilst working on this thesis I have changed jobs, which required a move from one part of the country to another, and had to totally change research methods, due to the exogenous shock of the 'credit crunch'.

My supervisor Barry Howcroft has offered guidance and support at crucial times none more so than when I was trying to gain access to banks and other financial intuitions in late 2007 and early 2008. He has also been instrumental in shaping my draft versions.

At London Metropolitan University, Fred Smith as Head of Department, Dr. Kojo Menjah and Dr. Sally Anne Decker provided crucial support and encouragement in the early part of the thesis. At Plymouth University thanks to my office colleague for

three and a half years Dr. Mel Hudson-Smith for her encouragement, sage advice and unfailing willingness to listen to me. Dr. Sarah Keast, and Dr. Philip Gibson both gave invaluable assistance at various times. Mike Leat and Gordon Smith for giving me their support as Head of Subject and Discipline Group and finally in this capacity thanks are due to Professor John Dinwoodie whose judicious advice was invaluable as the thesis drew to a close. Thanks are also due to my other colleagues, too numerous to detail who offered their support at various times in the process.

Thanks are also due to Simon Rex, Librarian at the Building Societies Association for his kind and helpful assistance. And to Terry Webb and ex colleagues from my banking career who offered their support during the abortive interview and questionnaire phase.

Table of Contents

List of Tables

List of Figures

Abbreviations

BSA	Building Societies Act
B/Soc M & S	Building Society which offers Mortgages and Savings products only
B/Soc M, S & GI	Building Society which offers Mortgages, Savings and General Insurance products
B/Soc M,S, GI & FA	Building Society(ies) which offers Mortgages, Savings, General Insurance and Financial Advice products
B/Soc M,S, GI, FA & CB	Building Society(ies) which offers Mortgages, Savings, General Insurance, Financial Advice and Commercial Banking products
B/Soc M,S,GI, FA, CB & PB	Building Society(ies) which offers Mortgages, Savings, General Insurance, Financial Advice, Commercial Banking and Personal Banking products
B/Soc multiple Diversification	Building Society which offers a wider range of products than B/Soc M,S,GI, FA, CB & PB
DRBV	Diversification Resource based view of the firm
FPC	Financial Planning Consultant
G/Sachs[1]	Goldman Sachs
GRBV	General (ie non diversification specific) resource based view of the firm
LB[1]	Lehman Brothers
ML[1]	Merrill Lynch
MS[1]	Morgan Stanley
PEST	A framework for identifying external factors which impact on a firm the factors are political, economic, social and technical
RBT	Resource Based Theory
RBV	Resource Based View of the firm
RQ	Research Question
SIFS	Strategic industry factors – resources which are relevant to each industry and can vary from industry to industry
SBU	Strategic Business Unit

VRIO	Barney (1992) and Barney and Griffin (1992) second definition of the nature of resources valuable, rare, non imitable (including substitution) and organisational orientated
VRIS	Barney's first definition (1991) of the nature of resources, valuable, rare, non imitatible and non substitutable

[1] Used in some results tables

Glossary

Absorptive capacity	The ability of an organisation to absorb and utilise new information
Causal ambiguity	The resource(s) which lead to sustainable competitive advantage is(are) ambiguous
Combined bank	Bank undertaking both commercial and investment banking
Commercial banking	Banks who predominantly raise deposits, lend money and offer money transmission
Digestibility	The ability of an organisation to make effective use of acquired resources
Dominant Logic	'the way in which mangers conceptualise the business and make critical resource allocation decisions' which can limit diversity (Prahalad and Betts: 1986)
Equifinality	There are several routes, which could use different resources, to arrive at the same strategic position
Factor markets	Markets where resources are traded
Industry Group	A small sub set of the industry defined by product range akin to strategic groups
Industry Sector	Usually wider than industry group typically the combination of several industry groups
Investment banking	Banks who predominantly operate in the financial markets, issuing new instruments, trade in the markets and offer related advice eg on M and As
Isolating mechanisms	Mechanisms which inhibit resource trading
Mortgage	Profit seeking organisation where mortgages are its dominant

Provider	asset type
Niche IB	Organisation which perform a narrow range of investment banking activities
Path dependency	The strategic path an organisation takes is dependent on its resources
Private bank	Bank which offers services to wealthy individuals
Rent	A payment higher than is needed to keep a resource or resources functioning effectively
Rent Appropriation	The appropriation of rent amongst resources and other stakeholders
Resource proxies	Largely numerical ratios/percentages used measure resources
Resource ranking	Resources ranked according to their importance to the organisation, industry group or industry sector
Resource specificity	Resources which give value in specific organisational setting
Resource stickiness	Resources which are difficult to transfer from one organisational setting to another
Resource stickiness	Resources which are difficult to change
Resources	All tangible and intangible internal organisational assets see definitions section in literature review
Social complexity	Complexity which arises from the social nature of organisations eg personal relationships, culture
Sub prime	Higher risk personal lending

Chapter One:
Introduction

1 CHAPTER ONE - INTRODUCTION

1.1 Aims and Objectives of the Research

The thesis investigates product diversification strategies and draws extensively on the Resource Based View (RBV) of the Firm literature. Specifically, it examines resource similarities and differences amongst different types of financial institution. In analysing the empirical data, which is based upon a cross section of United Kingdom (U.K.) financial service providers from 1997-2004, account is taken of the external operational environment. This approach was necessary in order to arrive at sensible and pragmatic conclusions. More specifically, the thesis conducts the first single industry fine grained study of product diversification in U.K financial institutions using the resource based view of the firm. In this respect the thesis addresses an under researched area and attempts to resolve the dearth of academic literature in this.

To conduct the study the concept of resource matching has been developed. Resource matching involves identifying and examining levels of resource heterogeneity and homogeneity within financial institutions. The study, therefore, is fairly unique in so much as it attempts to significantly increase the limited conceptual underpinning of diversification by utilising the conceptually robust single-firm RBV literature. In undertaking the data collection and analysis the research was undoubtedly hampered by the post 2008 credit crunch. Nevertheless, the empirical data was obtained from multiple sources qualitative and quantitative publically available information. Accordingly, the thesis examined 29 providers of banking services in the UK; these included building societies, “other” providers of retail banking services, a range of providers of investment banking services and universal banks who offer both investment and retail banking services.

In essence, the study found that there are varying degrees of resource heterogeneity. Moreover, the research revealed that resource bundles exist and it is possible to construct these bundles from external data. However the relationship between performance and diversification does not adhere to the previously posited curvilinear pattern. Rather, after a slight fall in performance greater product diversification tends to result in a higher level of business performance risk.

Specifically, the results relating to product diversification and business performance suggest the possibility of a new way of looking at product diversification, which could reconcile the conflicting results of previous work. This resulted in the development of a modified version of the conceptual model of resource matching.

Opportunities for further work include; studying other industries and providers of banking services in other countries, refining the single industry fine grained research methods, further refining the resource matching model.

1.2 Motivation for the Research

Product diversification is a frequently used but often unsuccessful business strategy. This dissertation, therefore, investigates product diversification using an industry study of providers of banking services (including Building Societies) in the UK. The financial services industry within the U.K. is a major industrial sector, which has witnessed significant product diversification over recent years. However, the results of product diversification have been rather mixed and the relationship between performance and risk, in particular, has been rather mixed. To investigate the benefits and risks associated with product diversification the thesis uses the resource based view of the firm (RBV). The importance of this research area stems from a number of considerations. For example, Ramos-Rodriguez and Ruiz-Navarro (2004) found that it was the most important consideration in strategic management. RBV is also regarded as the most important contributor to diversification (Foss, 1997) and the allocation of resources is important to diversification (Foss, 1997a) resource based perspective is the dominant perspective in diversification. However it is generally recognised that there is a dearth of academic literature on the application of RBV to product diversification. Accordingly, there is a definite need for additional empirical based research in this area (see for example, Johnson et al, 2003).

Before moving into academia, the author spent the first six and a half years of his career in UK retail banking, and witnessed firsthand product diversification, which, amongst other things, involved the emergence of universal or conglomerate banks as commercial banks diversified into investment banks. More specifically, the

authors banking career began in 1985, with Lloyds, immediately prior industry deregulation which enabled the pursuit of new product diversification strategies. These were the 'Big Bang' of 1986 which permitted the diversification of commercial banks into investment banking. And the Building Societies Acts of 1986 and 1987 which similarly allowed Building Societies to product diversify through offering a wider range of retail banking products, with further diversification possible if they demutualised.

Interestingly not all providers of banking services made use of these new strategic options. Three of the 'Big Four' commercial banks followed a strategy of product diversifation into investment banking, for example Barclays through BZW and NatWest through County Natwest – on a reported premise 'we are bankers'. The other member of the 'Big Four' Lloyds was criticised for not making any substantial diversification into investment banking. Instead it followed a different product diversification strategy of bankassurance through the acquisition of a majority stake in Abbey Life on the reported premise of 'we are financial retailers'. Subsequently Barclays and NatWest experienced poor performance in their investment banking divisions. These problems were regarded at the time as contributing factors in their failure to bid for another member of the Big Four – Midland in 1992. Significantly, Lloyds which had been making sound returns on its banksassurance business, even though considerably smaller in size than Barclays and NatWest, was able to bid for Midland. These instances stimulated the authors interest in product diversification strategy and raised the question of a potential connection between the range of an organisation's resources and its business performance.

Despite the benefits of product diversification being mixed and not fully understood, it has continued to be a popular strategy, to the present day. For example the post 'credit crunch' demise of the independent demutalised Building Societies ie the former building societies who sought the highest available product diversification. In this respect the author was curious to understand why product diversification has remained a popular strategy despite the benefits being somewhat vague and nebulous. The origins of this research, therefore, derive from the personal interests of the author and the desire to carry out research that is relevant to practitioners and develops academic knowledge.

Published empirical research in the area of product diversification has been conducted by large multi industry studies, however, it is generally inconclusive and the research in this area has failed to arrive at any substantive conclusions. Periodically, there have been unanswered calls for 'fine grained studies' into product diversification. In light of these calls this research aims to address the lack of a substantive conceptual framework and assist in resolving the inconclusive empirical work. Accordingly, this research adopts a 'fine grained' single industry case study methodology and examines 29 providers of banking services in the UK during the period 1997-2004. The breadth and extent of the data base was necessary because although providers of banking services may appear to a fairly homogeneous industry, Heffernan (2005) and Canals (1993) have argued that there are major differences between different types of financial institutions, especially, investment and commercial banking. These differences are such that it could be argued that they comprise two distinct industries. At the very least, the differences are sufficient to state that that the financial services sector is not a homogeneous industry. This potentially means that different types of financial service providers adopt and pursue different product diversification.

1.3 The Extant Literature, Research Questions and Conceptual Model

The RBV literature is divided into two discrete sections: i) the general resource based view literature (GRBV), which concerns itself with the impact of resources on sustainable competitive advantage without examining specific strategic options and choices; and ii) the RBV literature, which relates to diversification (DRBV). Due to a paucity of diversification literature, which has a strong RBV underpinning, this section of the literature also includes empirical testing of related and unrelated diversification. However, it has little RBV conceptual content but does, nevertheless, refer to resources. This broader definition facilitates this research and is conducive to its primary aim of addressing the unresolved issue of the impact on business performance of differing levels of product diversification. In contrast, GRBV is conceptually well developed and at its core heterogeneous bundles of resources are regarded as the key to sustainable competitive advantage. A fundamental aspect of

this premise is the view that resources are difficult to trade and can be difficult to copy. In addition, resources can vary in importance across industries and even within firms. Resources, nevertheless, dictate a firm's strategic direction and limit/set firm boundaries. Part of this argument steps outside the strict confines of the RBV literature and draws on the concept of dominant logic. This concept argues there is a limit to the range of organisational activities that most senior managers can manage.

There is, however, a relative dearth of empirical testing of GRBV. In contrast there is significant empirical testing of DRBV and the business performance of related and unrelated diversification strategies, typically in large multi-industry studies, but it is conceptually less well developed than GRBV. The conceptual DRBV literature utilises some of the GRBV concepts, such as path dependency and another stream of the DRBV literature examines the role of resource similarity and dissimilarity but without fully developing the concept. Another strand of this literature also examines the role of resources in diversification and attempts to determine the possible benefits of diversification and how resources might change in diversification. Accordingly, this thesis will blend aspects of the GRBV and DRBV literature to develop a new concept of resource matching in its attempt to analyse product diversification.

The literature review enabled the identification of gaps in the literature and the literature strands were blended and developed into a conceptual research model of resource matching which underpinned the gaps. More specifically the identification of gaps in the literature enabled research themes to be developed and research questions to be posed.

The literature review established the following gaps:

1. Lack of work on firm, industry group and industry sector level resource heterogeneity in diversification, including rent appropriation of possibly heterogeneous resources and resource bundling
2. Lack of work on the external environmental setting of resources
3. Lack of work on the impact of resource similarity, complementarity and dissimilarity on firm performance in diversification
4. Lack of work on resource heterogeneity in specific product diversfications

Research themes were identified from each gap and more detailed research questions developed.

Table 1.1 Gaps, Research Theme and Research Questions

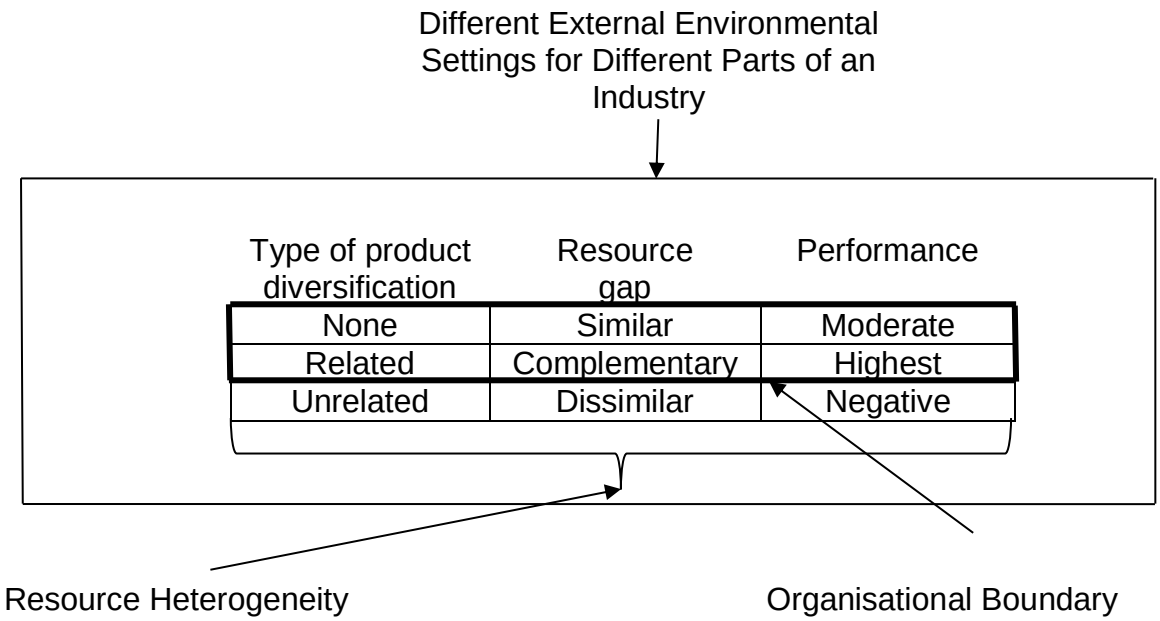
Gap	Research Theme	Research Questions
Gap One Lack of work on firm level and industry group level resource heterogeneity in diversification, including rent appropriation and resource bundling	What level of firm and industry group level resource heterogeneity is there, including rent appropriation and resource bundling?	RQ1. Will there be greater differences in rent appropriation between the industry groups than within industry groups, and will there be even greater differences between industry sectors than within industry sectors (though the differences will not be uniform)?
		RQ2. Will there be greater resource heterogeneity between the industry groups than within industry groups, and will there be even greater differences between industry sectors than within industry sectors (though the differences will not be uniform)?
		RQ3. As resource identification is hindered by issues including intangibility, social complexity and causal ambiguity does this mean that additional analysis using Chairman's and CEOs comments from Annual Reports will provide a richer picture of resources and lead

		to the identification of resource bundles?
Gap Two Lack of empirical single industry work on the role of the external environment in product diversification as part of an RBV study	How different is the external environment for organisations which engage in product diversification? This would not be important if the external environment stayed the same in different industries, industry sectors and industry groups	RQ4. Are there differences in the external environment between different industry groups? (RBV argues firms should be set in their external context)
Gap Three a lack of research into resource comparison (level of similarity) to predict business performance in product diversification	How important is the concept of resource similarity and ranking to business performance?	RQ5. Will financial performance be an inverted J shape as the amount of resource difference between the current product range and planned product range increases?
Gap Four a lack of research into individual resource differences in product diversification	How much individual resource variation is there in product diversifications?	RQ6. To what extent will individual resource differences vary in product diversifications?

These research gaps, themes and questions are underpinned by the conceptual model. In short the model adapts the inverted U curve of performance product diversification (Palich, Cardinal, and Miller, 2000), into an inverted J curve arguing that related product diversification produces better returns than no diversification which in turn is superior to unrelated diversification. Similar, complementary (eg Hitt, Ireland and Harrison, 2001) and dissimilar (adapting Grant, 1987) resources are combined and linked respectively with no diversification, related and unrelated to link

resource differences with types of product diversification and performance. Accordingly it is argued that no diversification will result in the management of similar resources and deliver moderate business performance, related diversification has complementary resources and the highest business performance, and unrelated has dissimilar resources and the worst business performance. This creates a suggested organisational boundary; going beyond related diversification has detrimental impact on performance. This is set in the context of heterogeneous resources which means that no two organisations are expected to have the same resource endowments though there may be intra industry patterns (Amit and Shoemaker, 1993) and different external environments. See Figure 1.1 below.

Figure 1.1 Overview Conceptual Model of Resource Matching (for a more detailed version see Figure 2.9)



1.4 Research Methods

It was initially planned to gather data from interviews and questionnaires, using the author's contacts within the industry however sufficient access was not gained due to the credit crunch. Two options were then considered, a single industry study of providers of banking services which drew on publicly available data, or following in

the tradition of empirical product diversification studies a multi-industry study, with some methodological changes, also using publically available data. It was decided to pursue the single industry study as this answered calls for fine grained work in the area. It also gave more opportunity for new knowledge, than the multi industry option, as it represented greater change in research methods from pre-existing work in the area. Furthermore, the single industry option took account of the key RBV tenet of resource heterogeneity at industry level, enabling industry specific resource proxies to be used. However, utilising publically available data required changing some of the research questions in particular removing causal ambiguity and focusing on more on the detail of resource heterogeneity.

The modified thesis research methods have to be specific and flexible enough to take account of RBV's assumption that resources are heterogeneous intra and inter firm as well as intra and inter industry. Also this dissertation is not confined to narrow range of resources; the wide range examined varies from the more easily measurable finance to the more difficult to measure human resources. Business performance measures are also used though these are of a more consistent type, numerical measures of growth and financial performance. Accordingly the research strategy had to take account of this. Whilst not adhering totally to one epistemological viewpoint the closest stance is realism, which enables the study to combine a natural science and social science perspective, fitting with the variety of resources examined and the more uniform business performance data. Again the variety of resources occasioned the need to take account of both ontological perspectives when framing research themes and questions and deciding research methods. A balance was sought between reliability and validity. The thesis adopts a deductive approach as there is existing literature from which to formulate research questions. Similarly both quantitative and qualitative methods were used depending on the data available, the resource or performance measure being measured and the research question asked.

Publicly available data was obtained from, Bankscope, FAME, the BSA, BBA and Annual Reports for resource proxies, which was used to measure resource difference. Details on resource bundles (six organisations) and the external environment were obtained from Annual Reports and cognitive maps were used to represent the data. Bankscope also provided data for organisation performance.

The organisations were split into 13 industry groups and 4 industry sectors based on product offering, for Building Societies the data to do this was obtained from Annual Reports and organisation websites. To reduce the impact of atypical yearly data a longitudinal approach was adopted.

The following research methods were used by research question:

Table 1.2 Research Questions and Research Method

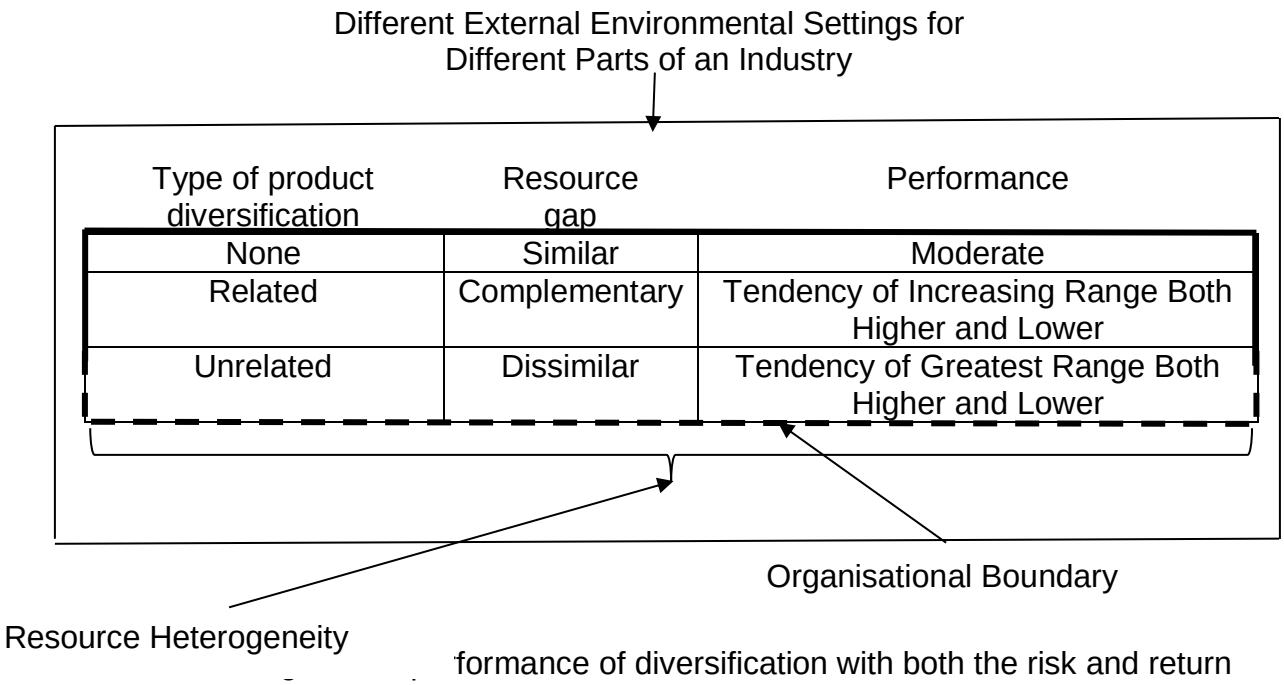
Research Questions	Research Method
RQ1. Will there be greater differences in rent appropriation between the industry groups than within industry groups, and will there be even greater differences between industry sectors than within industry sectors (though the differences will not be uniform)?	Quantitative Two Proxies
RQ2. Will there be greater resource heterogeneity between the industry groups than within industry groups, and will there be even greater differences between industry sectors than within industry sectors (though the differences will not be uniform)?	Largely Quantitative Some Qualitative Multiple proxies 22 proxies including 5 descriptive for 8 resources.
RQ3. As resource identification is hindered by issues including intangibility, social complexity and causal ambiguity does this mean that additional analysis using Chairman's and CEOs comments from Annual Reports will provide a richer picture of resources and lead to the identification of resource bundles?	Qualitative Sample six organisations Cognitive maps
RQ4. Are there differences in the external environment between different industry groups? (RBV argues firms should be set in their external context)	Quantitative Cognitive maps
RQ5. Will financial performance be an inverted J shape as the amount of resource difference between the current product range and planned product range increases?	Quantitative indexed resource proxies and performance data
RQ6. To what extent will individual resource differences vary in product diversifications?	Quantitative

1.5 Results and Revised Conceptual Model

In essence the thesis found: a) some evidence of rent appropriation, b) resource heterogeneity exists but it varies according to resources, c) annual reports can be used to supplement the data from resource proxies and enables the creation of resource bundles, d) the external environment does vary for differing industry groups, e) both risk and return increase the greater the diversification, and f) the heterogeneity of resources varies by resource and individual diversification.

Figure 1.2 Modified Model Post Data Collection and Analysis

Following the data collection and analysis the initial model of Resource matching was amended to (in overview form, for a more detailed model see Figure 5.43).



formance of diversification with both the risk and return increasing the greater the diversification, accordingly the organisational boundary changes to reflect this. As different resource priorities adversely affecting performance was unable to be tested this is removed from the model and becomes an area for future work.

1.6 Limitations

As far as the author could ascertain this is the first fine grained product diversification study that examines business performance and types of diversification in a single industry in a single country. Accordingly, the thesis attempts to develop a new set of research methods that have been specifically tailored for the financial services industry.

The specificity of the research, however, has a number of implications for the research. For example:

- It might not be possible to make generalisations from the results as the findings and conclusions might only apply to financial services.
- The empirical study focuses on one industry in one single country and, therefore, does not take into account cultural and associated corporate governance considerations. In this respect the finding might have been different in other countries.
- As the study incorporates new research methods, it is possible that these could be further refined and improved.
- Likewise the conceptual model might have to be further refined, especially in light of cross border and after multicultural factor have been taken into account.
- As the research does not focus on all aspects of product diversification, it does not examine all aspects of RBV. This limitation applies equally to both the conceptual and empirical work.

1.7 Structure of the Dissertation

The structure of the thesis is encapsulated in Figure 1. Figure 1 reveals that the thesis consists of three parts

Part One

Chapter One consists of the introduction, which outlines the relevance of this study to business, the origins of the author's interest, and presents an overview of the existing research and identifies weakness in the extant literature. Chapter One also introduces the reader to the outline contents of each of the six chapters. Chapter Two critically reviews the extant RBV literature. This was facilitated by divided the literature into three sections. The first two sections review the GRBV literature, which examines non diversification strategies, and the DRBV literature, which relates to product diversification. The third and final section identified gaps it focuses on the new concept of resource matching which combines the GRBV and DRBV literature and accordingly develops the existing literature to partially fill some of the conceptual gaps.

Part Two

Chapter Three reviews the major providers of banking services in the United Kingdom and identifies industry groups and the larger industry sectors. It examines trends facing providers of banking services during the study period, i.e. from 1997-2004, and outlines their response to these pressures with particular emphasis being placed on the logic behind and history of product diversification. Chapter Four presents the research methods used in the research. It examines the philosophy relating to different research methods, the relevant research issues in strategic management and RBV. The chapter then goes onto to outline and justify the research methods used in the study.

Part Three

Chapter Five presents and discusses the results of the research and discusses them in the context of the existing literature. The chapter examines the data relating to the 29 providers who are of banking services, using data gathered from databases (primarily Bankscope) and from Chairman's, CEO's and where necessary Directors commentaries in the Annual Reports. Six further organisations were chosen for a more detailed study of the resources. In essence Chapter Six concludes the thesis

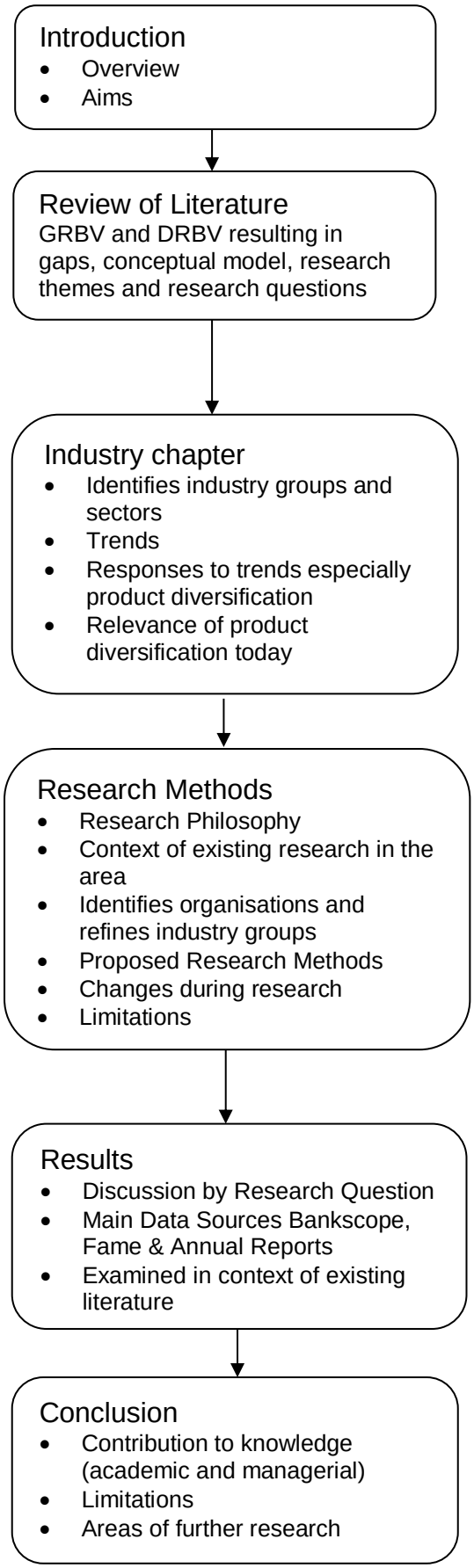
and reflects on the findings. It also outlines limitations of this work and suggests opportunities for further study.

Figure 1.3 Framework for dissertation

Part One
Introduction and Literature Review

Part Two
Industry review and research methods

Part Three
Results and Conclusion



Chapter Two:
Resource Based View of the Firm Literature Review

2 CHAPTER TWO - RESOURCE BASED VIEW OF THE FIRM LITERATURE REVIEW

2.1 Introduction

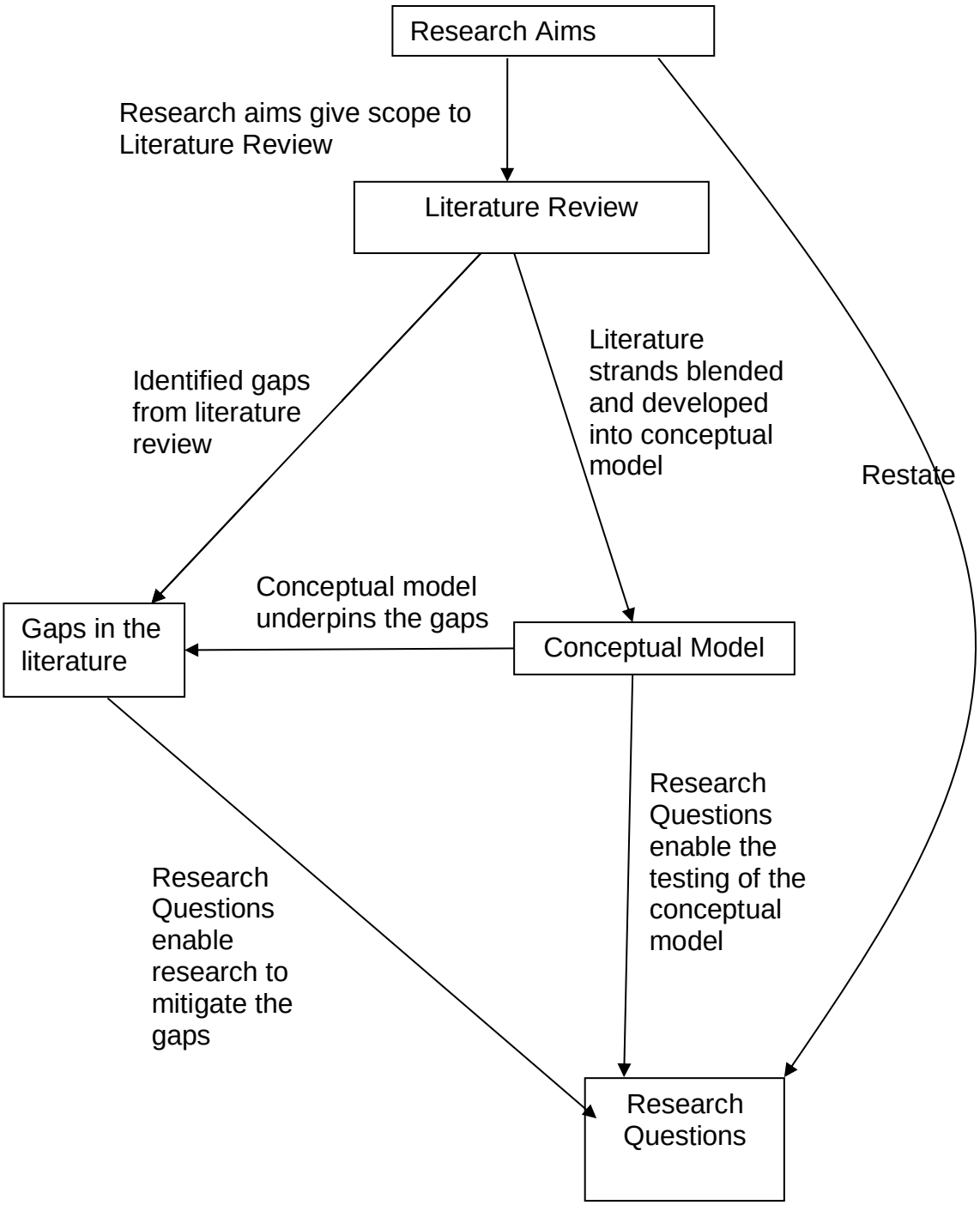
The primary aim of this research is to investigate the impact of product diversification strategies using aspects of the Resource Based View of the Firm. RBV is a major topic in the strategy literature and Powell (2001) even argues that it is “the” leading theory of competitive advantage. Similarly, Ramos-Rodriguez, and Ruiz-Navarro (2004) argued that out of all the different steams of thought, RBV has made the greatest contribution to the strategy literature. Accordingly, the purpose of this chapter is to critically review the extant literature relating to the resource based view (RBV) of the firm. The review dichotomises the published literature into two broad sections: the “general” (GRBV) literature and the product diversification (DRBV) literature. This structure expedited an examination of the relevant aspects of GRBV literature which had been adapted to the specific context of product diversification and also some of those aspects of GRBV which have not been adapted to this context. This facilitated the attempt to identify gaps for further examination and research. The identification of gaps in the literature are subsequently used to construct a conceptual model. Research questions are developed to test the model and mitigate the gaps in the literature. In this respect, the literature review plays a central, almost pivotal role, which is succinctly captured in Figure 2.1.

Having established the importance of the literature review, the GRBV part of the literature review is split into four sections, the first section provides the context for RBV commencing with review of RBV antecedents, the relationship between RBV and its main rival school of market positioning followed by an examination of the various definitions. The second section considers some of the key aspects of RBV, introducing the reader to the nature of resources, their development and their trading, in this regard isolating mechanisms, stickiness and specificity are also discussed. The third section focuses on other significant aspects of RBV where gaps in the literature are established, it reviews rent appropriation, resource heterogeneity, how resources are influenced by their external environment and the bundling of

resources. The fourth section of the GRBV review also assesses a range of other factors that impact on resources and contribute to the identification of gaps and the operationalisation of resources. The aspects assessed are causal ambiguity, human aspects, intangibility and resource identification, with the latter also influencing research methods. Also in this section and prior to drawing broad conclusions from the GRBV literature, the chapter makes an assessment of the impact of resources on firm boundaries, by examining organisational boundaries, path dependencies, and the impact of human decision making on the scope of resources an organisation can effectively manage. This structure is intended as guide to inform the reader of the main role of each section, however the literature does not completely fit this structure, consequently there are some exceptions, for example the second section does contain one aspect which contributes to a gap. At each stage the gaps and contributions to them are highlighted as they occur in the literature.

This first section on GRBV is then followed by an examination of the DRBV literature. In this respect, it is important to note at the outset that despite the importance of RBV in the strategy literature, the link between RBV and product diversification is relatively under researched (Robins and Wiersema, 1995). The discussion on the relatedness of DRBV divides the literature into four streams, i) the impact of related and unrelated diversification on performance, ii) reasons for diversification, direction, and resource combination, iii) resource similarity and iv) the application of one or a limited number of aspects of GRBV to diversification. Again gaps and factors which contribute to gaps are identified as the review progresses. Appropriate conclusions are then drawn from the review of the DRBV literature. Finally this section examines RBV literature which specifically relates to banks.

Figure 2.1 The Relationship between the Literature Survey and the Research Aims, Research Themes and Associated Questions and Conceptual Model



2.2 Review of the General Resource Based View (GRBV)

2.2.1 Antecedents of RBV

The early work on resources primarily focused on resources as a means of generating rents (e.g. Penrose, 1959; Conrad, 1963; Wernerfelt, 1984; and Rumelt, 1972 and 1984). This implies that RBV derives from Ricardian, Penrosian and Schumpeterian economics (Grant, 1991; see also Barney and Arikan, 2001). Specifically it derives from Ricardian and Penrosian, antitrust economics. Firstly, Ricardo focused on scarce factors of production, such as land, which could generate rent. Subsequently, Penrose expanded this approach by adding the concept of bundles of resources, such as, land, labour and capital to generate rent. Schumpeter further developed the approach to resources by taking into account risk taking or more specifically entrepreneurial risk taking and innovation, which substantially involves combining existing resources (Galunic and Rodan,1998). Another facet of the early work on resources emanated from anti trust economics and authors, such as, Barney and Arikan (2001), and Demsetz (1973) argued that some firms out perform others through the efficient use of scarce resources to obtain high rents. Finally, what can be termed the “distinctive competences school”, looks at why some firms repeatedly outperform others. For example, Barney and Arikan (2001) focus on the earlier work of Selznick (1957) who examined the distinctive competence of general management.

These earlier works can be regarded as the antecedents of RBV because they anticipate some of the RBV questions relating to the nature of rent generating resources, and how resources are utilised. The linkage between resources and rents is, however, not universally accepted. Rugman and Verbeke (2002), for example, argue that Penrose intended to examine how firms evolved into larger organisations and not provide prescriptions for sustainable rents. However, they do recognise that RBV draws on the work of Penrose. In this respect, an interesting aspect of the antecedent’s literature relating to RBV is that it is still evolving. Foss (1997), for example, claimed that Barney (1986) initially minimised the impact that Demsetz (1973) had on RBV and argued that its development was influenced more by

Lippman and Rumelt (1982). Rather, Foss (1997) emphasises the importance of Demetz's contribution to RBV and focuses on the influence he had on Wernerfelt (1984). Barney's views on the importance of Demsetz is also subject to interpretation and Rugman and Verbeke (2002) cite Barney (2000) as arguing that Demsetz (1973) is more important than Penrose as a antecedent to RBV. Peteraf and Barney (2003) also acknowledge the importance of Demetz to RBV arguing that RBV is an extension of his work on efficiency.

Ethiraj et al (2005) take a different view, they support the role of Ricardian rents from scarce resources and quasi rents from the excess of an asset's value over salvage or next best use (Peteraf, 1993). However, they dispute the role of Schumpeterian rents from innovation and monopoly and argue that they are not associated with resources and capabilities. This is despite the established literature on dynamic [and therefore in some cases innovative] capabilities (Teece, Pisano and Shuen, 1997) and the widespread acceptance of Barney's rarity as an aspect of resources which can deliver competitive and even sustainable competitive advantage and rents. Accordingly it can be argued that the highest level of rarity is a monopoly, which can deliver high rents.

In essence, whilst there is some debate on the detail, RBV is clearly derived from Ricardian, Penrosian, Schumpeterian, anti trust economics and distinctive competences. This provides an underlying theoretical framework but it can be argued that the economic and theoretical nature of this framework has a tendency to make RBV inaccessible to practising managers.

There is also a link with the earlier work on strategy: Foss (1997), for example, acknowledges the importance of the work of Andrews and Chandler in RBV but provides little detailed information. Similarly, Rumelt (1974) identified the importance of core skills and likewise Conrad (1963) focuses on assets, competences, talents and markets. Without doubt all of these considerations have a role to play in RBV but the combination of language and terminologies typically used in the strategic literature and economic theory literature have introduced problems associated with terminology.

RBV also grew out of concerns about the market positioning school of strategy advocated by Porter (for example, 1985). In this respect, Black and Boal (1994) argue that:

i) The market positioning school is largely tautological and that firms in attractive industries are successful because they are in attractive industries.
ii) The school is essentially concerned with cross sectional rather than longitudinal analysis. Accordingly, it is unable to answer the fundamental question as to why firms can get into advantageous positions.
iii) The market positioning school focuses on the industry level but Rumelt (1991) and Roquebert, Phillips and Duran (1993) found that industry structure accounts for 8-15% (at best) of variation in firm performance.

2.3 Relationship Between RBV and the Market Positioning School

The market positioning school (for example, Porter, 1985) argues that sustainable competitive advantage comes from marketing positioning. RBV in contrast argues that sustainable competitive advantage comes from resources. Market positioning assumes that resource heterogeneity is unsustainable and gives primacy to the external factor of market structure. Moreover, it argues that the key to performance is the marketing positioning of the firm. In contrast, RBV argues that the key to performance is sustainable resource heterogeneity and, therefore, emphasis is placed on resource acquisition and development (for example, Barney, 1986). However, resources are not totally mobile as there are factor (resource) market imperfections (Barney, 1991). One example of market imperfection derives from the existence of information asymmetries. For example, information derived from internal analysis is unlikely to be known to managers in other organisations whereas external market information is likely to be readily available (Barney, 1986).

It could be argued that the early RBV work typical of Barney (1986 and 1991) stresses the differences between RBV and the market positioning school simply to carve out a niche for RBV. This view is supported by Mehra (1996) who found that resources rather than product market combinations are at the heart of firm competitive advantage. Accordingly, as early as 1991 Porter was seeing RBV as

complementary to market positioning rather than as an alternative. This perspective is supported by McGahan and Porter (1997) who whilst critical of RBV do acknowledge a role for it. Accordingly, they argue that although organisational differences are important it is somewhat misguided to disconnect the organisation from the influence of the industry and its competitive context. The inclusion of the environment in RBV means that it is not an absolute alternative to market positioning but rather as Collis (1991) argues RBV provides a new emphasis to existing work. However, it is important to recognise that RBV's use of internal aspects (resources) and factor markets (markets for resources) are not new.

This complementary argument can also be seen in the work of Mehra (1996) who argues that RBV supports the economic view of market structures. This argument is developed by Spanos and Lioukas (2001) who found that there is a combination of RBV and market positioning factors, which are linked directly and indirectly to profitability and market performance. They, therefore, argue for a holistic approach using the framework of SWOT analysis (Strengths, Weaknesses, Opportunities and Threats) combining the RBV focus on "SW" with the market positioning on "OT". Cockburn et al (2000) similarly argue that RBV and environmental analysis are complementary approaches. Likewise, Cuerva-Cazurra (2003) look at how a resource based approach could be combined with market positioning in the evolution of firms, by providing a series of possible interactions.

Having stressed the differences between RBV and market positioning in his earlier work Barney in conjunction with Peteraf (2003) attempt to place RBV within the differing streams of strategy and regard it as complementary to market positioning. They explicitly state they do not see RBV as a theory of everything or a grand unifying theory. Such an approach would add further confusion to the operational aspects of RBV. A moment's reflection suggests that because RBV is now widely accepted, Peteraf and Barney no longer stress the differences between RBV and market positioning. RBV is now regarded more as a niche within an accepted stream of work but advocates of RBV seek to strengthen or emphasise its importance by calling it "Resource Based Theory" rather than the Resource Based View. However, in so doing they do not address concerns about the theories generalisability and what Lado, Boyd, Wright and Kroll (2006) call the 'theoretical purity of Popperian falsification'.

Although Peteraf and Barney (2003) regard RBV as a recognised subset or complimentary part of the more general strategy literature, it is perhaps interesting to note that they do not address the question as to how it can be combined with other schools of thought within the strategy literature. Whilst the two approaches can be undoubtedly seen as complementary, i.e. one focusing on internal factors and the other on external considerations, there remains some unanswered questions. For example, how sustainable is firm heterogeneity? This is an important consideration because a fundamental premise within RBV is that sustainable firm heterogeneity is the key to competitive advantage. In marked contrast, the market position school argues that sustainable firm heterogeneity does not exist.

Another potentially interesting question revolves around the relative importance of the two approaches, namely, is one more important than the other? The debate could be resolved by attempting a longitudinal measure of firm performance. Unfortunately, the work in the area has encountered major problems in the form of high levels of unexplained performance. For example, Mauri and Michaels (1998), McGahan and Porter (1997), and Hawawini, Subranian and Verdin (2003) encountered levels of unexplained performance ranging from between 43% and 69%. This high level of unexplained performance, therefore, makes it impossible to determine whether external or firm (resources) factors are the most important.

2.4 Definitions of Resources

There are numerous definitions of resources and given the extensive nature of this debate it is beyond the scope of this work to examine every contribution to it. However the following section summarises the main definitional issues.

Wernerfelt (1984) gives examples of resources, which can be conveniently labelled “passive” (machinery and capital) and more “active” (efficient procedures, trade contacts, brand names). Barney (1991, p 101) takes a different perspective and looks at resource groupings. In so doing he acknowledges and includes capabilities, which are arguably separate from resources and looks at their role. In this respect, ‘firm resources include all assets, capabilities, organisational processes, firm attributes, information, knowledge, etc. that are controlled by a firm. They enable the

firm to conceive and implement strategies that improve its efficiency and effectiveness (Daft, 1983). In the language of traditional strategic analysis, firm resources are, therefore, strengths that facilitate the origination and implementation of strategies'.

Barney's (1995, p 50) firm resources include:

"all of the financial, physical, human, and organisational assets used by the firm to develop, manufacture, and deliver products or services to its customers. The financial resources include debt, equity, retained earnings, and so forth. Physical resources include machines, manufacturing facilities, and buildings firms use in their operations. Human resources include all the experience, knowledge, judgment, risk-taking propensity, and wisdom of individuals associated with a firm. Organisational resources include the history, relationships, trust, and organisational culture that are attributes of groups of individuals associated with the firm, along with the firm's formal reporting structure, explicit management control systems, and compensation policies."

Barney's definition is a wide definition of resources and capabilities, which in addition to listing more passive resources also includes intangibles and more active areas such as knowledge relationships, culture, and reporting structures.

Barney (1995) sidesteps the debate on differences between resources, capabilities and competences with an inclusive definition: 'following more recent practise, internal attributes will be referred to as resources and capabilities' (p.50) and core competences incorporate firm resources and firm capabilities. 'While distinctions among these lines can be drawn, for the purpose of this research, they can and will be used interchangeably'.(p.60). To this extent, the research follows the approach of Peteraf and Bergen (2003), Barney (1991) and Peteraf (1993).

Collis and Montgomery (1995) also argue that resources are a much wider concept than core competences and capabilities. Accordingly, they argue that resources, for example, can include, physical and intangible assets, such as brand names and technical know-how. Sanchez and Henne (1997) extend the debate further by arguing that competences are different from resources because competences add

cognition. Similarly, Prahalad and Hamel (1990) do not see core competences as part of RBV. Teece, Pisano and Shuen (1997) regard dynamic competences as the "capacity to renew the competences so as to achieve congruence with the changing business environment" thereby adding a dynamic element.

Taking an entirely different approach Hoopes et al's (2003) "competitive heterogeneity" broadens the definition of RBV to include the external factors of markets, customers and networks. In contrast, external factors are excluded from the quotations used above (Barney, 1991 and 1995) however setting resources in their environment is, nevertheless, generally accepted as an important part of RBV (see for example Collis and Montgomery, 1995).

There is discernable shift in the literature, from establishing what is meant by the term resources to a more 'active' explanation of the role of resources. This has resulted in the focus shifting to resource application and a need to take account of the debate on competences. However there has been no acceptance of any established definitions as called for by Bogner, Thomas and McGee (1999), or a single theoretical framework (Grant, 1991). This lack of a common definition and accepted theoretical framework has created problems as the work in this area is not always directly comparable.

Several approaches to resolving this problem can be discerned in the literature:

I) A broad internal approach which identifies resources as incorporating all the internal aspects of an organisation Wernerfelt (1984), Barney (1991), Peteraf (1993) and Peteraf and Bergen (2003). This wide ranging definition includes the whole area of competences which Sanchez and Henne (1997) and Hamel and Prahalad (1993) have defined as a separate area.
II) A narrower definition, which is arguably more passive and tangible. This approach excludes the competence area of Sanchez and Henne (1997) and Teece, Pisano and Shuen's (1997) dynamic competence concept.
III) A broader approach typified by Hoopes et al's (2003) competitive heterogeneity, which explicitly broadens RBV to include external factors, and sets resources in their context, but does not seek to split resources and competences.

This later broad definition is the one adopted in this research. It fits comfortably within the RBV literature and simplifies aspects of the research and its operationalisation by not separating resources from competences. This definition also enables the analysis to be set within an external context and, thereby, acknowledges the link between internal and external factors.

Having set the GRBV literature in its context the chapter now examines some of the key aspects of GRBV.

2.5 Nature of Resources

Reed and Defillipi (1990) identify two aspects of resources: stock and process definitions. This section looks at resource stock, i.e. the nature of resources, and the next section on resource development looks at process. Makadok (2001) mirrors this distinction by arguing that are there are two strands to the resource literature: resource picking (choosing resources or creating stock) and capability building, which requires processes to develop resources. He argues that unless it is possible to pick a resource at its greatest value both resource picking and capability building need examining. He links the two by arguing that the better a firm is at resource picking the better its opportunities and capability for development.

The early work on the nature of resources focused on establishing the concept of resources and their use. Wernerfelt (1984) conceptualises that resources are linked to products, with resources influencing the products that can be produced. Barney (1991) developed the concept of the nature of resources by focusing on how characteristics of resources lead to and sustain competitive advantage. He started this debate in 1986 by identifying the idea of resource uniqueness. In 1991 he generated a framework for the way resources create rents and discussed how to identify resources. Barney argued that to generate rents, resources have to be valuable, rare, non imitatible, and non substitutable (VRIS). The first two characteristics create rents, and the latter two provide sustainability of rents and so sustainable competitive advantage.

Grant (1991) proposed an alternative set of resource characteristics durability, substitutability, replicability, appropriability, and transferability. As factors for evaluating rent earning, these characteristics focus on Barney's sustainability factors rather than those which establish rents. Peteraf (1993) provides a third set of characteristics arguing that sustained competitive advantage comes from superior resources, imperfect resource mobility, and ex post and ex ante limits to competition. The first two are less detailed and are already covered in VRIS (superior resources could be valuable and rare and imperfect mobility could come from a lack of substitutability and imitability).

Black and Boal (1994) and Barney and Griffin (1992) develop VRIS by combining substitutability and imitability into the mnemonic and adds O to signify whether the resources are effectively ultised by the organisation, ie are the resources 'organisationally orientated'. This development provides a focus on the existence of resources and creates the mnemonic VRIO (Value, Rarity, Imitability and substitutability, and Organisational orientation). Collis and Montgomery's (1995) have alternative tests of resource value, which incorporates imitability, durability, appropriability, substitutability, and competitive superiority. These can be equated to Barney's imitability, and Deirickx and Cool's (1989) durability to focus on development and depreciation. Similarly, appropriability incorporates aspects of tradeability but also looks at resource control. Competitive superiority can be equated to Barney's value but it adds an explicit competitor comparison and implicitly covers rareness on the assumption that you cannot be superior with a common resource.

Whilst the nature of resources and how they lead to sustainable competitive advantage is fairly well established there is some dissention from this view. For example, King et al (2004) argue that RBV has not identified antecedents to predict performance. For ease of use and because it is the most widely used this thesis will take VRIO as its underlying concept of the nature of resources concept.

An examination of each of the components of VRIO reveals the following insights into the nature of resources:

Commencing with value: the literature identifies a range of sources of value, i) lower costs (Barney, 1986 b) and Peteraf (1993), ii) improved efficiency, iii) effectiveness (Barney, 1991), iv) a cheaper or more distinct product (Conner, 1991), v) customer satisfaction, (Bogner and Thomas, 1994). Similarly Srivastava, Fahey, and Kurt Christensen (2001) argue that value should be determined in the customers' eyes and vi) Castanias and Helfat (1991 and 2001) discuss value in terms of managerial skills and abilities. Bowman and Ambrosini (2000) argue that there is a difference between where value is created, i.e. by heterogeneous labour, and where it comes i.e. from the exchange value at point-of-sale. However, they complicate the analysis by arguing that these considerations are different from the value a customer places on a product or service. They also introduce the concept of "who captures the value"; and contend that this depends on perceived bargaining power. This raises the issue of appropriation of value, which could vary from firm to firm, and industry to industry. However, their work ignores the possibility that value could come from other sources e.g. brand, distribution channels and technology.

A more theoretical approach is taken by Lippman and Rumelt (2003) who argue that it is possible to theoretically value a resource by searching for a range of values. They use co-operative game theory on unpriced resources and highlight the need to value all resources no matter how difficult. An alternative approach is taken by Kogut and Kulatilaka (2001) who argue that financial option theory can be used to value resources with valuation coming from observing market place price dynamics.

Lippman and Rumelt (2003a) take price as an indication of value further by arguing that even though not all resources are economically priced, they are always valuable, irrespective of whether they can be priced or not. Lippman and Rumelt (2003a) cite unpriced assets, such as, land and management innovation, as examples of resources that are not economically priced. However, accountants would argue that land can be valued and management innovation is paid for by rewarding management. In many respects, therefore, the work by Lippman and Rumelt (2003a) acknowledges the effect that economic influence has on RBV but does little to advance it from a practical perspective.
There is very little academic work on rarity: (Foss 1997 a) argues that rarity may come from how a resource fits into the system rather than from the individual

resource and Castanias and Helfat (1991 and 2001) try to relate managerial skills and abilities to scarcity.

Imitability: the literature attributes difficulties in imitation to a variety of sources. Barney (1991), for example, argues that imperfectly imitatable resources come from unique historic conditions, causal ambiguity and social complexity. Nelson and Winter (1982) argue that tacit knowledge makes replication difficult. King and Zeithaml (2001) attribute imperfectly imitatable resources to causal ambiguity and social complexity. They develop the notion of historic conditions by emphasising the importance of the ownership of enforceable property rights (citing Porter,1980; and Lipman and Rumelt 1982) and getting a head start in the market e.g. time compression diseconomies (Dierickx and Cool, 1989). Barney (1995) develops this idea further by extending non imitability to include numerous small decisions, the question of organisation form and structure, how firm resources and capabilities are exploited, and compensation policies.

Another approach to imitability is to examine it from a rival organisation's perspective, and ascertain how other organisations' resources can be imitated. In this respect, Srivastava, Fahey, and Christensen (2001) argue that imitation can come from two sources. The first involves determining a rival's imitation capacity, which involves ascertaining whether it is possible to work back from the product; and the second involves focussing on the market to upgrade products.

Imitating is not always easy or straightforward. Nelson and Winter (1982), for example, argue that information is primarily stored in the memory of members of the organisation and, therefore, close replication becomes problematic due to tacit knowledge. Furthermore, they argue differences in communications skills and an unwillingness to communicate also compound the problem. Similarly, Maritan and Brush (2003) cite Szulanski (1996) and (2000) and argue that imitation could be further impeded by a lack of absorptive capacity, causal ambiguity about the practise and an arduous relationship between the recipient and the source. Barney (1986a) also cautions against imitation as it does not give the imitator competitive advantage but rather only enables a firm to catch up with the competitor. Resources are also costly to imitate and competitive advantage is also premised on decisions that are 'essentially invisible' and less easy to imitate. This consideration is also compounded

by the importance of ‘reputation, trust, friendship, teamwork and culture’ (p.55), which are similarly difficult to imitate (Barney, 1995).

Regarding substitution, Srivastava, Fahey, and Christensen (2001) argue that a competitor can try to imitate by focusing on the market and then upgrade its products accordingly. This could be regarded as substitution as the improved product may be produced using different resources. However, the paucity of work on this subject provides the basis for McEvily et al (2000) to argue that substitution is a neglected aspect of the RBV literature.

Organisationally orientated: the importance of the organisation on resources and competitive advantage was recognised by Nelson and Winter (1982) who argued that organisations can make ineffective use of capabilities. Mirroring the addition of O to VRIS Peteraf and Bergen (2003) place emphasise not so much on rareness but rather resources functionality. In this respect, they stress the need for the resource to be applicable to the organisation and its strategy.

The concept of VRIO would, therefore, appear to be well established in the extant literature. However, it has some gaps or weaknesses, especially, in the specific areas of rarity and substitutability.

2.6 Empirical Tests on VRIO

Attempts to prove that resources create value have been a key aspect in the RBV literature

In particular there has been particular emphasis placed on testing value. Table 2.1 shown below summarises the results in the area.

Table 2.1 Testing the Value of Resources

Author(s)	Findings
Makadok and Walker (2000)	The ability of a mutual funds to forecast interest rates is rare and valuable
Makhija (2003)	Linking value and resources by looking at a market in a state of flux found that resources are the main determinants of a firm's value
Bergh (2001a)	Value in keeping the acquired firms top management on long tenure contracts as they have organisation specific knowledge.
Henderson and Cockburn (1994)	Resources influence research productivity which influences product development strategies. They concluded that intangibles were valuable
Pisano (1994)	Different approaches to learning when linked to underlying knowledge generated competitive advantage
Rao (1994)	Reputation can be linked to industry exit
Ray et al (2004)	Intangible resources are the most valuable, highlight the importance of rent appropriation. Look at process level
Ethiraj et al (2004)	Value in client capabilities, found that schedule slippage and effort over run were negatively linked to contribution
De Carlois (2003)	Market competence is positively related to book value but not return on assets suggesting that it could create longer term value.

It is pertinent to note that most of the work on value typically examines either one resource, or one function or one process. Accordingly, Bergh focuses on senior management, Ray et al (2004) examines customer service and Henderson and Cockburn (1994) analyses product development rather than the entire organisation.

Much less has been written on the other aspects of VRIO. For example, Makadok and Walker (2000) examine the ability of mutual funds to forecast interest rates and De Carlois (2003) analyses imitabilty, concluding that it is negatively related to accounting and market performance, thereby, supporting RBV. Eisenhardt and Martin (2000) using a meta review argue that capabilities are more substitutable than was previously assumed. There is, however, more work on organisationally orientated resources. Mehra (1996) found that there was a gap between possession and utilisation of resources, thereby, supporting the notion of organisational orientation but there is no adequate explanation of the rationale of his findings. Yeoh and Roth (1999) also suggest that the deployment of resources is the key to success.

In summary, the work on the "nature" of resources is a well established area, which develops the concepts from a common literature core. Resources are firmly conceptualised as having value rareness, non instability, non substitutability and organisational orientation. Others academic writers, such as, Grant (1991), put forward slightly different concepts but these are broadly in accordance with Barney's.

In essence, the empirical testing of VRIO is unbalanced because most of the work has tended to focus on value. There is another gap in the literature, which emanates from the fact that most of the work tends to focus on one rather than several resources or processes. To some extent this is strange because it is at odds with the work on resource bundles (Penrose, 1959; and Mehra, 1996). It is perhaps significant to note that it is this weakness in empirical testing rather than a weakness in conceptual development that forms the basis for King et al (2004) concerns about RBVs inability to predict performance.

2.7 Resource Development

The second aspect of resources identified by Reed and DeFillippi (1990) is process (i.e. how resources are developed). This part of the literature has become more important over time and Galunic and Rodan (1998) argue that there has been a shift in focus as RBV moved from why resources are valuable to how they are generated. This change in emphasis appears to be reflecting the fact that as the value of

resources was established (at least conceptually) attention moved elsewhere. Spanos and Lioukas (2001) even argue that there is a distinct part of the literature on RBV, which concentrates almost exclusively on processes (for example, Mahoney and Pandian,1995). This part of the literature has moved attention away from why resources are valuable to how they can be created (Galunic and Rodan 1998). The remainder of this section, accordingly, first reviews the conceptual work on resource development and then examines the work on empirical testing.

Wernerfelt (1984) started the conceptual debate with the notion of entering a market through 'stepping stone' resource development. Dierickx and Cool (1989) theorise on the development of resources and explain why resource development is important. In accordance with Barney (1986) they take the view that assets, which can accumulate over time and cannot be imitated, can be a source of competitive advantage. Dierickx and Cool (1989) add to the RBV literature by identifying factors which impede imitation. To this extent they identify the reasons, which make the development of resources that are difficult to imitate, desirable. These reasons include the following: *time compression diseconomies*, i.e. trying to accumulate assets more quickly than a competitor, which will create costs; *asset mass efficiencies,* i.e. were success breeds success; *interconnectedness of asset stocks*, i.e. were an asset needs input from another (a form of bundling*); asset erosion*, i.e. the slower the erosion the greater the advantage in possessing the stock; and, finally, *causal ambiguity in the accumulation process*, i.e. an inability to control and identify some of the relevant variables. It follows that resources can be developed by having strong resources in the first instance, utilising other resources to develop new resources and reducing the rate of their decline in value.

Grant (2002) examines resource development by focusing on resource leverage and examines the mechanics of how resources are leveraged, i.e.developed. Accordingly, Grant argues that leverage can be accomplished in several ways: i) concentrating resources on specific goals, ii) accumulating resources by mining experience and accumulating resources, iii) complementing resources by blending and balancing, iv) conserving resources through recycling and co-opting; and, v) developing recovery resources, which increase the speed at which cash can be generated.

The literature recognises that resource development can be both positive and negative. Reed and DeFillippi (1990), Collis (1994), for example, highlight the negative aspect of capability erosion. A reason for declining value is tacit labour, which can create problems for management as they could unwittingly destroy value by not knowing what to change or how to change it (Bowman and Ambrosini, 2000). This consideration led Srivastava, Fahey, and Christensen (2001) to argue for a temporal element in the study of resources as they evolve and depreciate. Helfat and Peteraf (2003) similarly suggested that it would be useful to incorporate a timescale for resource development, i.e. a lifecycle for capabilities and dynamic capabilities. As it is highly improbable that resource lifecycles will be identical, it is reasonable to conclude that competitive advantages will be variable too.

Makadok (2001) examines the underpinning factors of capability building and argues that it requires structural factors, architecting and construction both at the implementation and deployment stage of strategy. This is useful in terms of providing some insight into capability construction methods. However, it would have been more valuable to theory development if set in the organisational context of managerial decision making on capability development. In particular, it would have added considerable value if it had explored the influence of managers on capabilities and how this could change with differing layers of management.

A separate stream of literature links resource development to exogenous factors. Lippman and Rumelt (2003a) link the relative levels of resources in other firms and argue that value goes through imitation and substitution (from rivals). Fiol (2001) links resource change to the business environment and identifies it as reason for radical change. However, although this process does not adversely affect the core values of the organisation, it can result in the cannibalisation and destruction of existing resources. Fiol's work, however, is not prescriptive and he does acknowledge that this does not necessarily need to happen.

2.7.1 Empirical Testing of Resource Development

Ethiraj et al (2005) argue there is a limited understanding of resource creation or investment. Their work found that in order to build resources financial and managerial resources are needed. Their study considered two types of resources: firstly client specific resources, which are developed from repeated relationships, and reduce costs and improve contributions; and, project management resources, which involve infrastructure and systems development. Resource development is, therefore, dependent on the nature of the resource. In this respect, like resource themselves, it is a heterogeneous concept.

Pettus (2001) using the recently deregulated US trucking industry as a case study found a step by step pattern to resource development. Stimulated by deregulation the steps involved: i) utilising excess capacity; then, ii) international economies of scale, followed by iii) development of dynamic capabilities; iv) utilising excess capacity; and, finally v) innovation. Pettus' study revealed that resource development can be affected by environmental change, in this instance- deregulation, and the addition of new management, which led to the creation of new resources. There are, however, potential limits on the generalisability of this study. This means that it may be inappropriate to extrapolate the results to other countries/industries and determine the exact consequences of environmental change and new management. However, it does provide a template for future work in other industries and/or countries, which could result in an emergent pattern or theory.

The extant literature, therefore, establishes a conceptual basis for resource development, which introduces the concept of time, examines why resource development is important and how resources are developed. The literature also establishes that resource development is linked to sustainable competitive advantage and the environment. However, it also recognises that resource development may not always be positive and can require radical change. The literature does, nevertheless, have gaps or omissions and does not consider the control and management decisions behind resource development. Empirical testing also tends to be based on a case-by-case basis and this reduces the general applicability of the findings. However, it does provide an opportunity for significant intra country/cross sectional studies. Finally, the empirical testing of resource

development is far from comprehensive and does not cover all the areas of resource development.

2.8 Factor Markets

Factor markets are markets in which resources may be able to be traded by competing organisations. If they can be traded freely it becomes very difficult to build up sustainable competitive advantage through resource heterogeneity.

The tradability of resources was subject to debate in the early RBV literature. For example, Barney (1986) surprisingly assumed that all resources could be sold [and presumably bought]. However, this assumption undermines the possibility of sustainable resource heterogeneity. Accordingly, Dierickx and Cool (1989) questioned Barney's assumption on the basis that assets such as reputation and quality cannot be bought, thereby, emphasising the importance of resource development. Barney (1989) responded by arguing that Dierickx and Cool's arguments, especially, those on acquisition and protection are simply extensions of his own work. Barney, however, is less convincing when defending his claim that everything has a cost and by implication can be bought and sold.

From 1989 onwards there was general agreement that there are limits to the extent that resources can be traded. Amit and Shoemaker (1993), for example, agree with the hypothesis that resources, such as, tacit organisational knowledge, trust, management and labour cannot be traded. Similarly, Peteraf (1993) acknowledges that some resources cannot be traded or have high transactions costs. Maijoor and van Witteloostuijn (1996) also explicitly recognise this by introducing the concept of imperfect markets with imperfect substitution and imitability.

Operating in factor markets can be divided into two aspects, namely, resource picking and resource bidding. Successful resource picking or choice emanates from superior judgement and luck and gives ex ante competitive advantage but it is also determined by having superior capabilities and skills (Barney, 1986). In this respect, Makadok (2001) examined both aspects and argued that gathering high quality information and cognition, which has an impact on decisions, is important. This

emphasis on knowledge also applies to resource bidding. Accordingly, Makadok (2001) concluded that knowledge of others bidding for resources was a crucial part of success. He argued that overtime bidders get to know each other and become more rational but this does not taking account of new bidders entering the market. Peteraf (1993) adds more detail by examining price and arguing that ex ante differences come from the acquisition of resources for less than the discounted net present value of rents and by examining the competition, with low competition being beneficial.

2.9 Reasons for Imperfect Resource-Trading in Factor Markets

The next part of the literature review examines the underlying reasons for imperfect resource trading in factor markets. It will first review isolating mechanisms that isolate firms from each other and includes asset stickiness and specificity, (resource level factors which hinder transferability).

2.9.1 Isolating Mechanisms

Peteraf (1993) argues that isolating factors are a derivation of Caves and Porter's (1977) mobility barriers, which extends Bains (1956) work on entry barriers. Isolating mechanisms inhibit resource imitation and replication and can help to sustain competitive advantage and inhibit resource transfer (Rumelt, 1984). Maijoor and van Witteloostuijn (1996) argue that they operate in three different situations, namely, at the firm, strategic group and industry level. In turn, each of these create resource positioning barriers (Wernerfelt, 1984), mobility barriers (Caves and Porter, 1977) and entry barriers (Bain, 1956). Maritan and Brush (2003) add a fourth level, which they detected at the intra firm level.

Examples of isolating mechanisms are provided by Rumelt (1987) in Peteraf (1993) and include property rights to scarce resources, lags, information asymmetries, and the existence of frictions which impede imitation. Other isolating mechanisms include, 'producer learning, buyer switching costs, reputation, buyer search costs, channel crowding and economies of scale when specialised assets are required'

(Peteraf, p. 183 citing Rumelt, 1987) . Brush and Artz (1999) also found that experience can act as an isolating mechanism by guarding against new entrants.

Powell and Dent-Micallef (1997) argued the case for four isolating mechanisms (which can be seen as causes): time compression diseconomies of scale, historical uniqueness, “embedness” of resources and causal ambiguity (see also Lieberman and Montgomery, 1988; Dierickx and Cool, 1989; and Barney, 1991). Dyer and Singh (1998) cite fewer mechanisms but argue that causal ambiguity and time compression diseconomy are also isolating mechanisms. However, their analysis is restricted to inter organisation competitive advantage. Castanias and Helfat (1991) looked at one business function and concluded that managerial skills have isolating mechanisms that are caused by causal ambiguity, specialisation and unique resources, which cannot be replicated. Within the literature there is, nevertheless, a common theme, which centres around causal ambiguity.

The literature also recognises that the level of isolating mechanisms can vary. For example, Reed and DeFillippi (1990) and Tailan (1994) believe that barriers to entry will be high if factor markets are imperfect or resources specific. In contrast Maijoor and van Witteloostuijn (1996) and Schoenecker and Cooper (1998) argue that direct entry barriers will vary depending on the relative resource positions of the company seeking to enter a new market and its target industry or company. A slightly different approach was taken by authors, such as, Peteraf (1993), Rumelt (1984); and, Foss and Foss, (2005), who argued that isolating factors are associated with imitation and rent generation and Connor (1991) and Oliver (1997), who argued that isolating factors are associated and rent generation. This argument is supported by the empirical work of Tallman (1991) who found that isolating mechanisms impact on profits (another performance measure). Tallman found that profits are protected by firm specific isolating mechanisms rather than collective industry entry barriers.

McEvily et al (2000) argue that because firms can manage isolating mechanisms they can raise the level of performance expected by competitors and limit competitor activity. This can be accomplished in a number of different ways, for example, by ‘locking in’, i.e. making the market look unattractive to other firms by sharing technology, by “market deterrence”, which could involve publicising business

models, which have significant switching costs; and striving for continuous improvement based on employee commitment.

Teece, Pisano and Shuen (1997) argue that the resource-based perspective of the firm does not attempt to explain the nature of isolating mechanisms. To some extent, this is a fair criticism because there has been little recent work in the area and the overwhelming majority of the references cited above are before 1997. However the detailed nature of this body of literature makes it very difficult to sustain their criticism.

2.9.2 Specificity

There is a dearth of academic literature on this subject. However, Amit and Shoemaker (1993) argued that some resources can generate proportionately greater rents for a particular firm because they are "specifically" useful to that firm, i.e. the resources have specificity. This suggests that if such an asset was transferred to another organisation, its value could be reduced (Tailin, 1994). Accordingly, the literature examines which resources are most likely to be specific. Winter (1987) argues that firm specific resources tend to be tacit, 'idiosyncratic, and deeply embedded in the organisation's social fabric and history' (in Powell and Dent-Micallef, 1997, p. 378). This implies that such assets are to some extent intangible. Nevertheless, they do have an impact on strategy and Argyres (1996), for example, found that the lower the specificity the more likely an asset is to be outsourced. Reed and DeFillippi, (1990) citing Williamson (1989), similarly argue that it can also be a factor in VRIO and act as a barrier to imitation.

The lack of credible work in this area reveals that there is ample opportunity for further work, especially, in testing the nature of the specific resources and the characteristics, which make them difficult to transfer. Likewise, the impact of specificity on strategy is not really understood.

2.9.3 Stickiness

Resource stickiness applies to those assets which are: “persistent overtime and difficult to change" Knott (2002, p9). Similarly, Camelot (1990) in Collis (1991) uses a concept of “resource inertia” moreover Tripsas and Gavetti (2000) found that stickiness can apply to organizational beliefs and, therefore, have long term implications. Maritan and Brush (2003) and Khanna et al (1998) also found that stickiness could emanate from issues that relate to managements willingness and ability to pursue change. In this respect, Maritan and Brush (2003) argued that it related to absorptive capacity or what Cohen and Levinthal (1990) referred to as management inertia. Although they do not define it in these terms, Bettis and Prahalad (1995) and Berman, Down and Hill (2003) argued along similar lines with Bettis and Prahalad (1995) claiming that the dominant logic of some senior managers is determined by an information filter or tacit knowledge, which although it can speed up and simplify decision making can also constrain learning. This is especially the case, when the operating environmental is experiencing rapid change. Moreover, Berman, Down and Hill (2003) argue that tacit knowledge is difficult to change. Barnett et al (1994) similarly refer to “competence traps” which hinder the responsiveness of organisations to environmental change.

Core competences are traditionally regarded as a strength yet due stickiness can paradoxically also be a weakness. Leonard-Barton (1992) in a seminal piece of work, examining new product and process development, found in twenty cases within five manufacturing firms that core capabilities could inhibit innovation, becoming what she called core rigidities. Furthermore, she stressed the role of values and knowledge finding that values are the most difficult to change, followed by skills and knowledge, and then technical systems. This also suggests that intangible resources are most difficult to change, that is they are the stickiest.

In essence the literature on this subject is not extensive but stickiness of resources would appear to be an established concept. Moreover, the existence of stickiness supports resource heterogeneity in so much as organisations can create and develop resources at different times but if they are sticky then they are likely to be different.

In essence, the literature has established that RBV argues that VRIO resources lead to sustainable competitive advantage, with sustainability partially deriving from an inability to trade resources. Accordingly this places an emphasis on firms developing their own resources.

The next section examines aspect of GRBV where gaps in the literature are identified.

2.10 Rent Appropriation

Measuring the value of resources is made more difficult by the possibility of rent appropriation by those who work in organisations, i.e. the appropriation of rents or payments by employees due to the existence of other resources. In this respect, it is primarily concerned with the power of individuals working within organisations. The importance of payments to employees was identified relatively early in RBV development and the literature is conveniently divided into two theoretical areas: i) problems associated with the measurement of rent appropriation; and ii) power within rent appropriation. There is also a third steam of work, which builds on the theoretical work on rent appropriation and applies empirical testing to rent appropriation.

Measurement issues have been linked with the impact of “causal ambiguity”. High causal ambiguity makes it difficult to determine who takes the credit within an organisation for successful innovations, etc and introduces the possibility of people taking the credit for things they did not do (Blyer and Coff, 2003). Conversely they argued when there is low causal ambiguity credit can be more easily identified.

Another consideration is employee power: Coff (1999) cited in Blyer and Coff (2003) examine the bargaining power of employees. Employee power comes from a number of sources, such as, information advantage, high costs associated with replacing staff and the opportunities key employees have to move to other firms. Blyer and Coff (2003) developed this approach and argued that certain employees

have high social capital credibility in their claims for rent appropriation. High social capital comes, especially, from those employees who span organisational boundaries, occupy structural holes (including information brokers) or are highly central to the functioning of the organisation. Somewhat surprisingly, the only empirical work in this area was done by Maijoor and van Witteloostuijn (1996) who tested appropriation and found significant longitudinal differences in rent appropriation by partners in Dutch audit firms. Recently the definition of rent appropriation has been broadened by Ray et al (2003) who applied the concept to include rent appropriation amongst stakeholders.

In essence, this area of the extant literature has received only a small amount of attention and there is no dissenting work. However, it remains crucial to measuring the value of resources and the power of employees. From the perspective of this research; there is no academic work in the UK on rent appropriation (including bank services). Moreover, it would be both interesting and revealing to ascertain if rent appropriation varied between organisations within the same in industrial sector. This is the first gap identified.

2.11 Heterogeneity, Industry and Firm Differences

Before the development of RBV researchers were arguing that firms were heterogeneous and Penrose (1959) identified that the source of heterogeneity was the interaction between resources and the provision of services. Conrad (1963) encapsulated this point of view in the following statement):

“my contention is that even in the same industry competitive companies may possess basically different knowledge, views, and experiences in many areas of their activities” (p 68).

Also within the mainstream strategy literature, Selznik (1997) argued that different firms had different distinctive competence. Itami and Roehl (1987) in concurring with this view argued that firms have unique strengths and Lippman and Rumelt (1982) theorised that heterogeneous profits arise from different firm resources. Similarly, Hitt and Ireland (1985) suggested that there are differences in distinctive

competencies and these are linked to performance, strategy and the industrial setting. Prahalad and Bettis (1986) also assumed that the strategic characteristics of firms are determined by competitive structures, technologies and customers

More recently, the broader academic literature has argued the case for firm heterogeneity. For example, Iansiti and Clark (1994) found that firm heterogeneity explains why firms perform differently. Nelson and Winter (2000) agreed with this explanation and argued that firms are intrinsically heterogeneous with unique resources. Examining knowledge intensive firms, Starbuck (1992 and 1993) in Powell (2001, p875) concluded that 'every case of superior performance is unique, extreme and non generalisable'. Similarly, Birkinshaw et al citing (1998) Hymer (1976) and Dunning (1980 and 1988) examined multi-national companies and recognised that firm specific advantages are essential in enabling these firms to compete with established firms in overseas markets. They further argue firm specific advantages emanate from assets and transaction advantages, thus supporting firm heterogeneity. In turn RBV argues heterogeneity largely explains why firms perform differently (eg Henderson and Cockburn, 1994; Iansiti and Clark, 1994; Berman, Down and Hill, 2002; Knott, 2003a) and in Ahuja and Katila (2004), Zott (2003).

2.11.1 Sustainable Heterogeneity

Firm heterogeneity would, therefore, appear to be a key assumption of both the broader and mainstream RBV literature, with the basic assumption being that different firm resources facilitate different performance levels. However, authors, such as, Barney (1991) argued that firms have sustainable heterogeneity within an industry and this argument is in direct contrast with the market positioning school, which believes that heterogeneity will be short lived on the premise that resources are mobile. Barney is supported by Ahuja and Katila (2004) who argue that firms can retain heterogenic resource positions over time (see also Helfat, 1994; and Knott, 2003a). Barney further argues that firm heterogeneity comes directly from resource heterogeneity, which is linked to imperfect resource mobility/barriers to entry. Another of the 'founding fathers' of RBV, Wernerfelt (1984) supports the notion of resource heterogeneity. However, he argues that heterogeneous resources are

directly linked to the heterogeneous nature of products. Hoopes et al (2003) broaden the debate and implicitly postulate the case for broadening heterogeneity into customers and markets, and include them in their concept of “competitive heterogeneity”. The importance of resource heterogeneity is, however, perhaps best identified by Barney (1991) and Peteraf and Barney (2003) who argues that resource heterogeneity leads to differences in cost efficiencies and effectiveness. This consideration led, Wernerfelt (1995, p.173) to advocate ‘basing strategy on the differences between firms’. Somewhat crucially, the benefits that accrue from these differences place effective resource management at the heart of strategy.

There are, however, some dissenting voices from this point of view. For example, a fundamental premise of the market led approach is that there are no sustainable resource differences. This stance requires resources to be perfectly tradable and, therefore, sustainable advantage derives from market position. This is an explicit facet of the structure-conduct-performance paradigm, where industry structure determines firm conduct and the market determines performance (e.g. Porter, 1985).

2.11.2 Causes of Heterogeneity

Within RBV heterogeneity is attributed to differing reasons, mostly related to human judgement and interaction. Table 2.4 sets these out:

Table 2.2 Summary of Causes of Resource Heterogeneity

Author(s)	Causes of Heterogeneity
Wernerfelt (1984)	Different products
Direickx and Cool (1989)	Irreversible investments creating idiosyncratic resources which form the basis of competitive advantage.
Barney (1991)	Imperfect resource mobility and barriers to entry
Majumdar (1998)	A unique co-ordination of processes arising from routines (Nelson, 1991), social complexity (see Barney and Zajac, 1994) and

	intangibility which is embodied in people (Itami, 1987).
Amit and Shoemaker (1993)	Market imperfections and managerial decisions.
Mahoney (1995)	Mental construct using sources of learning theory and resources
Ahuja and Katila (2004)	Endowments of prior commitments (Eisenhardt and Schoonhoeven, 1990, Helfat and Liberman, 2002), timing (Stinchcombe, 1965; Zott, 2003) and management capabilities (Zott, 2003).
Ethiraj et al (2005)	Learning from past experience (citing Collis, 1996 and Zollo and Winter, 2002) and incorporating formal mechanisms (Kale et al, 2002) Routine theory leads to heterogeneity. They cite Nelson and Winter (1982) that capabilities come from path dependent knowledge, knowledge embedded in routines, which need development in specific human and physical capital. They further argue routines are the knowledge of the organisation this is contextually embedded knowledge, influenced by absorptive capacity (Cohen and Levinthal 1990), asset stocks and flows (Dierickx and Cool 1989), experience and investments (Zollo and Winter 2002). And again the timing, nature and amount of investments, effort and internal mind set.
Jacobides and Winter (2005)	Heterogeneity comes from contingencies cf (Levinthal, 1997), actor bets and activity interaction (Porter, 1996; Rivkin, 2001; and Siggelkow, 2001).

To summarise the RBV literature, sustainable heterogeneity is attributed to a range of different factors but most of these relate to human judgement and interaction. Whilst there may be a lack of agreement on the sources of resource heterogeneity the concept would, however, appear to be strongly established in the RBV literature.

2.11.3 Dichotomising the Literature on Heterogeneity

The literature on resource heterogeneity can be divided into two parts. The first part focuses on the level of variance at industry firm and intra firm level. The basic assumption is that there are some resources that are common to each industry, some are common at firm level and some resources are held at different levels within firms. The second part of the literature looks at the possibility of resources having variable or differing strengths, which create different levels of corporate value and competitive advantage.

Amit and Shoemaker (1993) identified the existence of firm level and industry level resources. Grant (1991), Collis and Montgomery (1995) and Collis (1994) and Ethiraj et al (2005) also arrived at the same conclusions. For example, Collis and Montgomery (1995) argued that resources are important at the business and corporate level, leaving open the possibility of different resources in different parts of the firm. Similarly Ethiraj et al (2005) in examining customer service and project management argue that capabilities are often context specific. This implies that there could be heterogeneity within firms rather than just between firms. However, there are some dissenting voices from this commonly held point of view. Capron et al (1998) and Barney (1991) argue management resources are part co-specialised and partly part generic. Similarly, St. John and Harrison (1999) believe general skills of co-ordination and implementation can be set alongside more industry specific skills.

Whilst the conceptual literature argues that firm level differences are important the empirical literature enables a more objective judgment to be made. Table 2.5 summarises large quantitative multi industry empirical studies, which examine the relative importance of firm level factors.

Table 2.3 Multi Industry Empirical Studies Examining Factor Explaining Performance Variance

Author(s)	Factors explaining Variance			Other Findings
	Industry	Firm	Unexplained	
Montgomery and Wernerfelt (1989)	Majority of explained variation			Narrower diversifiers do better than those with a wider focus
In Rumelt (1991) Rumelt (1987)		intra industry 83%	-	
McGahan and Porter (1997)		32% business specific	43%	
Powell (1996)	17-20% of performance variance down to industry membership	80% not all individual firm some shared eg strategic group membership, chance, generic strategies, other shared resources	-	Findings supported other studies using Federal Trade Commission Line of Business Data
Mauri and Michaels (1998)	6.2% - 5.8%	36.9% - 25.4%	56.9% - 68.8%.	
Hawawini, Subranian and Verdin (2003)	6.5%-11.4%	27.1%- 35.8%	51.9%- 60.3%	

The results in table 2.4 confirm the existence of firm factors and include resource heterogeneity, as an important explanation for differences in performance. However the large “unexplained” figure, which ranges from 43%-68.8% in Table 2.4, (Mauri and Michaels,1998 and McGahan and Porter, 1997), places a large question mark against the robustness of the data. It is therefore not surprising that Ruefli and Wiggins (2005) argue that there is a need for new methodologies in this area. Moreover, variance decomposition gives no information on the drivers of performance or how management action affects performance. This is important because RBV argues strongly that the impact of management decision making is important in resource heterogeneity (Amit and Shoemaker, 1993).

There is, however, some multi industry work, which does not seek to measure firm level verses industry level contribution to performance. For example, Lieberman and Montgomery (1998) researching first movers concluded that firms are heterogeneous. Likewise McGrath et al (1995) found firm heterogeneity to be an important consideration in competence development.

Studies on performance within industries or single firms could provide a more detailed and fine grained analysis about the importance of resource differences. However, the multi firm work of Hawawini, Subranian and Verdin (2003) do not provide detailed information on the independent variables they used and their debate is largely statistical rather than based on explanatory factors.

The substantial body of single firm or single industry research is encapsulated in Table 2.6:

Table 2.4 Single Firm or Single Industry Research on Resource Heterogeneity

Author(s)	Finding
Hansen et al. (2004)	Give the example of Micron where the firm effect is 63% and 33% industry effect.
Ingram and Thompson (1994)	Found some heterogeneity in UK Building Societies in non size dependent variables, a standard deviation on the ration of Head Office staff to total assets of 88.8 and advertising spend to total assets of 743.3.

Brush and Artz (1999)	Study of veterinary practises found that different firms within the industry had different capabilities which they found were relevant for different services within the industry, with some firms relying on economies of scale and some on service quality. Firm heterogeneity is acknowledged in the design of RBV and other single industry research eg Rao (1994) undertakes a single industry survey of reputation in the US automotive industry.
Levinthal and Myatt (1994)	Looked at one industry mutual fund processing to avoid empirical anomalies and argue that there are different skills in different industries,
Makadok and Walker (2000)	Found heterogeneity in the ability of Money Market Mutual Funds firms to forecast interest rates.
Collis (1991)	Gives examples of different competences on different firms in the same industry.
Balakrishnan and Fox (1993)	Found there is firm heterogeneity in financing arrangements.
Henderson (1994)	Found intra industry differences in innovation in cardiovascular drug discovery.
Kor and Lebleici (2005)	Argue that in law firms differences in partner leverage are a form of firm heterogeneity.
Chou and Chang (2004)	Found heterogeneity in capabilities in the Taiwanese ship building industry but no data on how resources were collected.
Majumdar (1998)	Links resource use and strategy arguing that superior strategy may lead to better resource use. Single industry research confirms the existence and importance of firm heterogeneity.
Maritan and Brush (2003)	In a single firm case study found heterogeneity among 4 manufacturing plants from their histories, managerial beliefs, culture and performance objectives. There were also physical differences. All capabilities are not present in every part of a firm.
Starbuck (1992 and1993)	Finds significant inter firm differences in knowledge based industries.

This body of research suggests that there is some resource heterogeneity both within industries and firms. A possible explanation for these differences is provided by Maritan and Brush (2003) who cite Winter (1987), and Teece, Pisano and Shuen (1997). These authors claim that factors which 'impede imitation tend to impede replication' (Maritan and Brush, p. 946). This assumes that the way to gain resource homogeneity is to replicate resources rather than develop them from scratch. However, Szulanski (1996) has a different explanation, arguing that a lack of homogeneity could be due to either a lack of recipient absorptive capacity or the presence of causal ambiguity.
An additional aspect of resource heterogeneity is variation in the strength of resources. The literature considers the variation in resources which is needed to operate in particular industry (e.g. Amit and Shoemaker, 1993 and Peteraf and Barney, 2003). The impact of variations in resource strength was examined by Powell (2001) who considered the effect that differing strengths of resources would have on the competitive advantage of competing firms. There is limited testing (e.g. Mehra, 1996; Yeoh and Roth, 1999; and Helfat and Peteraf, 2003) which supports the concept of resources of various strengths.

In summary, RBV is based on the assumption of firm level resource heterogeneity and the literature provides significant theoretical explanations as to why resource heterogeneity is common. Empirical testing typically confirms both firm and industry heterogeneity. However, there are concerns about the research methods use in this type of research and the large unexplained variances in the results.

The single industry studies tend to examine a specific resource see for example Makadok and Walker (2001) and Henderson (1994). There is some work on subsets of resources, capabilities, see for example Chou and Chang (2004) and competences (Collis, 1994). However, there is no work on work on multiple resources in providers of banking services, Ingram and Thompson (1994) examine heterogeneity but not specifically resource heterogeneity in Building Societies. Accordingly there is a gap which it would be interesting to explore further, this becomes the second GRBV gap.

2.12 The External Environment

Most definitions on resources look at the internal or organisational environment (see for example, Barney,1991). There is, however, a relatively neglected secondary aspect to RBV, which acknowledges the importance of the external environment. Some academic writers (see for example, Peteraf, 1993 and Collis 1994) acknowledge the importance of the external environment either by linking resources to externalities or extending the RBV into competitive heterogeneity and incorporating aspects of the market, such as, customers and networks (Hoopes et al, 2003).

The body of literature on linking the firm with the business environment is largely conceptual and some of it combines conceptual work with empirical testing. Table 2.2 and 2.3 identify and summarise this literature:

Table 2.5 Summary of Conceptual RBV Literature Linking Resources and the Environment

Author	Concept
Wernerfelt (1984)	'Stepping stone' resource development is needed to enter a market, acknowledging a link with factors outside the company.
Barney (1991)	Advocates exploiting internal strengths to respond to opportunities, countering threats and avoiding weaknesses
Grant (1991)	Links resources to the external environment when deciding strategy
Amit and Shoemaker (1993)	Link resources, capabilities and assets with the business environment. With rents determined by applicability of resources to industry settings.
Peteraf (1993)	Stresses the link with resources, industry conditions and explaining profitability.
Collis (1994)	Links changing effectiveness of capabilities and changing business environment
Collis & Montgomery (1995)	Argue that RBV combines internal and external analysis 'Resources cannot be evaluated in isolation, because their value is determined in the interplay with market forces. A

	resource that is valuable in a particular industry or at a particular time might fail to have the same value in a different industry or chronological context'. (p.120)
St.John and Harrison (1999)	Argue that the literature links firm resources with the type of industry to enter
Teece, Pisano and Shuen (1997)	Stress the need in technical industries for dynamic capabilities placing emphasis on the ability to develop capabilities in line with developments in the industry
Mehra (1996)	Cites Sun Tzu 1981 arguing that 'one must know ones enemy as well as oneself before developing a strategy' (p. 318)
Itami and Roehl (1987)	Competitive pressures can lead to resource accumulation.
Black and Boal (1994)	The combination of [resource] factors partially depend on firm strategy and its link with the external environment, especially with competitors, give a line of causality
Peteraf and Barney (2003)	Links resources and the environment as a way of measuring value.
Knott (2002)	Produces a two by two matrix looking at good and poor internal and external context match of embedded capabilities and utlisation of the capabilities

Aspects of this work have been empirically tested.

Table 2.6 Summary of Empirical RBV Literature Linking Resources and the Environment

Author	Finding
Afuah (2002)	Examines resources and customer value, the valued characteristic is reducing cholesterol an increase in price of 0.6% comes from a 1.0% increase in the ability to reduce total cholesterol.
Skaggs and Youndt (2004)	Examined strategic positioning and human capital, looking at co production, customer contact and service customisation as well as information asymmetry, linking resources with the service strategy being pursued, they found a strong link with certain combinations resulting in superior performance. They argued there is a higher need for human capital as customisation and customer contact increases. This work links the external environment (customers) with internal resource configuration.
Marcus and Greffen (1998)	Specific societal factors like governments and markets finding they have an impact on competence development.
Javidan (1998)	Produces a multi resource and external factor study which includes competitor comparison and industry changes in his method for assessing core competences which is tested by case study.
Rao (1994)	looks at role of reputation in US automotive industry where a lack of knowledge of cars lead to reputation being gained by success in races, he finds that reputation can be linked to industry exit.
Barnett et al (1994)	Researches retail banks in Illinois they find that single unit banks gain from exposing themselves to competition, multiunit banks through market positioning reduce competition and benefit from mutual forbearance but may be reducing their chance to grow valuable competences.
Levinthal and Myatt (1994)	In a study of US Mutual Fund processing find that competences influence the environment and the reverse the environment influences competences and heterogeneity in these competences.
Miller and Shamsie (1996)	Found that the importance of resources varies depending on the business environment with property

	resources eg long term contracts with movie stars and movie theatre ownership were advantageous in a stable environment, whereas knowledge based resources production and coordination talents were important in a less predictable environment.
Makhija (2003)	Looked at a market in a state of flux found that resources are the main determinants of a firm's value.
Helfat (1997)	Examined the impact on resources and resource bundles of changing environmental conditions and found that in response to oil price increase, firms with larger amounts of complementary technical knowledge and physical assets undertook more R and D.
Henderson and Cockburn (1994)	Henderson and Cockburn (1994) in a qualitative survey of the US pharmaceuticals industry find that resources influence research productivity which in turn influences product development strategies. Ie resources impact on the external environment
Pisano (1994)	Researched learning in the pharmaceutical industry using qualitative methods and found that different approaches to learning generated competitive advantage, the style of learning needed to be linked to the nature of underlying knowledge for best results.
Starbuck (1992 and 1993)	Interdepend organisation and environment change

Tables 2.2 reveals that there is an established conceptual link between the external environment and resources to which Table 2.3 adds an empirical link. Specifically, the external environment has a direct influence on the setting of resources. This link has also been empirically tested in a number of studies. Some of these studies have examined a limited range of environmental factors, such as, prices (Afuah, 2003), customers (Skaggs and Youndt, 2004) and competition, (Barnett et al 1994). In contrast, other studies have focussed on a wider range of externalities. For example, Marcus and Greffen (1998) examined societal factors and other studies have examined the impact of different environments, Makhija (2003). There is, however, no RBV work that has explicitly sought to identify all the external factors in banking. This is the third GRBV gap identified.

In summary the literature review has so far established the importance of RBV and its relationship with the market positioning school. The review has also: defined resources; discussed their fundamental nature; the impact of rent appropriation on their value; identified how resources develop (crucial in changing resources); examined resource heterogeneity and linked RBV to sustainable competitive advantage. The review has also argued that resource heterogeneity is sustained by imperfect factor markets and isolating mechanisms. Finally, the literature review has established that resource specificity exists and that resources must be analysed against the back cloth of the external environment.

2.13 Resource Bundles

The work in this area divides into theoretical work, which identifies the existence of value adding resource bundles and empirical studies that examines resource bundles and tries to explain how they provide value.

Chang and Singh (1999) provide a useful overview. Citing the work of Penrose (1959), Rubin (1973), Wernerfelt (1984) and Barney (1986) they argue that combined resources are worth more than individual resources. Lippman and Rumelt (2003) delve into the problem in more detail and argue that strategy problems are essentially concerned with the identification and evaluation of different combinations of resources. This assertion was also supported by the empirical study of Mehra (1996).

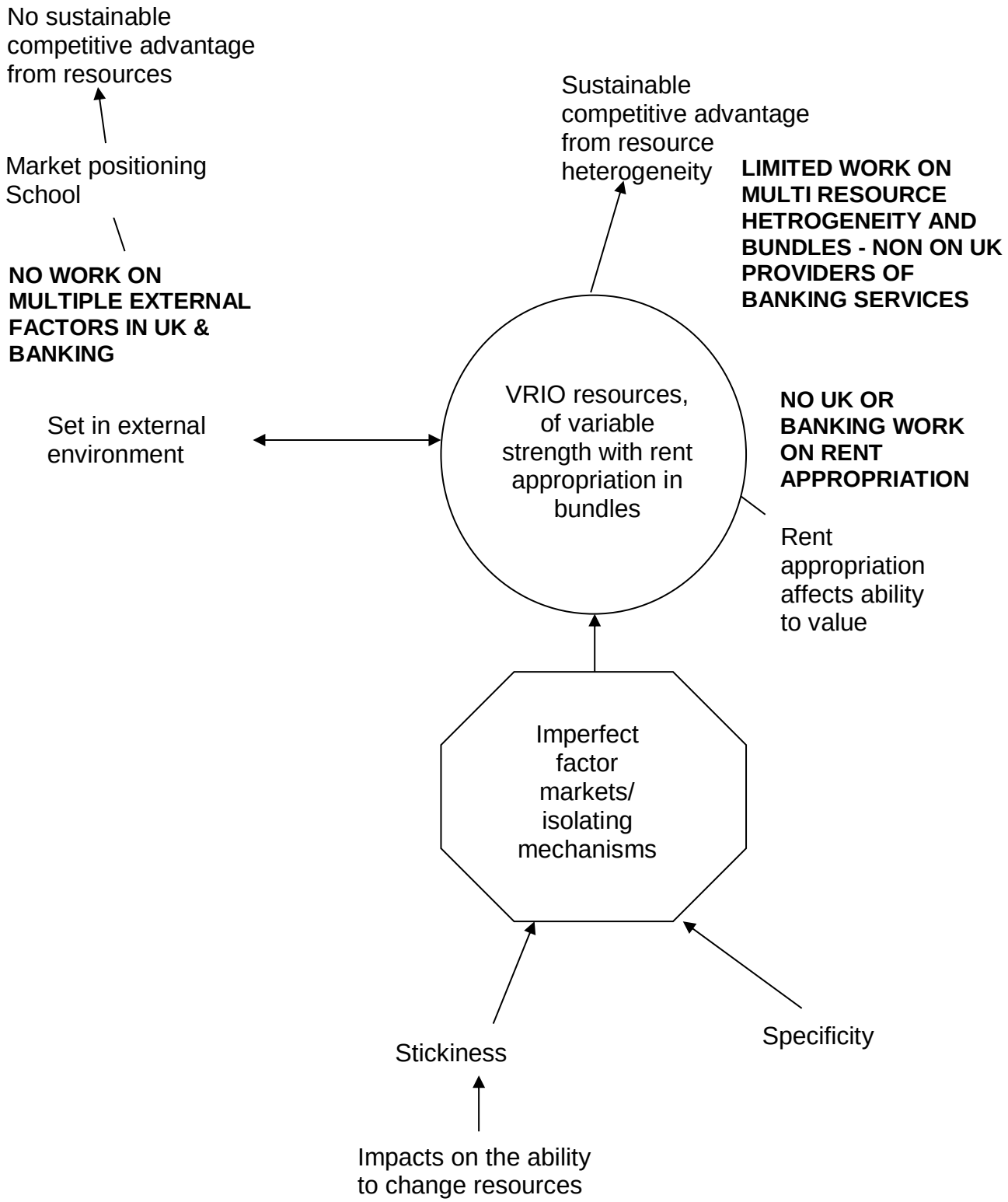
In order to ascertain how resources combine, Black and Boal (1994) mapped resource combinations and used decision trees to assess the linkages between resources. Galunic and Rodan (1998) looked at how resources combine and suggested that the greater the level of tacit knowledge, the more difficult it was to detect and bundle resources. Their work, however, is purely theoretical and requires empirical testing. Moreover, it does not explore how to identify bundles.

In contrast Starbuck (1992 and 1993) uses case studies to examine bundles in different organisations and found that human resources did combine with other resources to impact on performance. Authors, such as, Helfat (1997) - economies of scale in research and development which drew on related technical knowledge, Powell and Dent-Micallef (1997) – information technology and human and technical knowledge, found that some resource configurations are better than others. This recognition of the importance of bundling has led Tripsas (1997) and Foss (1997a), to assert that when measuring the impact of resources on the organisation it is essential to look at resource combinations.

This section has identified the importance of bundled resources, however there is gap with no work assessing resource bundles in the UK. This gap will be developed further in a following section, 2.15 resource identification, then reviewed in the DRBV section and combined with the critique of relevant research methods to fully outline a gap concerning resource bundles.

The literature review, to date, facilitates the following interim conceptual model of GRBV, shown in Figure 2.1. In summary this figure provides a visual representation of the key themes identified so far, with sustainable competitive advantage deriving from VRIO resources which may have rent appropriation, and be of differing strength and operate in bundles. Sustainable competitive advantage is possible due to the assumption of sustainable resource heterogeneity, which occurs due to an inability to trade all resources, two factors are identified which impact on this (stickiness and specificity). Also resources are set in their external environment. The figure also identifies a number of gaps or omissions in the extant literature, which relate to rent appropriation, heterogeneity, and the external environment. These gaps, which are examined in this research, are shown in bold in Figure 2.1.

Figure 2.2 Interim Conceptual diagram of GRBV at this stage in the literature review showing gaps (in bold) which are examined in this research



The rest of the GRBV review examines a range of other factors that impact on resources, contribute to gaps, and the operationalisation of resources. Accordingly this section discusses the problems associated with causal ambiguity, the identification of resources, human aspects, intangibility, and identification. It finishes with a critique of the impact of resources on organisational boundaries and path dependency.

2.14 Causal Ambiguity

Causal ambiguity in RBV occurs when the relationship between resources and business performance is ambiguous and typically emanates from tacitness, complexity and firm specificity (Reed and DeFillippi, 1990). Its importance stems from the fact that it can result in management not fully understanding the sources of sustained competitive advantage (Lippman and Rumelt, 1982).

Causal ambiguity is a complex subject and creates challenges for managers both inside and outside the organisation. For example, King and Zeithaml (2001) argue that causal ambiguity can create a situation were if competitors cannot ascertain the drivers of a firm performance, then it is unlikely that they can ascertain the drivers of their own firms' performance. This could hinder the conscious development of resources aimed at sustaining competitive advantage. Unfortunately, King and Zeithaml (2001) did not consider the difference between the internal and external perspectives of managers.

Several writers have, however, deconstructed causal ambiguity into its constituent parts. King and Zeithaml (2001), for example, argued that there are two aspects of causal ambiguity: linkage ambiguity, which is concerned with the importance of the competence in terms of competitive advantage; and, characteristic ambiguity, which is concerned with the level of ambiguity relating to the competence. Powell and Caringal (2006) have also developed our understanding of linkage ambiguity by analysing errors that can occur

when trying to measure it, identify which resources exist and ascertain how resources interact to enhance performance. In contrast Mosakowski (1997) has looked at causal ambiguity from the perspective of whether knowledge is ex ante or ex poste and possible levels of knowledge and Powell and Caringal (2006) who have focused on reasons, (such as, culture) that can potentially explain why managers interpret information differently.

Causal ambiguity has a number of implications for strategy. For example, King and Zeithaml (2001) argued that an industry leader would have a preference for high causal ambiguity because it makes it more difficult to ascertain the sources of competitive advantage. They further argue, therefore, that causal ambiguity can also lead to competitive advantage because it can reduce imitation and factor mobility. Looked at in a rather different way it can also be argued that it underpins the very nature of certain resources, especially, imitation and substitution. Accordingly, McEvily et al (2000) and Powell and Caringal (2006) argued with some conviction that causal ambiguity will hinder imitation and increase the likelihood of substitution.

In essence, causal ambiguity is another long established concept in RBV and factor markets. It explicitly recognises that it can be difficult to know what resources an organisation has and what their impact on business performance will be. The evolving literature has identified differing types of causal ambiguity and the work comprises a mix of conceptual (Powell and Caringal, 2006; and, McEvily et al 2000) and empirical work (Mosakowski, 1997) and both conceptual and empirical (King and Zeithaml, 2001). There is a deficiency in the literature regarding testing the role of causal ambiguity in imitation and substitution. However, there is sufficient conceptual work to suggest that it can have an impact on resource identification. This is important because the ability to identify resource is a prerequisite for managing them. This will become an aspect of the gap on bundles.

2.15 Resource Identification

Without an understanding of the issues relating to resource identification, it would be impossible to carry out meaningful research on resources.

Depending upon whether you are taking an economic or managerial perspective, there are different approaches to the problem of resource identification. Authors, such as, Collis and Montgomery (1995) and Barney and Hesterly (2006) etc describe RBV as an economic theory. Peteraf and Barney (2003) similarly argue that RBV is an extension of economic theory. Barney (1986) argued that RBV has its origins in economic theory but has become more management orientated over time, moving from an emphasis on factor markets to the use of resources. Accordingly, authors, such as, Ghemawat (1986), Javidan (1998), Ray et al (2004) and Ghemawat (1986), place greater emphasis on the managerial aspects of resources. Ghemawat (1986) focuses on the importance of internal factors, such as, economies of scale, experience and scope, and access to resources and markets. This literature not only uses more managerial language but takes a different approach to the economists and is less concerned with theory and more concerned with the identification of resources that lead to competitive advantage. In other words the managerial literature is less concerned with the details of factor markets and more concerned with the concept of resource use and the link between resources and strategy.

To identify resources their nature needs to be established and this chapter has already discussed the issues relating to the nature and definition of resources. In this respect, Barney (for example 1991) argued that resources should be valuable, rare, non imitable, non substitutable. Peteraf (1993) claimed that sustained competitive advantage emanates from superior resources, imperfect resource mobility, and ex post and ex ante limits to competition. Dierickx and Cool (1989) adopted a different approach and focussed on time flow in the development of resources. Specifically, they examined asset accumulation and identified process time, compression

diseconomies, assets mass efficiencies, interconnectedness, assets erosion and casual ambiguity as factors that determined asset development.

The theoretical approach to resource identification has raised a number of issues, especially, in relation to unobservability, causal ambiguity and resource bundles: Regarding unobservability Reed and DeFillippi (1990) argued that resources are only imitable if observable and they are unobservable if tacitly defused or socially ambiguous, i.e. intangible. Lado, Boyd, Wright and Kroll (2006) claimed that causal ambiguity could lead to managers having problems in understanding sources of sustained competitive. The academic work on the bundling of resources strongly argues for a range of resources to be identified as value does not totally reside in individual resources (Penrose, 1959; Wernerfelt 1984; and, Barney, 1986)

There can be a danger in pre judging resources; they are not always as straight forward as strength in marketing or an aspect of marketing. The literature here is example based. Collis and Montgomery (1995) argue it can be dangerous to label resources, they give the example of being too broad, for example looking at instrumentation rather than the interface between the machines and people who use them; this approach, with its high levels of granularity, resulted in less skilled staff to being able to use the machines. Moreover, identification can be complicated by resources varying in the same industry depending on the strategy, Barney (1995) looks two firms making watches. Rolex follows a differentiation strategy with resources of quality manufacturing, excellence and high reputation brand, to produce very expensive watches. In contrast Timex follows a low cost high volume strategy, with a key resource of low cost manufacturing. This provides an argument for the in depth analysis of individual firms and the dangers of large multi industry studies which cannot look at industry or firm specific resources.

Despite these problems a fairly wide range of literature focuses on the identification of resources. Research into resource identification also requires a fairly detailed understanding of the resources and how they were identified. Table 2.6 provides a synopsis of this literature and highlights the identification

different resources by researchers who have concentrated on a single resource or single area.

Table 2.7 Range of Resources Identified

Authors	**Area(s)**
Zajac and Westphal (1994)	Corporate Governance
Fiol (1991 and 2001)	Culture
Barney (1986a)	Culture and culture management skills
Ray et al (2004)	Customer service
McGrath et al (1995)	Development of competences
Adner and Helfat (2003)	Dynamic managerial capabilities
Lado and Zhang (1998)	Expert Systems
Barney (1986)	Functional etc see definitions
Coff (1997)	HR
Wright, Dunford and Snell (2001)	HR
Lado and Wilson (1994)	HR systems including culture
Maijoor and van Witteloostuijn (1996)	Human capital
Kor and Lebleici (2005)	Human capital
Amit and Shoemaker (1993)	Human impact on decision making
Farjoun (1994)	Human Resources
Hall (1992)	Intangible resources
Chang (1996) in Chang and Singh (1999)	Knowledge
Galunic and Rodan (1998)	Knowledge
Lorenzoni and Lipparini (1999)	Knowledge
Conner and Prahalad (1996)	Knowledge
Scarbrough (1998)	Knowledge and Control
Simonin (1999)	Knowledge transfer (inc cultural difference)
Mahoney (1995) and Lei et al (1996)	Learning
Pisano (1994)	Learning

Schroeder et al (2002)	Learning
Anand and Khanna (2000)	Learning
Chang (1995)	Learning and knowledge
Grant (1991)	Learning, culture organisational routines
Skaggs and Youndt (2004)	Limited human capital (training, experience and education)
Castanias and Helfat (1991 and 2001)	Management
Penrose (1995)	Management team
Mahoney (1995)	Management Team, Invisible resources, Information, Processes
Prahalad and Bettis (1986) And Bettis and Prahalad (1995) Ginsberg (1994)	Management team's dominant logic Managerial cognition for business environment and the way to manage a portfolio of businesses
Ginsberg (1994)	Managerial cognition
Knez and Camerer (1994)	Managerial decision making
Rindova and Frombrun (1999)	Material resources.
Marcus and Greffen (1998)	micro eg search for talent
Gupta and Gerchak (2002)	Operational synergies from production capacity, manufacturing flexibility, and demand correlation and flexibility.
Barney and Zajac (1994)	Organisational Behaviour/Culture
Markides and Williamson (1996)	Organisational design
In Zollo (1998) and Capron and Mitchell (1998)	Post acquisition integration capability
Verona (1999)	Product development
Henderson and Cockburn (1994), and Henderson (1994)	R and D
Dierickx and Cool (1989), Nelson (1991)	Rand D

Rao (1994)	Reputation
Colbert (2004)	Strategic HR
Castanias and Helfat (1991), Mahoney and Pandian (1992) and Castanias and Helfat (2001)	Top management
Eisenhardt and Schoonhoven (1996) and Bergh (2001a)	Top Management
Barney and Hansen (1994)	Trust

Rather than focussing on one resource other researchers have tried to identify a complete set or a subset of resources. As revealed in Table 2.7 this body of literature can be divided into generic resource bands and sometimes total number of resources.

Table 2.8 Resource Bands or Number of Resources

Author(s)	Resource bands	Number of resources
Harrison, Hitt and Ireland (1991)	4 key intensity variables or resources capital, administrative, interest and R and D	
Hall (1992)	3 types of competences - functional, cultural and positional 2 types of asset –positional and regulatory	13 intangible resources
Hall (1993)	9 intangible resource types	
Grant (1991) based on Hofer and Schendel (1978)	6 major resource categories financial, physical, human, technical, reputation and organisation	
Capron et al (1998)	R and D, manufacturing, marketing, managerial and financial	

Lado, Boyd and Wright (1992)	4 types of competence	
De Carlois (2003)	3 types technical, marketing and regulatory	
In Hall (1992) Coyne (1986)		4 capability differentials
In Williamson and Markides (1996) Verdin and Williamson (1994)	5 types of assets, customer, channel, input, process and market knowledge	
Mehra (1996)		10 key capabilities/skills
McGrath et al (1995)		10 variables for competence, 16 for comprehension and 15 for deftness
Hall (1992)		Top 13
Nayyar (1992)		Illustrative list of 14
Spanos and Louikas (2001)	3 types organisational, marketing and technical	14 resources
Barney (1991)	3 categories physical, human and organisational and managerial insight	14 resources as examples
Powell and Dent- Micallef (1997)	3 human, business and IT	14
Conant et al (1990)		20 distinctive marketing competences
Knott (2003)		20 operational routines

King and Zeithaml (2001)		37 knowledge based in textile industry 32 in hospitals
Hitt and Ireland (1985)		55
Skaggs and Youndt (2004)		Human capital 6 aspects
Carmeli and Tischler (2004)	Six, managerial capability, human capital, internal auditing, labor relations, organisational culture and perceived organisational reputation.	
Rumelt (1987) in Peteraf (1993)	13 isolating mechanisms property rights to scarce resources, lags, information asymmetries, frictions, producer learning, buyer switching costs, reputation, buyer search costs, channel crowding and economies of scale if specialised assets are needed	

Tables 2.7 and 2.8 suggest that there are a wide range of resources and a smaller number of generic resource bands. However, a note of caution was sounded by King and Zeithaml (2001) citing West and Schwenk (1996) who argued that 'lists of universal variables' lead to 'non findings'. Set in the context of resource heterogeneity a universal list has limited uses. In other words, although it might be a starting point for fine grained analysis it is not the finishing point. At this stage it should be noted that the most detailed generic resource banding is Grant (1991) who identifies six resource bands. Carmeli and Tischler (2004) also have six but these are narrower capabilities, Hall (1993) has nine but these are all intangible and Rumelt (1987 in Peteraf 1993) identifies thirteen but these resources are identified as isolating

mechanisms and include the outcome, as opposed to resource, of economies of scale.

The issues on resource identification become an important factor in the operationalisation of resources and are developed further in the research methods chapter, where they impact on both the operationalisation of resouurces in this thesis and the development of the gaps partially identified in resource bundles.

2.16 Intangible Resources

This section discusses the nature of intangible resources, their impact on resource trading, and their operationalisation. It also looks in some detail at arguably the key intangible resource, namely human resources, and then addresses the impact of intangibles on competitive advantage.

Outside the confines of the RBV literature Itami and Roehl (1987) highlighted the importance of intangible assets and emphasised the importance of consumer information, control of distribution, brand name, reputation, management skill, culture and human assets. They pointed out that invisible assets [intangible resources] are often the only source of competitive edge because they are hard to accumulate, cannot be bought and have the advantage of being used simultaneously. They can, however, be accumulated through direct action e.g. advertising for branding, and indirectly as a by product of day to day operations. Itami and Roehl (1987) also argued that management should know about the stock of invisible assets and their accumulation. This is important because invisible assets have the advantage of not wearing out, they can be combined with other resources and simultaneously used in different places. This echoes some of the earlier RBV work of Barney (1986) on imperfect markets and Dierickx and Cool (1989) on issues with accumulation.

Within the RBV literature, Barney (1986) implicitly discuses intangible resources when he provided examples of social complexity, interpersonal relations between managers, culture, and corporate reputation amongst suppliers and customers. Similarly, Reed and DeFillippi (1990) and Doz (1994) highlighted the problem of identification associated with intangibles resources, which stems from tacitness, complexity and casual ambiguity. The value of intangibles is also seen in Godfrey and Hill (1995) who argued that the less observable the resource, the higher the barrier to imitation and the more sustainable the competitive advantage.

Focussing on human resources, Pennings, Lee and van Witteloostuijn (1998) found that human and social capital has important implications for firm performance. Specifically, the actions and practices of people have an indirect effect on performance through cultures, trust, knowledge sharing and teamwork but the links have not been tested (Wright, Dunford and Snell, 2001). Human resources are not always easy to manage. Coff (1997), for example, argued that human resources can create problems for managers via the withdrawal of labour, demands for higher wages and the rejection of authority, etc. These problems can be managed by strategies that *inter alia* emphasise retention, job sharing, greater transparency and the introduction of new corporate governance structures. Most of this work, however, is conceptual and with the possible exception of Pennings, Lee and van Witteloostuijn's (1998), the links between human resources and RBV have not been empirically tested (Wright, Dunford and Snell, 2001).

In contrast it has been empirically established that Intangibles can impact on and competitive advantage. Berman, Down and Hill (2002), for example, found a u shaped relationship between tacit knowledge and competitive advantage. However, intangible resources are difficult to measure and the existence of information asymmetries suggests that they are arguably more risky to trade compared to tangible assets (Balakrishnan and Fox, 1993). Despite these problems the literature recognises that intangible are valuable (Henderson and Cockburn, 1994) and some commentators have argued that they are the most valuable resource (see, for example, Ray et al 2004).

In essence, intangible resources are difficult to identify and can impact on competitive advantage. This will become a contributing factor to the developing gap on resource bundles.

2.17 Service Industries

As this research is examining a service industry, it is important to understand the nature and distinctive characteristics of service industries and the impact these might have on the research.

Lovelock (1991) in Lovelock and Yip (1996) argues that service industries have the amongst others the following characteristics; output is performance ie it is intangible and not a material object, the customer involved in the production and people are part of the service experience.

Similarly, Skaggs and Youndt (2004) cite Brush and Artz (1999), Lovelock and Yip (1996), Mills (1986), Nayyar (1993) and Norman (1984) argue that service industries are different and that this difference is emphasised in customer interactions. Specfically, Kor and Lebleici (2005) argue that human resources are the most important capital in a professional service firm as it creates and delivers the primary output and they cite Gilson and Mnoookin (1990), Malos and Campion (1995) and Spar (1997).

The service sector literature contains studies, which highlight the differences between the service sector and other sectors. In general it focuses on intangibles, especially, human resources and customers, which in turn create resource identification problems. Consequently it its argued that service industries are likely to have a high number of intangible resources and accordingly difficult to identify resources.

2.18 Organisational Boundaries

Leiblein and Miller (2003) found that make or buy decisions, i.e. outsourcing decisions, are conditioned by core competencies. Argyres (1996) similarly argued that the difficulties associated with managing a wide set of capabilities largely explain why organisations outsource. Argyres (1996) also found that firms outsourced when suppliers possessed superior capabilities (Snyder and Ebeling, 1992). Lorenzoni and Lipparini (1999) combined value and capabilities and concluded that firms moved out of areas were others could do the work cheaper and where they did not have distinctive competencies. Argyres (1996) and Bowman and Ambrosini (2003) also suggest that the greater the difference in resources the "looser" the organisational structure.

It is self evident that there is only limited work in this area, however, there is evidence to suggest that differences in resources affect the boundaries of organisations and have an effect on corporate structure and strategy (See for example, Teece (1980).

2.19 Path Dependency

The basic argument of path dependency is that a firm's resource position provides paths for future development; which can be described as trajectories (Teece, Pisano and Shuen, 1997). These trajectories typically arise from long term rather than short term commitments (Ghemawat, 1986, and Black and Boal, 1994). This commitment involves upgrading resources and finding gaps to create a future development path [or path dependency] (Grant, 1991). Mosakowski (1998) examines the issues in more detail and links choices to resources and argues for a need to know the "shapes of the distribution of alternative management choices" (p. 1179). Teece, Pisano and Shuen (1997) argued that path dependency contributes to sustainable competitive advantage.

Barney (2001) and Prahalad and Bettis (1986) argue that path dependency is likely to have a positive impact on a resource leading to sustained strategic advantage. However, path dependency is not always positive. For example, in Peteraf (1993) Dosi, Teece and Winter (1990) suggest that paths can restrict development, especially, if the scope of business activities is limited. Although Oliver (1997) looks at the problem from a different perspective, he arrives at similar conclusions when he suggests that firms are prisoners of their own history and make inappropriate resource decisions. Similarly, Leonard Baron (1992) argued that core competencies can become core rigidities. Moreover, these path dependent 'competency traps' (see, for example, Barnett, Greve and Park, 1994 who cite Levitt and March, 1988) are more prolific the longer a particular resource or capability has served the firm. The problems associated with path dependency are also compounded by the fact that they are difficult to manage (Prahalad and Bettis, 1986; and Arthur, 1989 in Lado and Zhang, 1998).

Eisenhardt and Martin (2000) to some extent counter the arguments on path dependency by placing emphasis on so-called "equifinality" and argue that there can be several paths to the same capability. They argue that this consideration, therefore, makes immobility and imitability irrelevant to sustainable competitive advantage.

The work in this area is overwhelmingly conceptual; it argues that resources restrict the available strategic path, including product diversfications, and that paths are not always easy to manage. However there is little work on individual resources. There is also a suggestion that path dependency can be mitigated (arguably only to a degree) by equifinality. Nevertheless, this is an established area of RBV which contributes to the understanding of the long term impact of resources on strategy and the ability of resources to produce sustainable competitive advantage. Path dependency also assumes that resources are inflexible because if they were not and could be changed at will (also requiring control and identification) there would be no path dependency.

2.20 Human Aspects of Resources

Rather than discuss human resources per se, this section looks at the impact of humans on resources. Accordingly, it looks at the range of resources humans can manage and the impact of their decision making on resource management.

The impact of human decision making has long been acknowledged. Nelson and Winter (1982), for example, argued that in decision making there is a trade off between bounded rationality and deliberate choice. The inherent danger, however, is that decisions made by bounded rational managers may place too much emphasis on the past and misconstrue the success factors. This possibility has led some authors to conclude that optimal decision-making and equilibrium analysis clash with bounded rationality (see, for example, Simon, 1979 in Amit and Shoemaker, 1993). Moreover, bounded rationality is not solely predicting behaviour from variables from outside the firm, rather there is a need to understand the cognitive and decision making limitation within the firm (Simon 1957, 1982 and 1947 in Bromley and Fleming, 2002).

There is, however, some disagreement as to whether bounded rationality is part of RBV. Bromiley and Fleming, (2002), for example, regard bounded rationality as different from RBV but Barney (1991) and Amit and Shoemaker (1993) discuss bounded rationality as though it was an integral part of RBV.

Nelson and Winter (1982) provided another perspective on the effect that humans have on RB.V. They argued that information is primarily stored in the memory of members of the organisation and, therefore, replication of resources by other organisations is problematic due to considerations, such as, tacit knowledge, differences in communications skills and unwillingness to communicate. Yet another perspective was provided by Prahalad and Bettis (1986) and Betts and Prahalad (1995) who examined the range of resources that people can effectively manage.

However, it is slightly disappointing that they only look in detail at one particular resource. They concluded that Dominant Logic implies that there is a natural boundary to any organisation, which is determined by the cognitive maps of senior management and it follows the combination and range of resources. Ginsberg (1990) subsequently expanded this approach by introducing the business or external environment.

However, a counter argument comes from Tripsas and Gavetti (2000) who cite Tushman and O'Reilly (1996). They suggest that successful organisations are ambidextrous and can embrace contradictions. This implies a different and wider type of dominant logic, which could be explained by differences in absorptive capacity. Lenox and King's (2004) study of experience and related practices, clearly reveals the ability of managers to develop different levels of absorptive capacity. Similarly, Zahira and George (2002) argued that there is a difference between potential and realised absorptive capacity. It follows, therefore, that absorptive capacity can be variable within different organisations and, therefore, the ability to manage a range of activities can be similarly variable.

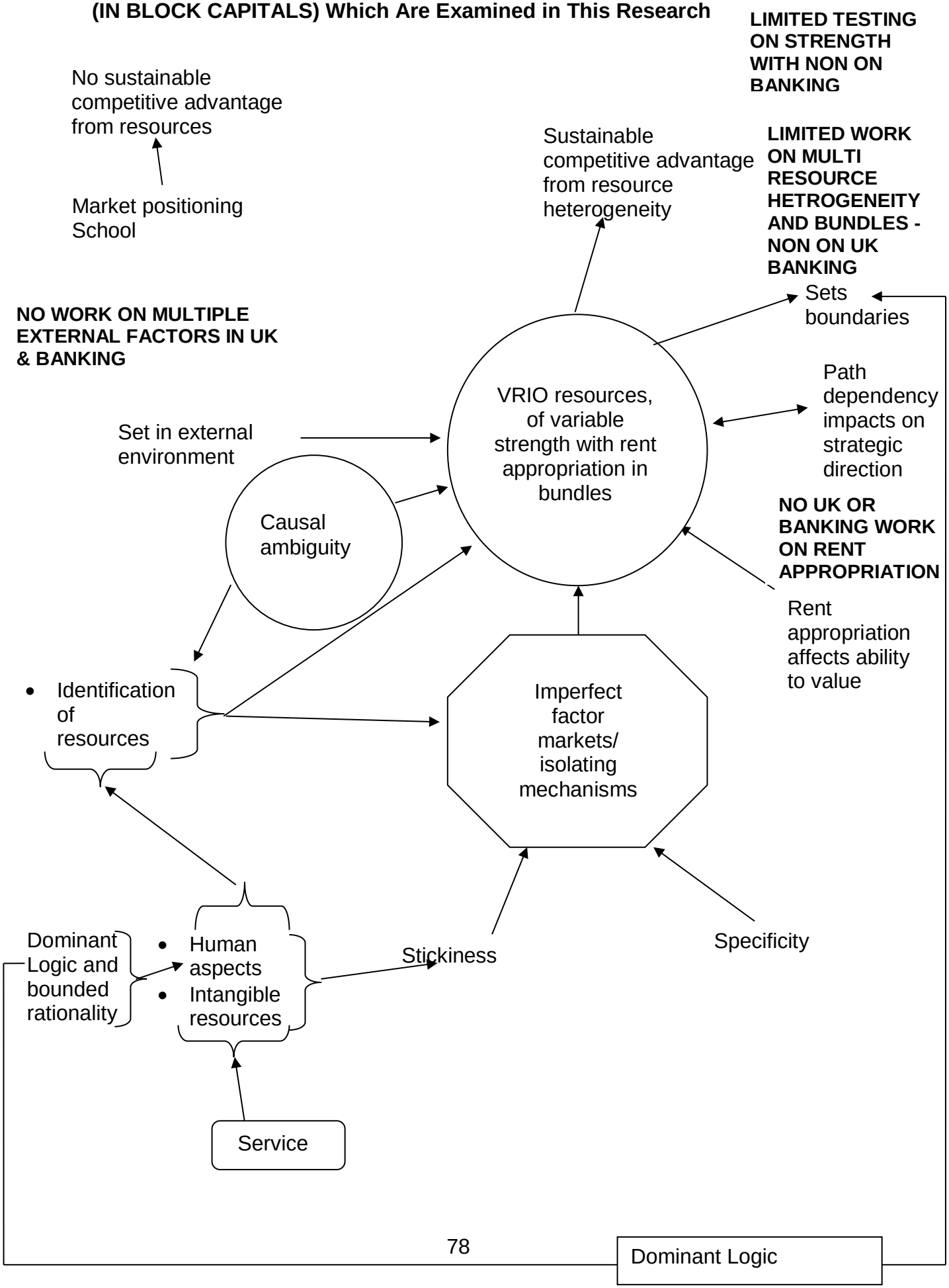
There is, however, very limited empirical testing of this conceptual work. One exception was Lampel and Shamsie (2000) who conducted a study into joint ventures in GE. They founded that failures were generally linked to a shift in the dominant logic of the firm. The conceptual work did, however, establish the importance of non rational management decisions on the acquisition and use of resources. It also established the concept of a maximum range of manageable resources.

In short, organisational boundaries, path dependency and human aspects of resources are facets of GRBV which influence the scope of an organisation, it is therefore unsurprising that they will have an impact of gap largely dervived from DRBV.

Although Figure 2.3 does not identify any more gaps it provides additional underpinning for Figure 2.2 and comprises a comprehensive conceptual

model of GRBV by emphasising resource identification and resource operationalisation. Specifically it adds to Figure 2.2 additional factors which underpin difficulties in resource trading – casual ambiguity, identification and control of resources, human aspects and intangible resources, with the latter being prevalent in the service sector. The literature also argues that resources can set organisational boundaries and through path dependency impact on an organisation's strategic. Furthemore, resource management is influenced by bounded rationality, and with particular relevance to product diversification the impact of dominant logic on an organisations' boundaries.

Figure 2.3 A Conceptual Diagram of GRBV Showing Gaps (IN BLOCK CAPITALS) Which Are Examined in This Research



2.21 GRBV Conclusions

This area of RBV has a relatively strong conceptual base but the empirical work is relatively weak. Accepted concepts include firm heterogeneity, the nature of resources (VRIO), resource development, resource variation and imperfect factor markets created by isolating mechanisms, resource specificity, resource stickiness and path dependency, (which provides a direction for organisations) and boundaries (which limit their range of activities). There are also established conceptual links between resources and the external environment and there is an acknowledgement of the challenge created by intangible resources. This is a particular issue in the service sector, which has a high level of intangible resources and an emphasis on human resources. Given the complexity and heterogeneity of resources within firms there is significant room to operationalise and empirically test issues relating to resource value, imitation, substitution, organisational orientation, resource identification, imperfect factor markets, causal ambiguity and resource ranking. A small strand of work looks at the impacts of resources on firm boundaries which can be linked with the range of resources which can be effectively managed (dominant logic). In this respect Figure 2.3 provides a visual representation of such an approach.

Gaps have been identified in the GRBV literature regarding rent appropriation, resource heterogeneity and the setting of resources in their external environment. In addition contributory factors have been established concerning resource identification and organisational scope. The first contributory factor will contribute to the gap in around resource bundles and be utilised in the research methods chapter to fully establish the gap in this aspect of the literature. The second contributory factor will be used to support a gap which will be established in the DRBV literarture.

2.22 Diversification Resource Based View (DRBV)

Product diversification by definition may require an organisation to acquire/develop and manage a wider range of resources to deliver its wider range of products. The DRBV section of the literature review will draw on aspects of the GRBV section and identify gaps and, as such, form an integral part of the conceptual development.

For the purposes of this thesis, the DRBV literature is defined as literature, which examines the role of relatedness in related or unrelated diversification and refers to resources. For example used in central skills or competences between the company's original market(s) and the market(s) it has diversified into (Rumelt, 1974). This broad approach is superior to a narrower approach because the later would have resulted in only looking at the literature which explicitly defined resources using RBV concepts and would have ignored the early diversification literature. This section also draws on relevant merger and acquisition resource literature and that of alliances to augment the extant relevant explicit product diversification literature. This is justified as some mergers and acquisitions and some alliances result in product diversification and accordingly this extra somewhat disparate material strengthens the literature review. The early diversification literature focuses on the success or failure of related and unrelated diversification, and produces a stream of empirical work, which is highly relevant to the application of RBV to product diversification.

RBV has been identified as having an important role in diversification, 'diversification studies may arguably be where the resource based approach has the greatest impact', (Foss, 1997, p. 11). Foss (1997a) argued that the resource based perspective is the dominant perspective in diversification. For example, RBV might motivate and direct the acquisition process (Hitt, Harrison, Ireland and Best, 1998). More detail on the relationship comes from Bergh (2001) who lists six ways RBV can be applied to diversification: i) explaining the limits of growth of the firm RBV (Wernerfelt, 1989), ii) the use of

excess capacity as a reason for diversification (Penrose, 1959), iii) predicting the direction of diversification (Chaterjee and Wernerfelt, 1991; and, Montgomery and Hariharan, 1991), iv) explaining the relationship between performance and types of diversification (Montgomery and Wernerfelt,1988; and, Wernerfelt and Montgomery,1988), v) insights into portfolio level relationships and their impact upon financial performance, for example, examining how such linkages can be used to explain financial performance (Robins and Wiersema, 1995) and finally, vi) RBV may facilitate an understanding of the management of diversification strategy [in particular how resources combine and change] (Markides and Williamson,1996). Whilst important work has been undertaken in this area there is more to do. For example, Angwin (2004) argued that there is no RBV theory of diversification. Moreover, the literature on the role of RBV in diversification does not differentiate between geographical and product diversification. This is because all of the aspects covered above are relevant to product diversification (Bergh, 2001).

The full range of DRBV literature has five distinct and somewhat disparate streams:

1) Types of diversification
2) Empirical testing of the financial performance of unrelated and related diversification.
3) The development of new concepts for diversification, which examine reasons for diversification, direction, shared resources, economies of scale, scope and synergy, slack resources, resource change.
4) The development of new concepts in RBV, which are specifically relevant to product diversification, resource similarity and difference.
5) The application of a limited number of aspects of GRBV, including external aspects, to diversification.

These five streams will be combined with resource heterogeneity, rent appropriation, external environment, resource ranking and boundaries from GRBV to develop the conceptual model.

2.22.1 Types of Diversification

The terms related and unrelated diversification are well established in the literature. In his seminal work Rumelt (1974) used two classifications for related diversification, based on skills: i) related constrained – 'firms that have diversified chiefly by relating new businesses to a specific central skill or resource' (p.32) and ii) related linked - were 'firms that have diversified chiefly by relating new businesses to some strength or skill already possessed, but not always the same strength or skill.' (p.32). He used the concept of core skills to subjectively identify related and unrelated diversification and found, using a multi industry quantitative study, that diversification restricted to central skills was the most successful and resulted in higher profits and growth.

Following Montgomery's (1982) in Stimpert and Duhaime (1997) finding of a high correlation between SIC codes and Rumelt's classification, SIC codes have been heavily used as a product based proxy to measure shared skills/relatedness in preference to Rumelt's subjective classifications. Jacobides and Winter (2005) agreed with this approach and explained that SIC codes are allocated to industries based on their products. Peteraf (1993) and Dosi, Teece and Winter (1990) (in Peteraf, 1993), found further evidence for the use of products and argue that the degree of relatedness among products 'coherence' in business activities determines the scope of the firm. In turn the scope of the firm is determined by the speed of learning, breadth of path dependencies, degree of asset specialisation and the nature of selection environment.

From an RBV perspective the use of products to define relatedness can be defended by reference to Wernerfelt (1984) who argued that products and resources were different sides of the same coin. However, Markides and Williamson (1996) disagreed with this argument and advocated using strategic relatedness using strategic assets [resources]. Furthermore the preferred method of market relatedness (i.e. SIC code based work) is at the market or industry level, which cannot look at the way two businesses' underlying strategic assets are related (Markides and Williamson, 1996).

Moreover, the literature has examples showing the importance of resources and their independence from products. Citizen Watch Company Ltd claim their products including watches, PC printers, robots, small portable PCs and others have common advanced precision technologies which were developed from watch manufacturing (Markides and Williamson, 1996). A unnamed Wall Street analyst argued that Bordens should split its food and non food operations, but the President of packaging argued that a lot of packing is food wrap and that making packaging is not too different from making pasta (Ginsberg,1990).

Whilst there is a widely accepted argument for using products to assess the relatedness of diversification, products may not always be linked to underlying resources. Moreover, there is a limit to the range of activities (resources) an organisation can effectively manage (Prahalad and Bettis, 1986; and, Bettis and Prahalad, 1995), and resources can set organisational boundaries (Argyres, 1996). Given this possible divergence between products and resource diversification, strategy is arguably more multi facetted than Rumelt suggested (Bergh, 2001). Accordingly this thesis will use resources to assess the relatedness of diversification.

2.22.2 Diversification and Financial Performance

There is a major stream of work that examines the best type of diversification but the findings have been inconclusive. Researchers who found that related diversification performed better than unrelated diversification include (Rumelt, 1974 and 1982; Bettis, 1981; Palepu, 1985; Markides and Williamson, 1994 and 1996, in Chatterjee and Wernerfelt (1991); Varadarajan, 1986; Varadarajan and Ramanujam,1987; Jose, Nichols and Stevens,1986; Lubatkin and Rogers,1989; etc). For example, Robins and Wiersema (1995) found that more interrelated business portfolios out performed firms with lower portfolio relatedness. Some researchers found that unrelated diversification performed better than related diversification (in Chatterjee and Wernerfelt, 1991; Michel and Shaked, 1984; Rajagopalan and Harrigan,1986; Elgers and Clark,1980; and Chatterjee,1986). Others had inconclusive findings (in Karim and Mitchell, 2000; Lubatkin,1987; and Lubatkin and O'Neil,1998).

Nevertheless, this disagreement has focused attention on how to resolve the differing results. Some work has focused on the detail of the research methods and is discussed in detail in the research methods chapter. Other authors have looked for a different way of defining diversification using resources rather than products (Markides and Williamson, 1994 and 1996; and, Das and Teng, 2000), Karim and Mitchell (2000) explicitly use this difference of opinion as the starting point of their work on resource change in diversification.

Using the business performance results of differing types of product diversification (related and unrelated) and linking it with theory, Palich, Cardinal and Miller (2000) developed the concept of an inverted U shaped relationship between diversification and growth and profitability. Related diversification is argued to be more beneficial than no diversification and unrelated diversification, and they argue that the curvilinear model supports the benefits of sharing and bundling resources. Palich et al (2000) provide more detail, benefits are created in related diversification by sharing activities (Barney, 1997 and Porter, 1985) and through asset amortisation (Markides

and Williamson, 1994). They further argue, citing Grant and Jammine and Thomas (1988), and Markides (1992), that as diversification becomes more unrelated the benefits are increasing eroded by diversification costs.

There is, however, considerable disagreement in the empirical work in this area and this probably explains the low level of interest in the area. Nevertheless, using RBV in a fine grained industry study might help to resolve this disagreement.

Having considered the first two DRBV streams the literature now examines the third - the development of new concepts for diversification, which examine reasons for diversification, direction, shared resources, economies of scale, scope and synergy, slack resources, resource change.

2.22.3 The Strategic Direction of the Firm

Resources can also impact on the direction of diversification strategy (Bergh, 2001). A resource focus can help firms to decide on which resources diversification should be based and, thereby, can provide a direction [or path] for strategy (Wernerfelt, 1984; and, Teece, Pisano and Shuen, 1997). Specifically, organisations can enter new markets with new initiatives using existing skills, assets and systems (McGrath et al, 1995). RBV can also predict the probability of success and it has been argued that survival for a new entrant will be higher in a related business due to resource sharing between the parent and the new business (Chang and Singh, 1999). It can also influence the type of diversification. For example, new market diversification is easier than new product diversification because the former requires replication and the later requires creative combinations of resources or building new resources, suggesting that it is more challenging in resource terms (Mishina et al, 2004).

Different resources have different impacts on strategy. Physical resources, for example, are more restrictive than intangible resources (Chatterjee and Wernerfelt, 1991). This suggests a hierarchy of resource flexibility, which can impact upon strategic direction. Resource configuration can also be important and Harrison, Hitt and Ireland (1991) suggest matching firms at the same stage of the value stream i.e. either upstream or downstream, because they would have a similar dominant logic to resource allocation. The argument that resources can impact on the direction of diversification is a subset of the work in GRBV on path dependency.

The next section looks at how resources are combined in diversification and how combinations can be achieved. Moreover, by examining resource differences and similarities, this section provides a basis to consider some operationalisation issues.

2.22.4 Shared Resources

The rationale for a multi faceted firm (which by definition is likely to have diversified resources) is sharing strategic capabilities. The basic assumption here is that without sharing resources a firm would perform worse than the sum of its parts (Robins and Wiersema, 1995). This concept is common theme in a broad range of literature, for example, it is prominent in Rumelt's (1974) notion of central skills, which are shared across diversified firms. Similarly, Porter (1987) argues that profitability is dependant on the use of resources, which are shared and transferred to the new market, thereby, exploiting resources to 'best advantage'. It is also present in the RBV literature and Chang and Singh (1999) argue that resource sharing between the parent and newly entered business increases the chances of survival. Markides and Williamson (1996), Peteraf and Berger (2003) and Das and Teng (2000), similarly, premise their work on sharing resources.

This literature base, however, lacks detail because although it suggests that sharing can be beneficial it lacks specific detail on how the sharing can take place. For example, it does not inform us as to which resources should be shared.

2.22.5 Economies of Scale, Scope and Synergy

According to Harrison, Hitt and Ireland (1991) synergy comes from economies of scale, scope and skills transfer. The RBV diversification literature accordingly draws on the economic concepts of economies of scale, scope and synergy. Johnson and Thomas (1987) in a rare single industry study found that a focused but limited strategy was successful in the UK brewing industry and suggested that the limited strategy was due to a balance between economies of scope and diseconomies of scale. Nayyar (1993) similarly, combines economies of scope and resources and argued that service firms seek diversification benefits from economies of scope. Rumelt (1982) likewise argued that appropriate levels of product diversity are arrived at by balancing economies of scope, diseconomies of organisational scale, and synergy.

The main body of work in this area, however, focuses on synergy, Chatterjee (1992) posits that synergy from physical resource consolidation or restructuring provides value in takeovers. Synergy is more probable in related diversification with common or very similar products and possibly resources, also unrelated diversification is more restricted, and relies more on financial synergy (Hitt et al, 2001a). Details on the range and types of synergy are provided by Chatterjee (1986) and Lubatkin (1983) in Chatterjee and Wernerfelt (1991). These authors contend that there are three types of synergy: conventional synergy; collusive synergy; and, operating or physical synergy. However, because they do not examine intangible resources, there could be more types of synergy (see Larson and Finklestein, 1999).

Turning to why synergy is beneficial, King, et al (2004) and Zahira and George (2002) suggest that work has looked too much at synergy rather than the specific determinants. Consequently, King et al (2004) citing Harrison et al, 2001 argue for parenting and complementary resources. Similarly, Hitt, Harrison, Ireland and Best (1998) study found that seven of their twelve best performing acquisitions focused on their core business.

Synergy forms part of the DRBV literature and can take a variety of forms. It can create positive benefits for an organisation through economies of scale and scope but it is not without risk because it implies some from of resource transfer and possible change.

2.22.6 Resource Driver and Limiter for Diversification - Slack Resources

The earlier literature identifies slack resources as a catalyst for diversification (Villalonga and McGahan, 2005, citing Teece, 1982; and Penrose,1959). Specifically, Penrose (1959) in Kor and Mahoney (2000) argued that unused resources and excess capacity are an important driver of diversification but they can also be a limiting factor. For example, if a firm expanded more quickly than the experience gained, then a period of stagnation may follow (Penrose, 1997). Mishina et al (2004) echoes and extends Penrose's argument. They concede that although diversification can reduce inefficiencies, taxing resources beyond their capacity can also cause a slow down in growth. However, overextension is not necessarily negative and Itami and Roehl (1987) claim that it can create invisible assets which can be used elsewhere.

Penrose and Mishina are also supported by empirical work. For example, Chatterjee and Wernerfelt's (1991) largely quantitative multi industry study found that excess resources can influence diversification. Specifically, if it is influenced by excess physical resources, most knowledge based resources

and/or external finance; it can lead to related diversification. In contrast they found that internal finance leads to more external diversification. Lovelock (1992) also quotes slack resources (specifically, excess back office capacity) as one reasons for the acquisition of Lehman Brothers by Shearson American Express. In essence, therefore, slack resources can act as both a driver and a limiter for diversification.

2.22.7 Resource Change

The chapter has already established (in the GRBV section), that resources develop and change and this section examines resource change in product diversification.

DRBV argues that slack resources need to be shared to create synergy for successful product diversification. The next stage is to understand the nature of resource change and the requirements of this strategy. In this respect, the literature focuses on the end result of resource change and how resources change.

Karim and Mitchell (2000) argue that there are two types of resource change. In the first instance, resources change because of acquisitions, which lead to resource deepening, i.e. “retention of product lines that overlap with current product lines” (p. 1066). Such a strategy would be looking for economies of scale and is conducive to a none diversification acquisition. Another reason for resource change emanates from resource extension, i.e. “retaining product lines that are distinct from a firm’s current product lines” (p. 1066). This strategy would result in product diversification and economies of scope (rather than scale). Resources and resource changes that accrue from acquisitions may also lead to new opportunities. For example, Karim and Mitchell (2000) hypothesised that organisations which acquire others change more than those that do not. There is also an implicit assumption in this argument that such organisations are adept at managing product diversification. Similarly,

Argyres (1996b) argued that related diversification is commensurate with capability broadening and that unrelated diversification should focus on capability deepening.

How resources change in diversification is also addressed by Markides and Williamson (1994). Markides and Williamson (1994) argued that competitive advantage comes from two sources: firstly, the need to look at strategic assets, i.e. resources; and secondly assets change because of their inherent dynamism. Furthermore they argue that the analysis of assets needs to go beyond static short-term economies of scope and consider the future creation and accumulation of strategic assets by: i) economies of scope (asset amortisation), ii) asset improvement, iii) asset creation, and iv) asset fission (new skills learnt from the diversification, which are used to improve existing assets). The last three items are particularly important and suggest a higher level of resource change during the diversification process, this implies that these changes could be linked related diversification which has economies of scope and Karim and Mitchell's (2000) resource extension.

There is some work on diversification in services, which examines specific resources and claims that some resources may be difficult to mix. For example, in Nayyar Norman (1984) argue that there are dangers in related diversifications, especially, when mixing management systems in service companies. Under these circumstances, something of value could be destroyed and also in Nayyar (1993) Caran and Languard (1980) have similarly argued that overusing image and delivery systems can be problematic.

In essence, this part of the literature examines how resources change and argues that change in related diversification is more challenging than other types of change. The literature also examines the end results of change and suggests that the greater the change the more likely an organisation is to successfully manage future change. It is likely that the resulting resource change would produce further resource heterogeneity in organisations which follow a strategy of product diversification, this will become a contriburory

factor to a resource gap. However, there is no explanation of how similar resources need to be to changed effectively and the impact of levels of similarity on business performance.

2.22.8 Digestibility

Hennart and Reddy (1997) when examining acquisitions in joint ventures introduced the concept of digestibility - the ability to digest assets (this is a function of the size and cost of organisations Hennart (1988) in Hennart and Reddy (1997). Hennart and Reddy (1997) focus on human resources and the ability of organisations to combine resources following an acquisition strategy. This suggests that resource indigestibility is essentially concerned with resource difference and this could emanate from resource specificity, resource stickiness or resource heterogeneity. This approach provides a theoretical way of examining differences issues in diversification, however, it does not provide a means of measuring the extent of indigestibility or when resources become indigestible.

2.22.9 Resource Similarity and Difference in Diversification

The next stage of the review is to examine how close resources should be effectively shared. This involves assessing the level of resource difference/similarity and making an assessment of their impact on diversification. Several writers have developed concepts which facilitate the assessment of resources.

Peteraf and Bergen (2003) use formal RBV theory and consider the external environment in order to help identify resources used. Potential competitors (indirect and direct competitors) can be identified by product similarities, and then an assessment is made of their resources and capabilities. Nevertheless, Peteraf and Bergen agree with Markides and Williamson (1994)

that internal considerations are more important than the external environment when assessing the similarity of firms.

Peteraf and Bergen (2003) accordingly produce a conceptual two dimensional matrix on competitor identification. This matrix combines external market conditions with capability equivalence, to assess the strength of potential competitors. The matrix can also be used to identify which markets to diversify into. The most attractive markets would be those that have the closest customer needs and capability equivalence to the diversifying company. The linking of internal and external environments supports the wider definition of resources used in this thesis but Peteraf and Bergen do not operationalise their matrix. Unfortunately, once again, this leaves open the question of how to measure the level of similarity in resources.

Teece (1986) introduces the different concept of resource complementarity. However, apart from arguing that mutual dependence is an important prerequisite for resource combination, he provides no real insight into the problem when applied to diversification. Larson and Finklestein (1999) provide more detail on complementarity and argued that it was ostensibly concerned with ‘economies of fitness’. Accordingly, they identified two types of synergy, one being based on similarities and the other on complementarities. Hitt, Ireland and Harrison (2001a) subsequently argued that complementary resources exist when the resources of the acquiring firm and the target firms are different but are mutually supportive [related diversification]. In contrast, Peteraf and Bergen’s (2003) resource similarity is indicative of a significant overlap between the resources of the purchasing and purchased organisations. Complementary resources create opportunities for learning and the development of new capabilities, were as similar resources are more conducive to producing short term returns via economies of scale (Hitt et al, 2001a). They further develop the concept, by identifying the advantage of complementary resources, they are “are different but mutually supportive, thereby increasing the probability of achieving synergy” (p.9).

Grant (1987) in Grant (1988) highlights the need to measure resource dissimilarity and the risk from too great a level of dissimilarity in his single industry study. "Why did the six most diversified U.S. financial services corporations consistently under perform their more specialized competitors during the 1980s despite the presence of economies of scope in sales and distribution, research, information technology and advertising? The answer appears to lie in the strategic dissimilarities between different financial service businesses and the problems which operational relatedness created for corporate management in terms of managing coordination, inhibiting divisional autonomy, and weakening cost controls" (pp. 641-2). This work introduces the dangers of dissimilarity, in aspects of organisations which fit with the definition of resources used in this thesis. Accordingly the range of resources from similar to complementary is extended by Grant (1987) to include dissimilarity in resources.

Although there is a dearth of academic literature in this area it does, nevertheless, establish the importance of resource sharing (see for example, Porter,1987; Markides and Williamson, 1996; and Chang and Singh,1999) and the benefits of synergy (Hitt et al,1998; and Chatterjee,1992), considerations that are at the very core of RBV diversification. There are three types of resource measures similarity and complementarity (Hitt et al, 2001a; Larson and Finklestein, 1999 and Teece, 1896), and dissimilarity (Grant, 1987) However, Stimpert and Duhaime (1997) argue that the extant literature does not take fully take into account the complexity of relatedness (they cite Hoskisson and Hitt, 1990; and Ramanujam and Varadarajan, 1989). The existing measures of relatedness could, therefore, easily fail to capture the relatedness that managers perceive and attempt to exploit.

This discussion has through combining more than one source established a continuum of resource similarity and difference, as far as the author can ascertain this is the first time this been done in a DRBV study, consequently this is a gap in the literature.

Prior to specifying the gaps in the literature and developing the conceptual model, the literature review now moves onto the final DRBV stream examining the application of a limited number of aspects of GRBV, including resource identification and external aspects to DRBV. This will enable the GRBV gaps to be assessed in the DRBV context allowing an assessment of their existence in this different context.

2.22.10 Identification of Resources

The problem of resource identification in diversification has been looked at by some RBV researchers.

Wernerfelt (1984), for example, points out the difficulty in investigating the resources of target firms. He argues that this is an important consideration because it is necessary to assess what resources the target firm has, and make an assessment of their usefulness and determine their costs and a realistic purchase price. Likewise, Barney's (1986) internal analysis helps to identify synergies in acquisitions. The alternative is to rely on publicly available information but this may not be sufficiently detailed to reveal synergies and typically results in at best, only normal returns from acquisitions.

Knowledge of the current business is also important (Mahoney and Pandian, 1995; and, Montgomery and Harihan, 1991). The resource profile of the diversifying firm is crucial in predicting the resource character of the acquired firm. Nayyar (1990) agrees with this assessment, and discusses the importance of asymmetric information, which can lead to problems in assessing the acquired firm. Similarly Reuer and Kozar (2000) look at information asymmetry in evaluating joint ventures or acquisitions. Specifically, they examine routines and culture and argue that these considerations should be taken into account prior to any decision being made.

Coff (2002) goes further and links differences with implementation when identifying problems with price and human capital expertise in acquisitions. He found that the greater the difference in expertise relatedness between buyer and target firms, the greater the problems with information hazards and so the greater the price risk and the lower the level of integration post acquisition. Coff (2002) provides more underpinning for Palich et al's (2000) inverted U shape. Palich et al (2000) argue that unrelated diversification is more problematic than related diversification. It, therefore, follows that if management believe that diversification is related when making the strategic decision but then subsequently discover that the resource differences are too different to be a related diversification, this will compound the problem of integration.

There are clearly a number of problems associated with the internal analysis of an organisation (see earlier section on GRBV) but the problems associated with analysing those of another organisation are far greater. Nevertheless, the diversification literature emphasises the importance of the identification of in another organisation target resources and this poses a major problem with the analysis of diversification. This section confirms the relevance of resource identification to DRBV and does not close the contributory factor identified in GRBV resource identification. In addition the operationalisation aspect of resource identification will be discussed further in the research methods chapter.

2.22.11 Application to Diversification of Other Relevant Aspects of RBV

Other aspects of GRBV have been briefly used in the diversification literature; this section is confined to those which are directly related to the development of the conceptual model.

Resource heterogeneity and path dependency, Klepper and Simons (2000) in work which ranges beyong RBV combine heterogeneity and path dependency, “it is surprising how little industrial economists and strategists know about were entrants come from and how their backgrounds affect their fates” (pp.997-8) and “about what effect, if any, heterogeneity among entrants has on the nature of competition and the market structure of industries” (p.997) They further ague that incremental expansion should be easier by internal development, but it is more difficult to internally develop path breaking expansion which could happen through acquisition. This does not fill the GRBV gap of no detailed on resource heterogeneity or rent appropriation.

External environment, Markides (1997) argues that firms when diversifying need to consider their new market. Bergen and Peteraf (2003) set resources in their competitive context. There is very limited work with nothing on differences in the external environment as firm’s institute a strategy of product diversification.

Path dependency, paths can act as a restriction to development, in Peteraf (1993) Dosi, Teece and Winter (1990) argue that the degree of relatedness among products 'coherence' in business activities and the scope of the firm is restricted by several factors including breadth of path dependencies.

As relatedness is an important part of the debate, bounded rationality is likely to prevent management exploiting and perceiving many possible sources of relatedness Simon (1957) in Stimpert and Duhaime (1997).

This section illustrates the paucity of wider DRBV literature and indicates gaps in the work on DRBV when it addresses rent appropriation, resource heterogeneity and the external environment. Futhermore the DRBV literature confirms the relevance of two of the three GRBV organsitional scope features – bounded rationality and path dependedency.

There is wider product diversification literature which considers aspects other than resources. It is useful to very briefly consider this as it enables DRBV to

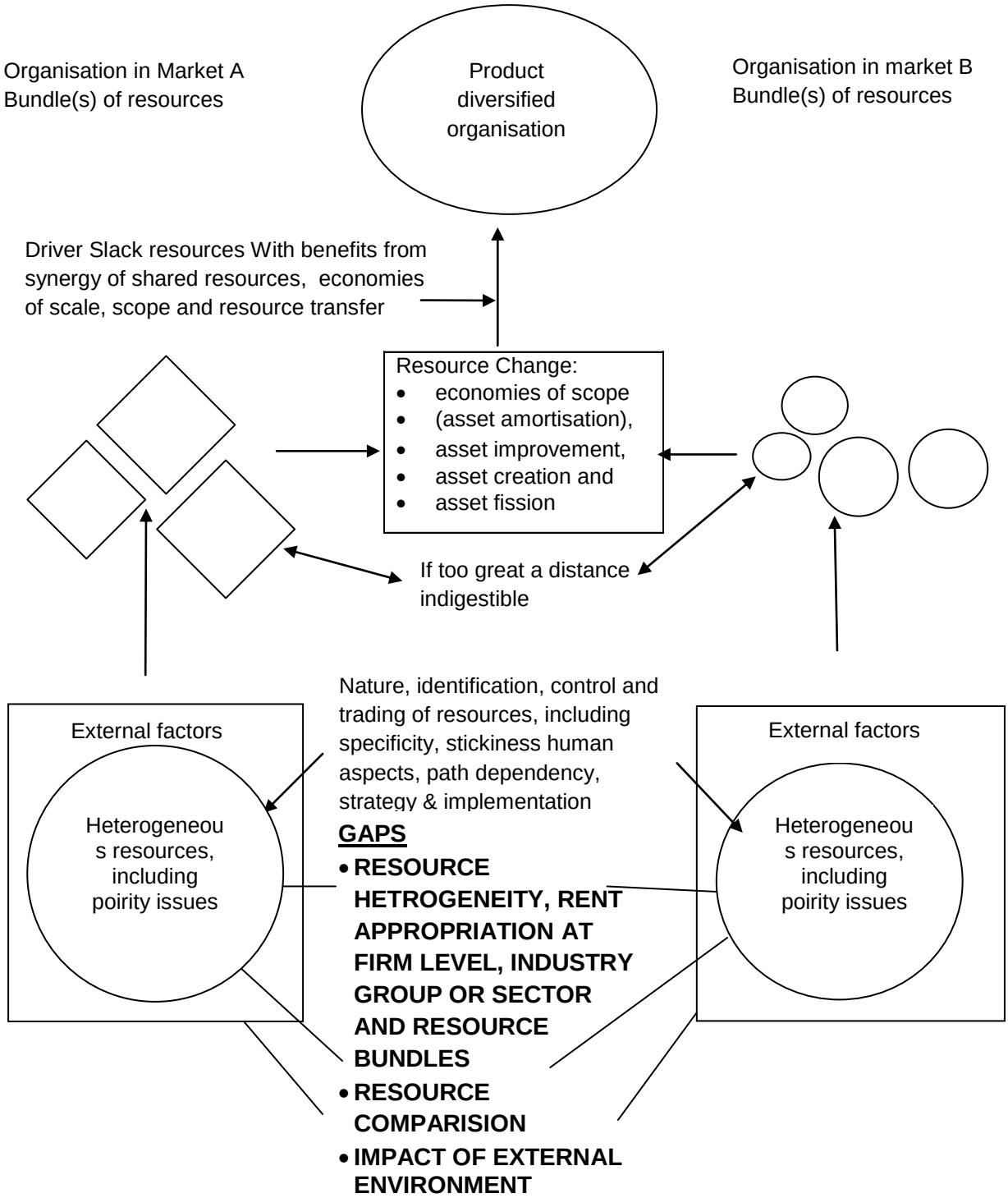
be seen as part of a wider literature in the area, which provides a wider context beyond resources which will be expedient when concluding the thesis. The breadth of the product diversification literature is demonstrated in an example based article in which Markides (1997) identified the following six considerations and used financial analysis to identify strong diversification opportunities: current strengths; assets needed in new markets; an ability to develop assets to overtake competitors; inherent dangers in breaking up assets, which work well together; the need to have sustained advantage in a new market; and an ability to learn from diversification.

In summary the sections on resource similarity and differences in diversification have highlighted, the relevance of resource identification and control; why diversifications can be problematic; the acquiring firm's strategy and what is indicative of best practice. This sets the review in context and enables the breadth and range of work available to be critically examined.

Figure 2.5 outlines a conceptual map of DRBV literature highlighting gaps in the DRBV literature. It provides a visual representation of the DRBV literature and sets out that two markets will have organisations which are composed of differing bundles, have heterogeneous resources with priority issues which are set in external environments. Diversification from one to the other is driven by slack resources with benefits from the synergy of shared resources, economies of scale, scope and resource transfer. Such diversification involves resource change and can become too indigestible if there is too great a resource distance between the markets. The issues of nature, identification, control, resource trading, stickiness, human aspects, path dependency, stratergy and implmentation are still present, in this case in a different context affecting two organisations on two markets. Interestingly GRBV gaps are still present in resource heterogeneity and rent appropriation industry group and sector, bundles, and the impact of external environment. In addition there is further gap focusing on resource comparison – similarity and importance.

Figure 2.4 DRBV Conceptual Map with Gaps

Model for simplicity shows product diversification into one market



2.23 Providers of Banking Services

There is a dearth of RBV literature on the providers of banking services. Nevertheless, this section is useful in order to evaluate the RBV work on banking and ensure that this research is not replicating existing work

2.23.1 The GRBV Literature

Levinthal and Myatt (1994) researched US Mutual Funds and examined the emergence of distinctive capabilities and developed a framework for positive feedback of market activity based on organisational factors. Mehra (1996) examined resource combinations and market based determinants of performance in the US banking industry. Mehra went on to categories banks into market based and RBV groups but there is no adequate explanation of how the banks were placed in the groups. Makdok and Walker (2000) examined the interest rate forecasting competence of US Money Market Mutual Fund and Barnett et al (1994) examined the impact of change on core competences in retail banks in Illinois.

There is also a body of work on the human resources (HR) aspects of RBV. For example, Larson and Finklestein (1999) cite Buono et al (1985) who lookes at HR issues in US bank mergers and acquisitions. Coff (1997) focuses on a US securities brokerage firm and compares this with three other different types of industry, to illustrate different HR strategies. In particular, he argued that the tendency for staff to take clients with them when moving to competitor organisations constituted a particular problem in securities brokerage firms. Coff also found that personal relationships and a favourable work environment were very important when considering the retention of staff and clients as were commissions and the impact of senior staff on major decisions.

2.23.2 The DRBV Literature

Batiz-Lazo and Wood (2001) researched European and Mexican banks and focused on the factors influencing strategic decisions. They found that factors other than core capabilities were still by far the most important for UK banks when considering diversification. In particular, the opportunity to grow the business via diversification was an important consideration. Jacobidies and Winter (2005) focused on industry scope rather than product diversification and argued that banks and insurers are essentially information processors, data handlers, risk pricers etc. and could, therefore, potentially diversify into different industrial sectors. They further argued that the crucial factor for banks is how generic is information processing, data handling call centre and customer relations management, etc. This is an important consideration because it introduces the potential for banks to outsource and use specialist providers for quite fundamental aspects of their business. Conversely, banks could become specialists themselves and diversify horizontally.

There is some work on diversification by UK providers of banking services. This work, however, is not explicitly RBV but includes internal analysis. For example, Ingram and Thompson (1994) examined the choice between wholly owned verses collaborative ventures in UK building society diversification. However, they did not undertake a resource comparison and, therefore, it was not taken into account as a possible explanatory factor in determining the success of diversification. Rather, the variables they selected were branching, HQ staffing, advertising, size, reserves, profitability, risk, fixed costs, FSA regulation and a range of binary product variables for new products.

Also, Grant (1992) looked at diversification in U.S. financial services, his main focus was on the success of the diversification, which he analysed primarily by examining corporate goals and their method of implementation, rather than differences in key resources which he only briefly mentions. He found the six most diversified U.S. financial services corporations consistently underperformed their more specialized competitors he believed due to strategic dissimilarities problems which operational relatedness. Farjoun

(1994) included banking, savings and loans and life insurance as a resource related group in his multi industry quantitative study of human expertise in diversification.

Somewhat significantly, the researcher has not been able to find any RBV diversification literature based on the providers of UK commercial and investment banking services.

2.24 A Summary of the Main Streams of Thought in the DRBV Literature

In general the DRBV work in contrast with GRBV has focused as much on testing as conceptual development. Accordingly, DRBV work can be divided into five somewhat disparate streams:

i) Types of diversification-this body of literature identifies the differences between related and unrelated diversification and examines the role of resources in analysing diversification. In this respect, the role of resources appears to have increased and the role of products decreased over the past two decades or so.

ii) There is a body of literature that examines the relative success of related and unrelated diversification. This work is predominantly empirical with very little conceptual work, it is influenced by relevant the finance and economics literature. As there has been disagreement on the findings there has been no positive conclusions emanating from this work. However, on balance it does support related diversification and has resulted in calls for a new approach.

iii) A third body of literature is largely conceptual RBV work and focuses on why firms diversify and how this could create value. An assessment is then made on the impact of diversification on resource change and how to measure relatedness.

iv) There is limited conceptual work, which draws on the GRBV literature and incorporates some non diversification work on mergers and acquisitions, and alliances. This body of literature looks at resource similarities and differences. The sharing of complimentary resources can be aligned to related diversification and the resource continuum is extended to incorporate resource dissimilarity.

v) A small body of literature typically applies either one or a limited number of aspects of GRBV to diversification. It confirms gaps in resource heterogeneity, rent appropriation and external environment. The literature emphasises the identification of resources but there is a weakness in the empirical testing of diversification because of the difficulties associated with resource identification.

Accordingly this section of the literature review is somewhat disparate as it draws together several distinct literature streams.

2.25 Gaps, Conceptual Model and Research Questions

Having reviewed the extant literature this section outlines the gaps and contributing factors to gaps established in the literature, it then utilises these and the literature to develop a conceptual model and finally sets out the Research Questions which will be used to test the model and mitigate the gaps. This approach is visually represented in Figure 2.1 at the beginning of the chapter

2.25.1 Gaps in the GRBV Literature

In addition to summarising the gaps found in the GRBV literature this section also examines whether they exist in the DRBV literature and are gaps that can be employed in this thesis:

Resource heterogeneity is an assumption of RBV (see for example, Barney, 1991; Lippman and Rumelt, 1982; Collis, 1994, Hoopes et al, 2003; Dutta et al, 2005 and Peteraf and Barney, 2003). GRBV argues that resource heterogeneity can be identified as follows: i) intra firm at process level (eg Ray et al, 2004 and Ethiraj et al, 2005), ii) at inter firm level (eg Collis, 1991) and iii) industry level (SIFS) (Amit and Shoemaker, 1993). There is, however, very little work on resource heterogeneity at the DRBV level (eg Klepper and Simons, 2000). In short, there is no work on multiple resource heterogeneity for providers of banking services in GRBV and the DRBV literature does not fill this gap.

Rent appropriation is an aspect of resource heterogeneity in the literature. The argument in the GRBV literature typically postulated is that resources have different power (Coff, 1999 in Blyer and Coff, 2003) and, therefore, affect value in different ways. Rent appropriation can, therefore, be considered an integral part of resource heterogeneity. However, once again, there is no empirical work, which attempts to measure rent appropriation within the banking industry and the author could find no DRBV rent appropriation literature. Consequently there is a gap in the literature.

Resources are firmly set in the context of the external environment in GRBV. Academics typically examine this consideration either from a conceptual perspective (Wernerfelt, 1984; Barney,1991; Grant, 1991; Peteraf, 1993; Collis & Montgomery, 1995; Mehra,1996; Peteraf and Barney, 2003; and, Knott,2002) or from an empirical perspective, (Afuah, 2002; Skaggs and Youndt, 2004; Javidan, 1998; Rao, 1994; Barnett et al, 1994; Levinthal and Myatt,1994; and, Miller and Shamsie, 1996). There is limited DRBV work on in this area, though Markides (1997) and Peteraf and Bergen (2003) do set resources in their external environment. There is, however, no RBV work that has explicitly sought to identify all the external factors in banking.

The concepts of resource intangibility (eg Reed and DeFillipi, 1990), which is particularly prevalent in service industries (eg Kor and Lebleici, 2005), and causal ambiguity (eg King and Zeithaml, 2001) create challenges for resource identification. This challenge is also recognised in the DRBV literature which has the added aspect of examining resources in another market and possibly organisation (eg Wernerfelt, 1984 and Markides, 1997). It would be surprising if these issues did not also apply to bundled resources, which are identified in the GRBV literature as a source of value (eg Chang and Singh, 1999 citing, Penrose,1959; Wernerfelt, 1984; and Barney, 1986). Furthermore the author could find no DRBV literature on resource bundling. Accordingly as bundles are important in GRBV literature it would be interesting to examine their role in product diversification. Though as resource identification is an aspect of resource operationalisation there are a related research methods issues to be examined in the relevant chapter, before the gap can be fully identfied.

2.25.2 Gaps in the DRBV Literature

The literature review has already developed a resource similarity and difference continuum from the extant literature; the most closely related resources being similar, followed by complementary (see, for example Hitt et al, 2001) and finally dissimilar (Grant, 1987). Consequently there was a gap in the literature in this area and any research which uses this continuum is creating new knowledge.

2.25.3 Gaps in the Combined GRBV and DRBV Literature

An examination of the combined GRBV and DRBV literature reveals another gap:

The GRBV literature establishes inter-firm and intra-industry resource heterogeneity (eg Collis, 1991), for which Wernerfelt (1984), Barney (1991), Mahoney (1995) and Ethiraj et al (2005) outline a variety of explanatory factors. Furthermore, the DRBV literature outlines three states of resource difference; similar, complementary and dissimilar. Given the existence of a wide range of organisational resources (eg Grant, 1991) and the large number of factors which cause resource heterogeneity, it seems unlikely that the amount of resource heterogeneity and consequently difference experienced in a product diversification would be identical for each resource. This is particularly evident as resources change when firms undertake product diversification (eg Markides and Willamson, 1994). The author could find no literature which explores this and accordingly there is a gap in the literature on resource heterogeneity in individual product diversifications.

The gaps and their orgins are summarises in Figure 2.5.

Figure 2.5 Literature Origins of the Current Gaps

Gaps	Literature
Gap 1- Resource Heterogeneity and Rent Appropriation Gap 2- External Environment	Dominant GRBV augmented by DRBV
Gap 3- Level of Resource Similarity	DRBV requiring GRBV underpinning
Gap 4 – Level of individual resource difference	Combining GRBV and DRBV

Accordingly there are four gaps, the final gap is kept separate rather than integrated into gap one due to its differing origins.

The review of the extant literature will now be used to develop the conceptual model.

2.25.4 The Conceptual Model

The model itself, which is shown in Figure 2.8, was derived from the DRBV literature and supported by contextualised GRBV literature. It aims to provide a concept to fill the gaps already identified. To create the model aspects of the extant literature are combined and developed.

Palich et al's (2000) meta review argues that financial performance in diversification follows an inverted U shape. They found related out performed no diversification and unrelated. However, the literature review has identified negative aspects derived from unrelated diversification. Dissimilar resources can create issues in managing operational relatedness (Grant, 1987 cited in Grant, 1988). There are also increasing costs to diversification as it becomes more unrelated (Palich et al, 2000, citing Grant and Jammine and Thomas, 1988, and Markides, 1992). These could result in unrelated diversification having negative financial performance. Consequently Palich et al's (2000) inverted U shaped curve could be considered too optimistic and an inverted J curve might be more accurate.

Such a curve would start with similar resources conceivably involving very limited diversification and some potential benefit. Related diversfication should result in enhanced performance dervived from complementary resources. Unrelated diversifaction is expected to create increased risk from dissimilar resources, which cannot be combined and result in a significant decline in performance. This newly developed resource and performance continuum can be combined with the existing literature, in this case the GRBV literature on the scope of an organisation. For unrelated diversification the organisation goes beyond its boundaries (Argyres, 1996) and dominant logic (Prahalad and Bettis, 1986; and Bettis and Prahalad, 1995) and could be

difficult to manage due to bounded rationality (eg Amit and Shoemaker, 1993). Furthermore this influences successful product diversification through path dependency caused by the organisation's existing resources (eg Teece et al, 1997). Moreover, due to the problems associated with resource identification caused by intangibility (see for example, Reed and DeFillipi, 1990) and causal ambiguity (see for example, King and Zeithaml, 2001), this negative impact on performance could happen unintentionally. This could be the case were a firm believed it had followed a strategy of related product diversification but because of the problems associated with resource identification it was inadvertently following an unrelated strategy.

Consequently the organisational boundaries, as dictated by financial performance, are expected to encompass resource similarity and complementary resources. Organisations outside the boundary are expected to have dissimilar resources and experience negative performance as a result of their diversification strategy.

It follows that if resources need setting in their environment, then environments must differ. Any differing external environmental factors could similarly complicate the management of product diversification.

The model relies on the existence of a pattern of resource heterogeneity. Without this assumption, random patterns of resource heterogeneity or resource homogeneity would make any meaningful analysis of resource similarity and product diversification impossible. It also acknowledges that resources are combined into bundles to create value and that this value can be affected by rent appropriation. Furthermore, resource differences in product diversifications may not be uniform and vary in each product diversification.

Figure 2.6 New Concept DRBV Resource Matching – Similarity and Difference – Importance (Priority) – Environmental Setting and Business Performance in Product Diversification

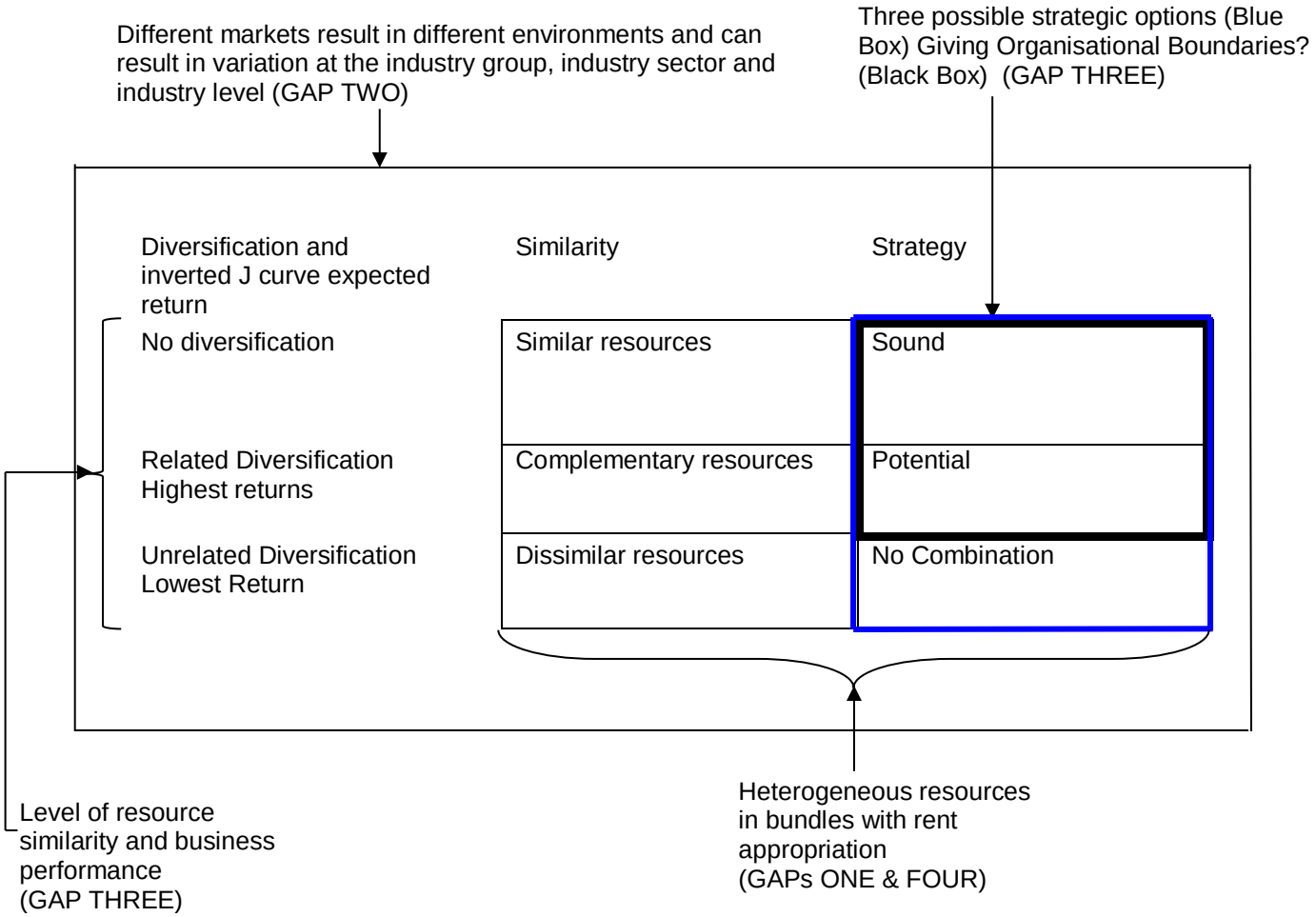


Figure 2.6 also links the conceptual model to the gaps in the literature, with the gaps shown in capital letters; Gap One identifies opportunities for research in resource heterogeneity, Gap Four for examining resource heterogeneity for specific product diversifications, Gap Two highlights aspects of the external setting which could be examined further, and likewise Gap Three for levels of resource similarity and performance, organisational boundaries and consequently possible strategic options.

The blue highlighted box in Figure 2.6 reveals that there are three types of diversification strategies. These categories, which are highlighted more succinctly in Figure 2.7 and are explained in more detail, as follows:

Figure 2.7 Conceptual Model – Diversification Types

	Same Resource Priority
No diversification similar resources	Sound
Related Diversification Complementary resources	Potential
Unrelated Diversification Dissimilar resources	No Combination

- Sound

No diversification/similar resources/similar external environment and same resource priority: good resource fit low risk, low change and limited improvement in performance from similar resources, anticipating gains from economies of scale. There are no issues with managing differing resource priority.

- Potential

Related diversification/complementary resources, different external factors and same resource priority: this situation could also result in higher levels of resource change and higher returns but also higher levels of risk. These advantages and disadvantages stem from potentially higher returns from economies of scope but it also involves higher levels of resource change and managing resources in a different external setting

•No Combination

Unrelated diversification/dissimilar resources/different external environment and same resource priority: in this situation there is no suitable combination and there is a danger of moving out side dominant logic/ organisational boundaries. Under these circumstances there is a high risk of reduced returns. Not attempting to combine resources could, however, have a positive aspect because any attempt to combine resources would require additional investment.

2.25.5 Research Questions

Having identified gaps in the literature and established the conceptual model, it is now appropriate to specify the research questions which will enable the the conceptual model to be tested.

The four gaps outlined above resulted in the identification of four broad research themes and six associated research questions.

When framing the first two research questions which relate to heterogeneity it is useful to consider an aspect of the literature on resource heterogeneity. If similar products need similar resources (Wenerfelt, 1984) it is likely that resource heterogeneity will be lowest at industry group level (defined for the purposes of this thesis as a small sub set of the industry defined by product range akin to strategic groups) and highest at the industry sector level (defined for the purposes of this thesis as wider than the industry group and typically the combination of several industry groups), and some at industry level (SIFS). Furthermore and relevant to Gap Two, environments are also likely to differ at the industry, group and industry sector level.

Accordingly the gaps and research questions are:

- Gap 1 relates to resource heterogeneity, rent appropriation and resource identification (in resource bundles) and resulted in three research questions

RQ2 and its related theme has been posited in an attempt to examine resource heterogeneity at the industry sector and group level.

RQ1 applies the same logic to rent appropriation.

RQ3 attempts to ascertain whether an analysis of Chairman and CEO comments in the Annual Reports provide a better insight into resource bundling than those provided by resource proxies.

- Gap 2 relates to the external environment.

RQ4, accordingly, attempts to ascertain the affect that different business environments have on product diversification.

- Gap 3 relates to resource similarity and difference and financial performance in product diversification

RQ5 attempts to ascertain the importance of resources and determine the effect that resource differences have on business performance when undertaking a strategy of product diversification

- Gap 4 examines individual resource differences in product diversification

RQ6 this question draws upon the literature on resource heterogeneity and tries to find out whether resource differences are determined by and vary according to the individual resource

The gaps, with their research themes and resulting research questions are presented in Table 2.9 below.

Table 2.9 the Identification of Gaps Research Themes and Research Questions

Gap	Research Theme	Research Questions
Gap One Lack of work on firm level and industry group level resource heterogeneity in diversification, including rent appropriation and resource bundling	What level of firm and industry group level resource heterogeneity is there, including rent appropriation and resource bundling?	RQ1. Will there be greater differences in rent appropriation between the industry groups than within industry groups, and will there be even greater differences between industry sectors than within industry sectors (though the differences will not be uniform)?
		RQ2. Will there be greater resource heterogeneity between the industry groups than within industry groups, and will there be even greater differences between industry sectors than within industry sectors (though the differences will not be uniform)?
		RQ3. As resource identification is hindered by issues including intangibility, social complexity and causal ambiguity does this mean that additional

		analysis using Chairman's and CEOs comments from Annual Reports will provide a richer picture of resources and lead to the identification of resource bundles?
Gap Two Lack of empirical single industry work on the role of the external environment in product diversification as part of an RBV study	How different is the external environment for organisations which engage in product diversification? This would not be important if the external environment stayed the same in different industries, industry sectors and industry groups	RQ4. Are there differences in the external environment between different industry groups? (RBV argues firms should be set in their external context)
Gap Three a lack of research into resource comparison (level of similarity) to predict business performance in product diversification	How important is the concept of resource similarity and ranking to business performance?	RQ5. Will financial performance be an inverted J shape as the amount of resource difference between the current product range and planned product range increases?
Gap Four a lack of research into individual resource differences in product diversification	How much individual resource variation is there in product diversifications?	RQ6. To what extent will individual resource differences vary in product diversifications?

2.26 Conclusion

The chapter has critically reviewed the extant literature relating to the resource based view (RBV) of the firm. As such, it divided the literature into two broad sections: the “general” (GRBV) literature and the product diversification (DRBV) literature. The chapter also identified gaps in the literature which were used to identify associated research themes, which formed the basis for the formulation of the research questions and the construction of a conceptual model. The literature review was completed in 2006 subsequent developments in the literature can be found in Appendix One.

The next chapter (Chapter 3) introduces the reader to the structural changes that have impacted on the banking industry in the United Kingdom (U.K.) and as such they provide a useful context for better understanding product diversification in banks. This will be followed by the chapter on Research methods (Chapter 4), which will re-introduce the research questions and examine the methods for analysing the research findings.

Chapter Three:

The U.K. Banking Industry

3 CHAPTER THREE - THE U.K. BANKING INDUSTRY

Providers of Banking Services in the UK 1997-2004

This chapter examines the structure of the U.K. banking industry during the period 1997-2004. This period was chosen because the research commenced in 2005 and it also represented an era of unprecedented change. It also commences just prior to the introduction of the Euro in 1999 and with retrospect covers a period that is quite different to that witnessed in the aftermath of the banking crisis post 2008. Specifically, the chapter identifies the major trends within the industry and makes an assessment of their impact on corporate strategy. The chapter also examines the importance of product diversification in the strategy of providers of UK banking services. Industrial trends are not necessarily confined to discrete time periods in history and, therefore, the trends are not always limited to 1997-2004. As there is limited information on investment banking the main focus of this chapter is on the providers of retail banking services. However, the chapter will examine the reasons why retail banks diversified into investment banking.

3.1 Introduction

Providers of banking services made an important contribution to the United Kingdom's economy. This importance is encapsulated in Table 3.1.

Table 3.1 Contribution of Financial Intermediation to UK Economy (%)

Percentage of UK Total	1997	1998	1999	2000	2001	2002	2003	2004
Financial intermediation value added [x]	15.1	16.9	16.9	19.2	18.8	15.1	14.2	14.3
Employment [xx] Financial intermediation	4.3	4.2	4.3	4.2	4.3	4.3	4.2	4.2
Employment [xx] Financial intermediation except pension funds and insurance	2.5	2.4	2.5	2.4	2.4	2.5	2.4	2.2

(Source: ONS)

[x] Value added is GDP less subsidies and taxes and production, the closest disaggregated figure available from ONS.

[xx] Employee jobs – year end December

Figures for providers of banking services are not always available and are typically aggregated with other financial services providers

Table 3.1 shows that the role of financial intermediation, i.e. the collection of deposits from surplus sectors and lending to deficit sectors made a substantial contribution to the U.K.s value added (Gross Domestic Product less subsidies taxes and production) ranging from 14.2 percent in 2003 to 19.2 percent in 2001. In terms of employment, financial intermediation accounted for approximately 4 percent of total employment. This figure reduces to approximately 2.4 percent when pension funds and insurance companies are excluded. In addition the banking industry is a net exporter and in 2003 these net exports were estimated to have been worth £10.1bn (Pilbeam, 2005). This information serves to emphasise the importance of financial intermediation to the economy of the U.K. Moreover, this importance

is highlighted even further when account is taken of the fact that financial intermediation less pension funds and insurance also excludes investment type banking activities that typically generate fee income from placement services and arbitrage activities, etc. This importance partly explains why public authorities and central banks alike are reluctant to see banks fail.

3.2 Providers of Banking Services

The role of financial intermediaries, which includes those organisations providing banking services, is to transform short term deposits into medium and longer term loans. This function, which is referred to as maturity transformation, is inherently risky and has led some commentators to regard the business of banking as being predominately “risk management” (Heffernan, 2005). As such, it is concerned with screening the credit worthiness of customers, reducing problems associated with asymmetric information and moral hazard, diversifying and pooling portfolio risks, and having sufficient capital to meet unexpected losses (Buckle and Thompson, 2004).

Banks, can be divided into retail and wholesale financial services. The retail business is characterised by high volumes and low value transactions and serves personal customers and small businesses. In contrast wholesale business has lower transaction volumes but significantly higher values. These are aimed larger companies and organisations, and the charges for these services are typically negotiated on an individual basis (Buckle and Thompson, 2004 and Heffernan, 2005). The boundary between retail and wholesale business can often be blurred but normally business in excess of £250,000 for deposits and £500,000 for loans is regarded as wholesale business and anything below this level is regarded as retail (Buckle and Thompson, 2004). This blurring of the distinction between the two types of business is caused by the fact that banks typically conduct both retail and wholesale business. These so-called “commercial banks” means that they perform a wide range of banking related activities.

Another type of financial intermediary are the Building Societies. In contrast to commercial banks, which are joint stock or publically owned organisations, building societies are mutually owned, i.e. owned by their customers. As such, they are specialist financial institutions, which predominately take personal sector deposits and lend them for residential house purchase (adapted from Buckle and Thomson, 2004 and Heffernan, 2005).

Some banks also operate in the capital markets and those which do so are usually referred to as investment banks. They engage in underwriting, mergers and acquisitions, and actively trade in bonds and equities. They are also involved in proprietary fund management, consultancy/advisory and global custody services (Heffernan, 2005). Not all organisations, which engage in investment banking, offer all of these services and there are niche organisations which specialise in one or a limited number of activities (Buckle and Thompson, 2005 and Hall, 2007).

There are significant differences between the deposit taking, lending and money transmission services of commercial banks and the activities of investment banks. However, both types of business are principally concerned with liquidity management, i.e. the maintenance of the liquidity of the bank and the provision and maintenance of liquidity for customers. However, Heffernan (2005) has argued that even in the area of liquidity there are some fundamental differences. For example, investment banks are primarily concerned with the provision of liquidity for corporations were as retail banks provide liquidity for depositors. In addition, although both types of organisation have access to the inter bank markets, the principle source of liquidity for Investment banks are the financial markets were as retail banks predominately obtain their liquidity from retail deposits.

Heffernan (2005) argues that this difference perhaps makes the term bank as applied to both types of organisation something of a “misnomer”. In this respect, Heffernan prefers the term “broker dealer”, which is used in the United States by the National Association of Security Dealers for investment

banks and securities firms. Canals (1993) similarly argues that there is a difference between financial intermediaries, which transform deposits into profitable assets, i.e. banks, and those organisations that put savers and investors in contact with the financial markets, i.e. brokers. These differences also have implications for the risks faced by each type of organisation. Accordingly, Cleassens and KIingebiel (2001) argue that there are four different areas of banking risk: deposit taking risk, lending or credit risk, money transmission risk and a range of risks associated with investment banking.

Other institutions offering banking services in the UK include private banks i.e. banks who provide deposit taking, lending and money services to wealthy or high net worth individuals; sub prime lenders, i.e. organisations who lend to higher risk or customers with a poor credit rating; and, demutualised building societies, i.e. building societies, which have converted to joint stock banks and are typically referred to as “mortgage banks” (Howells and Bain, 2000) Some of the sub prime lenders do not hold a banking license but they are included because they do offer banking services.

In essence, organisations that provide banking services in the U.K. include the following:

- Commercial banks
- Investment banks
- Niche investment banking providers
- Building Societies
- Private banks
- Sub prime credit providers
- Mortgage banks

Not all banking organisations fit neatly into these discrete categories and as was mentioned above, the boundaries can be blurred. For example, some banks are active in several areas and are referred to as “universal banks”.

These universal banks offer a full range of financial services, which typically includes (Heffernan, 2005):

- Intermediation and liquidity via deposits and loans. As such, they are crucial to the efficient operation of the money transmission system.
- Trading of financial instruments (for example, bonds equities and currencies) and associated derivatives.
- Proprietary trading or arbitrage, i.e. trading on behalf of the bank itself, using its own trading book.
- Stock broking
- Corporate advisory services, including mergers and acquisitions.
- Investment and fund management services.
- Various types of insurance service.

A substantial number of universal banks are commercial banks and they accordingly, provide an even wider range of activities. This consideration raises the question of how wide a range of activities can a single banking organisation successfully manage and how far is it before a bank goes beyond its dominant logic. This consideration also has relevance for the post 2008 banking crisis and was raised by the Turner review (2009) and a major consideration behind Villier's (ICB, 2011) recommendations for separating retail and investment banking activities.

Another consideration is that because competition takes place at the sub market level, each requires its own business strategy and ,therefore, banking can be regarded as a collection of separate businesses (Llewellyn, 2006). As such, these wide ranging banks face extremely complex and quite different organisational challenges. For example, investment banks are typically structured by product, commercial banking activities by the size of the corporate client and retail a mixture of delivery channel, products and customer type (Morison, 1999, in Taylor and Morison, 1999).

Heffernan (2005) and Briault (2000) argue that financial conglomerates have several strands of discrete business activity:

- Intermediation and payments
- Insurance
- Securities/corporate finance
- Fund management
- Advising or selling investments to retail customers

This clearly encompasses the above exposition of universal banks and emphasises the point that modern day banking incorporates a wide range of activities that are sometimes difficult, if not impossible, to disentangle. The term “combined bank” will, therefore, be used to identify those organisations that are engaged in both investment and wholesale and retail banking.

In the light of this discussion, the list of organisations providing banking services in the UK during the period 1997-2004 can be expanded as follows:

- Commercial
- Building Societies
- Private
- Sub prime
- Mortgage banks
- Investment
- Niche investment
- Combined

3.3 Discernable Trends 1997-2004

This section identifies and analyses the impact of trends in the industry 1997-2004. As some of these trends are long term some of the discussion with look at events prior to1997. Trends have a tendency to impact on strategies and one possible strategic option is product diversification. In this respect,

firms have several objectives, namely, to generate economies of scope and/or retain customers who might be contemplating switching providers.

Gardner, Howcroft and Williams (1999) identified deregulation and technology (I.T.) as the principle causes of change in European retail banking. In examining the entire banking industry, Pilbeam (2005) similarly identified changes in IT and regulation; however, he also included globalisation and innovation. Morison (1999 a and b) in Taylor and Morison (1999) likewise identified changes in regulation, developments in new technology and globalisation as major drivers of change. This section will, therefore, review these causes of change and examine, in particular their impact on product diversification.

This research includes four U.S. based international investment banks (Goldman Sachs, Lehman Brothers, Merrill Lynch and Morgan Stanley) which operated in London during 1997-2004. This is because there are no exclusively owned U.K. owned investment banks operating in London that provide a comprehensive range of investment banking services. Rather, U.K. investment banks tend to provide a relatively narrow range of services and specialise in certain aspects of investment banking. Accordingly, they are referred to as “niche investment banks” in this study. Despite, the inclusion of these U.S. investment banks, this chapter will take an essentially U.K. perspective. However, many of the trends discussed below are universal and most of the changes and developments in the U.K. have been replicated elsewhere in financial markets throughout the World. Any differences tend to be largely reflecting political and cultural issues rather than substantive differences in the trends.

3.3.1 Regulation

Major changes in U.K. banking regulation can be summarised as follows:

- Changes to the Building Society regulations, in particular, the Building Society Acts (BSAs) of 1986 and 1997
- The so-called Big Bang 1986, which affected the City of London
- The introduction of the single market in financial services
- The development of Basle II, which was finally implemented in the U.K. in 2008.
- Creation of the FSA, as the single U.K. regulator in1997-
- The Cruickshank Report in 2000

In essence, the first three regulatory changes introduced some elements of deregulation, were as the last three introduced some form or advocated increase in regulation. Moreover, although the first two date from the mid 1980s and, therefore, pre-date the study by at least ten years, they still have major implications for the period in question.

Building Societies- Prior to the BSA (1986) Building Societies were overwhelmingly providers of residential mortgages, which were funded from personal retail deposits. The BSA (1986), however, removed some of the formal distinctions between banks and Building Societies (Howells and Bain: 2000). It changed the composition of the assets and liabilities that building societies were able to hold on balance sheets, and had important implications for their non balance sheet services and ownership.

Regarding the assets of Building Societies, the 1986 Act relaxed the restrictions on the amount and type of assets that they were able to offer. Accordingly, for societies with commercial assets, i.e. total assets, above £100m, three classes of assets were defined: class 1 assets -mortgages on owner occupied properties, which had to be a minimum 90 percent of commercial assets; class 2 assets - mortgages secured on property, such as,

housing associations and house builders property, which had to be no more than 10 percent of commercial assets; and, Class 3 assets- unsecured loans, ownership of land, investment in subsidiaries and associates, which could not exceed a maximum 5 percent of commercial assets. Subsequently, in 1988 and 1991, these regulations were relaxed and the maximum threshold for class 3 assets was raised to 7.5 percent (Howells and Bain, 2000).

There were also changes to permitted liabilities where the maximum percentage of wholesale funding increased from 20 percent in 1986 and then to 40 percent in 1988. This threshold was subsequently increased again to 50 percent in 1994. In 1987 Building Societies were also allowed to use currency swaps, which enabled them to raise wholesale funds in other currencies (Buckle and Thompson, 2005).

The range of Building Society non balance sheet services was also increased. However, arguably the most important of these changes was the ability to issue cheque guarantee cards, which enabled them to provide a full current account service. They were also allowed to provide advice and arrange insurance products, administer pension schemes and offer estate agency services (Howells and Bain, 2000).

Finally, Building Societies were able to change their ownership. This allowed them to demutualise and either merge with other organisations or retain their independence (Howells and Bain, 2000). Demutualisation effectively allowed Building Societies to convert into joint stock banks and have a public quotation on the London Stock Exchange (Howells and Bain, 2000 and Heffernan, 2005). As such, they were subsequently referred to as mortgage banks (Howells and Bain, 2000). In essence, the 1986 Act enabled Building Societies to be able to more closely imitate banks as providers of a wide range of financial services (Buckle and Thompson, 2004). From the perspective of this study, this was an important development because in some instances it involved significant product diversification.

The application of the Building Societies Act was optional and societies, therefore, had the choice as to whether they converted into joint stock banks or changed the nature of their business and become more like banks. In general, they did not make full use of the relaxation in funding regulations and by the early 1990s funding typically averaged around 80 percent retail and 20 percent wholesale (Buckle and Thompson, 2004). This was well below the thresholds permitted by the Act and the subsequent amendments. However, many Building Societies, such as, the Nationwide Building Society, did make use of the new powers and engaged in a strategy of product diversification by offering current accounts, personal loans and commercial lending. Others societies, such as, the Leek and Hinckley did not diversify and others partially diversified. The West Bromwich Building Society, for example, only diversified into commercial lending. This mixed response to the legislation created a spectrum of building societies, ranging from significant product diversification, partial diversification and no diversification.

There were also major changes in the ownership of Building Societies and the period 1995 to 2000 saw a series of major demutualisations, as follows: (Howells and Bain, 2000 unless otherwise stated)

- Alliance & Leicester demutualised in April 1997
- Bradford and Bingley demutualised in 2000 (BSA year book 2007-8).
- Northern Rock demutualised October in1997 (BSA year book 2007-8)

Joining Banks:

- Cheltenham and Gloucester merged with Lloyds Bank in1995
- National and Provincial joined Abbey in August 1996
- Bristol and West joined the Bank of Ireland in July 1997
- Birmingham Midshires joined the Halifax in March 1999
- The Halifax Building Society demutualised in June 1997 and in 2001 it merged with the Bank of Scotland to become HBOS (Heffernan: 2005)
- Woolwich demutualised in July 1997 and then subsequently joined Barclays Bank in October 2000 (Barclays Annual report 2000)

These changes constituted a major development in the Building Society sector, nine of the top ten building Societies had forfeited their mutual status by 2001 (Howells and Bain: 2000),and approximately sixty six percent of assets were effectively transferred out of the sector (Heffernan, 2005).

The reasons for converting into Public Limited Companies (PLCs) were wide ranging but they largely related to safeguarding competitiveness. Demutualisation allowed them to raise capital by issuing shares and this enabled them to expand and diversify into a wide range of services (product diversification) and compete more effectively with other players in the markets (Howells and Bain: 2000). In response to this wave of demutualisation, the Building Society Act (1997) attempted to make mutuality more attractive by increasing the range of activities that building societies could undertake (Heffernan, 2005). These included general and motor insurance and (Howells and Bain, 2000).significantly there have been no demutualisations since 1997.

The so-called 'Big Bang' of 1986 was a major deregulation, which changed the way the London Stock Exchange operated. Essentially, it was an attempt to improve the competitiveness of London (Pilbeam, 2005). In addition to changes in the fees charged for trading shares, the reforms also had a major impact on the structure of financial institutions. Broking and jobbing firms, for example, were allowed to merge and this resulted in the creation of market makers. Outside members were also permitted to wholly own member firms of the London Stock Exchange (Buckle and Thompson, 2004). Accordingly, the major UK commercial banks, with the exception of Lloyds Bank, bought brokers and jobbers and, thereby, became actively involved in investment banking (Heffernan, 2005). This development resulted in the following investment bank subsidiaries: Barclays - BZW, Natwest - County Natwest, Midland (now HSBC) - Midland Montagu and TSB (now Lloyds TSB) - TSB Hill Samuel. This resulted in the creation of a series of "combined banks" i.e. commercial and investment banks. Historically, these banks were commercial banks and, therefore, the emergence of these investment bank subsidiaries represented a major strategic change and one that had major implications for product diversification. Foreign banks were also part of this trend and Citi

Bank, for example, purchased Scrimigeour Vickers, Deutsche Bank acquired Morgan Grenfell, The Swiss Banking Corporation bought SG Warburg and Dresdner Bank purchased Kleinwort Benson (Heffernan, 2005).

The creation of the single European currency in1999 and subsequent moves towards a single European market, suggested that that there would be plethora of cross border consolidations. However, cultural and political differences have detracted from consolidation and the SME and personal banking customers markets throughout Europe have remained fragmented (Danthine, et al, 1999). Accordingly, there has been only one notable example of commercial bank consolidation in the U.K. with Santander taking over Abbey in 2004. However, this consolidation was motivated by geographic expansion reasons rather than product diversification considerations. Apart from the consolidation of these two commercial banks, that there has been no major investment bank consolidation in the U.K.

Other changes in regulation included the introduction of new capital adequacy standards by the so-called Basle II. Although outside the confines of this thesis, Basel II introduced a variety of ways of calculating capital adequacy (Heffernan, 2005) and, for the first time, in addition to credit and liquidity risk, focussed attention on market and operation risk (Banker December 1999). Another major change was the creation of a single UK regulator the Financial Services Authority in 1997 (Heffernan, 2005). These reforms, however, did not directly impact on product diversification and will not be analysed further.

The Cruickshank Report (2000) argued that UK banking produced excess profits of £3bn-£5bn mainly from small and medium sized enterprises [SMEs] and personal customers. It was concerned with competition in payments and SMEs, but reported that that personal banking did not need any further regulation. It recommended the establishment of a regulator for payments and that small business banking be referred to the Competition Commission. (Financial Times 21.03.2000). No major changes came about as a result of the report but an industry which is making excess profits is likely to attract new entrants.

Overall deregulation aimed to make the industry more efficient and innovative by creating competition and opening up the market(s) to new competitors (Morison, 1999, in Taylor and Morison, 1999b).

3.3.2 Information Technology

Technology has had a dramatic impact on the way banks conduct their business, (Pilbeam, 2005 and CSF,: 1997), however, its impact was expected to be greater in retail rather than wholesale/investment banking (CSFI, 1997). Morison (1999a) in Taylor and Morison (1999) argued that the impact of IT on banks was most pronounced in money transmission and in the collection of customer information. This impact was so great that Morison further argued that it changed the entire approach of banks to the conduct of their business.

A survey on internet banking in 1996, based on thirty seven top European banks (including UK banks), revealed that 78 percent planned to offer a full internet banking service in the next three years with the ability to open an account, obtain statement information and make payments, etc, and a further 70 percent of respondents were planning to offer an abridged service within the next twelve months (CSFI, 1997and Booz, Allen and Hamilton, 1996). Today all of the major retail banks provide a full internet banking service, which compliments traditional paper based and telephone banking services. In 2001, it was estimated that at least thirty three percent of all bank accounts were accessed through the telephone or internet and there were some 167million internet and 127 million telephone transactions (Buckle and Thompson, 2005 citing BBA 2001).

The impact of IT on providers of banking services can be divided into four categories: issues relating to cost and volume of business, changing the way business was conducted, changing customer behaviour and customer interface with the banks, and changing the structure of the industry.

Technology was attractive to the banks because it had the potential to reduce transaction costs (Batiz-Lazo and Wood, 2001a). Compared to traditional methods of banking, internet costs where significantly lower with a cost income ratio of 15-20 percent. This was some 35 – 40 percent less than the costs associated with conventional branch banking (Booz, Allen and Hamilton: 1996 in CSFI; 1997). However, these estimates did not take into account the high levels of capital investment associated with internet banking or the fact that for a prolonged periods of time internet (and telephone banking) and branch based baking would operate in tandem. In this respect the banks ran the risk of increasing the cost associated with delivering their services.

In investment banking IT reduced communications and order execution costs and increased the bank's ability to analyse the external environment (Pilbeam, 2005). The internet has also changed the nature of costs. Hitherto, investment banking relied predominately on having a physical presence and international offices located in financial centres throughout the world. The costs associated with this type of business were essentially fixed. However, in reducing the need for a physical presence throughout the world IT has to a large extent replaced fixed costs with variable costs (Pilbeam, 2005). Moreover, the IT has very low marginal costs but this should not detract from the fact that the initial set-up costs are massive (Economist, 8.7.2000). The low marginal costs associated with the IT are a major incentive for banks to maximise capacity. Somewhat fortuitously, IT [including the internet] is also extremely amenable to facilitating growth in volumes (Batiz-Lazo and Wood, 2001).

In changing the way the business of banking is conducted, commercial banking has been radically changed by the advent of ATMs and multi media kiosks (Howcroft, 2001), which reduced the number of cashiers and cheques (Pilbeam, 2005). IT has also changed the distribution of space in branches, with less space needed for processing (Medidan, Lewis and Moutinho, 1997; and Pilbeam, 2005). These changes facilitated the rationalisation of branch networks (Gardner, Howcroft and Williams, 1999), Accordingly, branch numbers in the U.K. fell by some 20 percent during the 1995-2003 period

(Howells and Bain, 2007). This trend of branch closure has continued unabated though to the present time. IT has also created non branch personal banking with virtual organisations existing exclusively via telephone and/or the internet. IT has similarly had a marked impact on the marketing of financial services and allowed the banks to generate extensive data bases and target customers more effectively (Gardner, Howcroft and Williams, 1999 and Pilbeam, 2005).

The anticipated impact on investment banking was initially not regarded as being quite so radical. This was largely due to concerns with security and the reliability of on line transactions. Accordingly, the impact was expected to be focused more on back office functions (CSFI, 1997). Nevertheless, IT has had a marked impact on investment banking through the development of off balance sheet services, especially, in the area of derivatives (Heffernan, 2005) and securitisation. In this respect, IT has facilitated the development of new products via an increased ability to calculate prices and manage risk. (in conversation Robinson,1992).

In the retail banking sector, IT has also increased customer empowerment by increasing their ability to shop around and get the best possible deals on financial products. However, the Turner Report (2009) raised concerns about transparency, which are clearly at odds with the notion of greater customer empowerment and higher levels of competition (see also Batiz-Lazo and Wood, 2001a). Regarding investment banking, the CSFI (1997) rightly anticipated that IT would facilitate greater access to credit information and, thereby, reduce information asymmetries.

The structure of the commercial banking industry has been substantially changed by the reduction of barriers to entry (Buckle and Thompson, 2004, Gardner, Howcroft and Williams, 1999; and, Howcroft, 2001). This change has been largely facilitated by electronic delivery channels, such as, telephone banking, cash machines and the internet. These developments have meant that it is no longer necessary to have an extensive branch network in order to compete in the retail banking industry. Somewhat

crucially, it also dispenses or greatly reduces, the massive front end investment cost associated with acquiring a branch network (Gardner, Howcroft and Williams, 1999; and Howcroft, 2001). In this respect, there have been a significant number of new entrants into retail banking, especially, from retail organisations.

To date the above discussion has extolled the advantages associated with IT. However, there are some disadvantages associated with it. For example the discussion has already alluded to the high levels of front end costs associated with electronic delivery channels. They are expensive and although they are typically refereed to as “virtual channels” they still have to be managed. Up to date information is difficult to obtain but it has been estimated that investment in IT accounted for about 15-20% of total bank cost in the mid 1990s (Medidan, Lewis, and Moutinho, 1997). A conservative estimate would strongly suggest that his level of investment has continued over the past ten years or so.

Despite this massive investment in technology it has not always been successful. For example, in investment banking, Taurus - a paperless trading platform was abandoned in 1995 at a cost of £400m. In addition, IT staff are generally expensive and so too is the cost of integrating different systems (Pilbeam, 2005). Security and reliability have also been ongoing issues (CSFI, 1997; and Pilbeam, 2005). Moreover, because all of the banks have introduced electronic delivery channels there is nothing distinctive about IT per se. Accordingly, there have been questions raised about the competitive benefit of IT (Pilbeam: 2005).

3.3.3 Levels of Competition: an Operational Response to it

The literature is inconclusive regarding change in competition in the commercial banking and building society industry sectors. Qualitative research argues for an increase in the levels of competition (see for example,

Howcroft and Hamilton, 1999; and Buckle and Thompson, 2004). There has, however, been fierce branch competition (Medidan, Lewis, and Moutinho, 1997), and competitive pressures have impacted on the numbers of branches (Howcroft, 2001) and the fight for market share (Gardner, Howcroft and Williams, 1999). In contrast, evidence from quantitative research suggests that levels of competition could have been higher. There is certainly no perfect competition in UK retail banking (Ashton, 2001) and deposit and loan rate setting in the U.K. (with the possible exception of mortgages) can best be described as monopolistic (Heffernan, 2002; and, Matthews, Muridnde and Zhao, 2007). Competition in small business banking is both complex, non transparent and monopolistic (Howcroft, Durkin, Armstrong and Emerson, 2007 and Turner, 2009). Nevertheless, despite these assertions, net interest income (i.e. the interest profit margin) as revealed by Table 3.2, has declined. This is indicative of a reduction in interest rate spreads and probably reflects increases in the levels of competition.

Table 3.2 Net Interest Income as Percentage of Average Balance Sheets

Ratios as a percentage of average balance sheets								
	1997	1998	1999	2000	2001	2002	2003	2004
net interest income	2.2	2.2	2.2	2	1.9	1.7	1.6	1.4

(Source: British Bankers Association Annual Statistics 1997, and the Abstract of Banking Statistics 2001-5)

The banking industry has responded to these pressures by introducing a series of operational initiatives aimed at increasing efficiency by attempting to improve the level of customer service and increasing levels of fee income. Implicit in this response has been the development of a market orientated rather than a transactional orientated culture. There has also been a move away from cradle to grave employment and banking no longer guarantees a job for life (Howcroft and Hamilton, 1999 and Gardner, Howcroft and Williams,

1999). Higher levels of competition have also manifested themselves in a variety of other ways. For example, some banks have inter alia experimented by introducing staff uniforms, flexible opening hours, innovative products, new methods of delivering services and the sale of financial services. There has also been far more emphasis placed on the customer via an emphasis on customer customer service and customer retention (Medidan, Lewis, and Moutinho, 1997). There were also changes in the branch network both in terms of their size and design. These changes reflected the fact that the branch network is no longer **the** exclusive delivery channel but rather is now regarded as one of a range of alternative channels

Gardner, Howcroft and Williams (1999) define this greater focus on marketing and the customer as the 'market control era' where marketing imperative drives entire ethos of the organisation. In this respect banks have tried to be more proactive in anticipating (and satisfying) customer needs.

As revealed by Table 3.3 this period has also seen banks trying to improve efficiency by reducing their costs.

Table 3.3 Operating Expenses as a Percentage of Average Balance Sheet Total Assets

Ratio as a percentage of average balance sheets								
	1997	1998	1999	2000	2001	2002	2003	2004
Operating Expenses	2.2	2	2	1.9	2	1.9	1.8	1.7

(Source: British Bankers Association Annual Statistics 1997, and the Abstract of Banking Statistics 2001-5)

As percentage of average total assets, operating expenses reduced from 2.2 percent to 1.7 percent over the eight year period from 1997 to 2004, a reduction of 23 percent. The dilemma facing banks during this period was how to improve internal efficiency (cost cutting) and simultaneously develop a culture of improved customer service (Mclean, 1994 in Gardener, Howcroft and Williams, 1999). Internal efficiency was improved by outsourcing non-core activities and entering into joint ventures (Llewellyn, 2006). Another approach was to down size the business. However, Taylor, (1999) (in Taylor and Morison, 1999) vividly discuss the negative effects this and other cost cutting initiatives had on staff morale.

3.3.4 Globalisation and Innovation

Globalisation, which was partially caused by the liberalisation of international trade and European harmonisation, potentially introduce improvements in efficiency via global economies of scale, global homogeneity and improved communications (Morison, 1999a in Taylor and Morison, 1999). The vast majority of these improvements were primarily realised in investment banking and international wholesale banking. For example, Howells and Bain (2000) link globalisation with the growth in the derivatives markets and it was estimated that the notional principle of these markets increased from US$94,254 in 1997 to US$165,611bn in 2002 (Heffernan, 2005, using figures from the BIS). Heffernan also identified credit derivatives as a rapidly growing market, with net sales increasing from virtually zero in 1996 to $2 trillion in 2002. Derivatives whilst largely manufactured and sold by investment banks are also used by retail banks to manage risks and develop new products, such as, capped mortgages. These sort of new services represent a type of product diversification, which require the development and utilisation of new skills and resources.

Innovation can be partially attributed to changes in regulation and developments in I.T. In this respect, Pilbeam (2005) identified several different types of innovation:

- Market broadening innovation, which increases liquidity by attracting new investors and new opportunities for borrowers
- Risk management innovations, which enables a bank to adopt a proactive approach to managing the risk profile of the organisation
- Arbitraging
- Pricing innovations, which aim to reduce costs
- Marketing innovations, especially those that relate to the sale and distribution of services.

Many of these innovations had implications for the operational side of the banks but they also provided new products or improvements to existing products. Therefore, innovation has a direct impact on product diversification strategies in investment and commercial banks.

3.3.5 Economic Trends and Industry Performance

The period 1997-2004 was characterised by uninterrupted economic growth in UK. For example, Gross Value Added grew from £739,524million in 1997 to £1,070,951 million in 2004 (ONS), an increase of 44.8%. The income of large commercial banks (interest and fee income) increased from £76,280m in 1997 to £120,036m in 2004, with only one small decrease in the year 2001-2 (BBA Annual Statistics 1997; and The Abstract of Banking Statistics 2001-4), an increase of 57 percent. This exceeded the growth in Gross Value Added by some 27 percent. This era of unprecedented growth corresponded with an increased demand for financial services, which was, to some extent, attributable to increases in net disposable incomes during this period (Morison, 1999c in Taylor and Morison, 1999).

Investment banks saw a high growth rate in 1990s, which was about three times greater than GDP in the U.S. and Europe (Davis, 2003). The high growth rates in investment banking made it an attractive market for retail banks and acted as a catalyst for product diversification into this area. However, the growth of investment banks during 1997-2004 was not as smooth as commercial banking, the technical stock and dot.com bubble which started in 1995 peaked in 2000. For example, there were some notable crashes of large companies, such as Enron and World.Com in 2002 and Parmalet in 2005. There were also widespread and significant redundancies in investment banking as a result of the end of the share price boom (Hall, 2006 and 2007).

3.3.6 Impact of the Trends on Industry Structure

In addition to the more operational responses already outlined above, the banking industry also responded in ways that changed the structure of the industry and focussed attention on changes in product diversification.

Providers of banking services experienced a period of high economic and income growth. This produced (possibly) excessive profits in the personal and business banking sectors (Cruickshank, 2000). Developments in IT and changes in deregulation resulted in lowering the traditionally very high barriers to entry (Morison, 2000). The cost structure of IT made growth an attractive strategy because having a geographic presence in the form of a branch network, was no longer a necessary prerequisite for expansion. The combination of a growing and highly profitable industry, with low barriers to entry made it extremely attractive to predator organisations. Moreover, such developments are indicative of an industry that is on the brink of unprecedented change. Another consideration was that the pace of change was undermining the benefits traditionally associated with having an extensive branch network. Accordingly, new entrants who accessed the retail banking

sector via electronic delivery channels had a decided advantage over the traditional banks (Morison, 1999 in Morison and Taylor, 1999).

Llewellyn (2006) argued that under these sorts of circumstances competition, which essentially emanates from external sources, can be particularly powerful. He further argued "New" entrants' have a tendency to introduce new business models and new ways of doing business. The response of existing market players is, therefore, critical in determining their long term viability. Somewhat crucially the option of doing nothing was not a viable response and simply doing thing better was not necessarily going to preserve market share and profit levels. Rather, this type of emerging competition demanded a radical response from the traditional banks. In broad terms the response of the traditional banks can be distilled into either consolidation in an attempt to obtain economies of scale and product diversification in an attempt to obtain economies of scope. The fact that these two broad strategies appear to be at odds with each other emphasises the size of the competitive challenges facing the commercial banks during this period.

There were several categories of new entrant. For example, they included insurance companies, such as, Prudential through its subsidiary Egg and Standard Life through its subsidiary Standard Life Bank. These organisations started by offering very competitive rates and Standard Life Bank gained 17 percent of new mortgage business within 6 months of starting operations in 1998. Similarly, following its launch in 1998, Egg had 22 percent of new retail deposits in 1999, (Economist, 8.7.2000). Retailers also started to enter the commercial bank market in 1996 and Tesco and Sainsbury's effectively "bought" market share by offering high savings rates. These rates subsequently drifted down to the market norm but they were extremely effective in building market share and provided sufficient volume to cover overheads. Other new entrants were more innovative and Virgin, for example, was the first new bank to offer offset accounts (Economist, 8.7.2000).

None of the new entrants challenged the dominance of the existing players but they did provide new competition. Somewhat significantly, none of these entrants committed themselves to the sort of high capital investment associated with building a new branch network. The supermarkets made limited use of their existing stores were as others used telephone and internet banking. They also tended to “cherry pick” the more profitable parts of the business and consequently, none of them offered a comprehensive range of personal banking services (Gardner, Howcroft and Williams, 1999).

The new entrants, especially, supermarkets, also “deconstructed” the bank value chain. In other words, splitting the bank into separate parts which could be supplied separately (Llewellyn, 2006). Supermarkets typically used their brand or image to generate banking business but outsourced the credit scoring or processing of transactions to existing banks. This made it much easier for them to enter the banking markets because it left them free to concentrate on areas of competitive advantage, such as, product design, customer service and marketing. These new entrants together with the emergence of demutualised building societies created excess capacity in the markets and, thereby, set the scene for a spate of subsequent acquisitions and mergers (Buckle and Thompson, 2004).

Faced with unprecedented change, the Building Societies adopted two broad but not necessarily mutually exclusive, strategic responses: the first strategy focussed on product diversification and the provision of new products, and the second used their cost and service advantages to retain and generate new business. Accordingly, some societies, such as, the Skipton and Chelsea provided a wider range of retail products, were as others, such as, the Hinckley remained in their core markets. In the Economist (6.7.1997) Brian Davis, then the CEO of Nationwide, set out the case for mutual societies based on cost and service and argued that they had a cost advantage compared to public joint stock banks. Moreover, they appeared to outperform the banks in terms of being friendlier and providing a better customer service. In contrast to the commercial they were also opposed to branch closures and

during the period 1995-2003 closed approximately 5 percent of their branches compared to 20 percent for commercial banks (Howells and Bain, 2007).

As already mentioned, the commercial banks responded to these competitive pressures by introducing strategies, which sought to exploit the businesses inherent economies of scale and scope. Developments in technology meant that two strategies were potentially compatible. Accordingly, commercial banks tried to reduce costs and simultaneously develop their product portfolios via product diversification.

Attempts at generating economies of scale can be detected in a series of moves in the 1990s and early 2000s. For example, Lloyds Bank, acquisition of Cheltenham and Gloucester in 1994 and its subsequent merger with TSB (The Economist, 17.1.98) is a classic example of a successful strategy orientated towards generating economies of scale. Likewise in 2000, the takeover of Natwest by RBS, Barclays Bank's takeover of the Woolwich, and the creation of HBOS through the merger the Bank of Scotland and Halifax, and in 2004, Santander's take-over of Abbey, were all primarily motivated by the exploitation of economies of scale. Apart from these actual mergers, the market was rife with take-over rumours during this period.

Implicit in these strategic moves was the belief that compared to smaller institutions, larger banks are better protected from aggressive take-over; and, that larger banks can benefit from economies of scale (and scope) to become more efficient than their smaller counterparts. The empirical evidence on X-efficiencies is, however, rather mixed and there is no clear evidence to support these assertions. Moreover, the recent 2008 banking crisis and the U.K. government's bailout of RBS and the enforced merger between HBOS and Lloyds TSB, suggests that being "large" provides no inherent protection or advantage when the management is fundamentally flawed.

In investment banking the loss of independence through takeover by larger banking organisations suggests the existence of global economies of scale in

investment banking. Table 3.4 provides a brief insight into some of these acquisitions in the late 1990s.

Table 3.4 Takeover of UK Independent Investment Banks

Organisation Taken Over	Role	Acquiring Organisations	Date
Hambros	Investment bank	Societe Generale and Investec	1997
Schroders	Investment bank	Citibank	1997
Mercury Asset Management	Fund Manager	Merrill Lynch	1997
Smith New Court	Market Maker	Merrill Lynch	1995
SG Warburg	Investment bank	Swiss Bank Corporation	1995

The chapter has provided a brief insight into economies of scale and how this consideration has had an impact on the structure of the banking industry. In this respect this discussion has provided some useful background information on the trends affecting the U.K. banking industry. This research, however, is primarily concerned with product diversification and, therefore, there is proportionately greater emphasis on the economies of scope rather than economies of scale. Accordingly the next part of this chapter focuses on economies of scope and the anticipated efficiency and cost advantages associated with it.

There are several ways of achieving economies of scope (product diversification): in the first instance, a limited product range can be expanded within the sector of the industry. Alternatively, more substantial diversification can be undertake, which spans several industrial sectors. Examples of the former include mortgage banks, such as, the Halifax, Woolwich and Alliance & Leicester who expanded aggressively in pensions, insurance and consumer lending, i.e. areas which were previously prohibited for building societies

(Economist, 6.7.97). Halifax achieved this through its merger with the Bank of Scotland and Woolwich, similarly, became part of Barclays Bank. The Alliance and Leicester, after it conversion to a joint stock bank, remained independent during this period but pursued a strategy of diversifying away from its core building society products.

Major diversification has a tendency to take two forms: the first type is referred to as “Bankassurance”, which involves expanding into insurance (again, outside the scope of this thesis but included for completeness). LloydsTSB is a good example of Bankassurance and having purchased Scottish Widows some 40 percent of group profits emanated from insurance business (Economist, 8.7.2000). The other form of diversification involves diversifying into investment banking and by 1997 this had already taken place (as a result of the ‘Big Bang’ in 1986). However, the repercussions of this type of diversification were still being felt in the1997-2004 era. Accordingly, NatWest Bank, via a series of sales in 1998 and 1999, effectively exited from investment banking and focussed almost exclusively on commercial banking (Economist 2.10.1999). Similarly, Barclays Bank having initially expanded into investment banking subsequently reduced the scale and activities of the broad based BZW by closing or selling off its equities division. However, it still retained still retained the commercial debt business of Barcap (Pilbeam, 2005). Abbey, which diversified its business portfolio after demutualisation in 1989, reported losses of £256m on junk bonds in 2001 (Financial Times 20-21.7.2002). It subsequently reported a group pre tax loss of £984m in 2002 and pursued a strategy of focussing on its original mortgage banking business, affectively reversing its initial strategy of investment bank diversification (Economist, 1.3.2003). In 1997, Morgan Stanley, essentially an investment banking and credit card business, merged with Dean Witter a retail broking business.

In the aftermath of divestment and retrenchment, problems continued for Natwest, Barclays and Abbey. Natwest, for example, suffered from poor stock market performance and consistently underperformed banks, such as, LloydsTSB. In particular, NatWest’s ambitious investment in new technology

resulted in weak cost control and its cost income ratio reached 76 percent in 2001. In contrast, LloydsTSB (43 percent) and the Bank of Scotland's (48 percent) were extremely successful in controlling costs. NatWest's problems were also compounded by poor takeovers. Gartmore (fund manager) had performer poorly as did NatWest's investment bank subsidiary. Accordingly, they were sold off in 1998 and 1999 respectively. The seriousness of the problems confronting Natwest were succinctly captured by a report in the Economist, which described the bank as a "giant… flabby and virtually focus free.' (Economist, 2.10.1999 accessed via EBSCO 28.11.11). This poor performance made Natwest a takeover target and after a prolonged battle between RBS and the Bank of Scotland it was eventually taken over by the Royal Bank of Scotland in 2000. Barclays was considered a bid target for the Bank of Scotland and similar to Natwest was described as 'big flabby …. [and] accident prone'. In the late 1990s it also had a cost income ratio of 62 percent (Economist 2.10.1999 accessed via EBSCO 28.11.11). However, unlike Natwest, it was saved from takeover by a change in management, with the arrival of the Canadian Matt Barrett as CEO in 1999. Abbey experienced similar increase in its cost income ratio and profits declined accordingly. However, despite attempts to redress the situation by a policy of radical retrenchment, it was eventually taken over by the Spanish bank Santander. (The Banker October 2004).

In addition to the anticipated cost advantages associated with economies of scale and scope, diversification was also driven by the banks desire to follow their customers into overseas markets, i.e. so-called market pull considerations (Howcroft, ul-Haq and Hammerton, 2010). Gardener, Howcroft and Williams (1999) also contend that product diversification from commercial into investment banking [post Big Bang] was the result of "securitisation". This involved commercial banks becoming more like investment banks in an endeavour to satisfy the needs of large corporate borrowers who were increasingly raising finance in the form of equities, bond issues and commercial paper on the World's private placement markets. In effect this was a form of financial disintermediation and faced with the prospect of seeing their loan portfolios shrink, the commercial banks started to offer

advisory services and underwriting facilities, etc to companies raising direct finance. As a consequence, commercial banks started to generate large volumes of fee income and off balance sheet activities grew commensurately.

3.3.7 Banking Literature on Economies of Scope and Product Diversification

The academic literature on economies of scope and product diversification in banking provides some insight into how product diversification might occur, how diversification might affect the structure of a bank, and the advantages and disadvantages associated with diversification.

As already alluded to diversification has the potential to diversify sources of income and can place greater emphasis on fee income. The range of fee income applies to both commercial and investment banking. A brief insight into the type of business involved is as follows:

- Traditional fee income – service charges apply to safe deposits, cheque handling, loan arrangements, credit cards, electronic funds transfers, trust and fund management work and global custody,
- Security brokerage - municipal securities, underwriting, real estate and insurance
- Off balance sheet business – fees for loan commitments, documentary letters of credit and derivative business
- Management consulting
- Data processing back office
- Securitisation advice and underwriting of equities, bonds and commercial paper.
- Proprietary trading

(Wood and Staikouros, 2004 in Heffernan, 2005)

The above range of activities is far from exhaustive but it, nevertheless, reveals the range of skills needed to run and manage the fee income side of a diversified bank. Table 3.4 also reveals the effort that U.K. retail banks put into developing fee income. Accordingly, non interest income increased from 62.3 percent of net interest income in 1997 to 104.5 percent in 2004. To look at this growth from a slightly different perspective, fee income grew by a factor of 2.54 and net interest income by a factor of 1.51 during the same period.

Table 3.5 Net Interest and Non Interest Income (£million)

	1997	1998	1999	2000	2001	2002	2003	2004
Net interest income	22,797	24,092	25,864	27,109	29,618	32,312	33,664	34,512
Non interest income	14,201	15,608	17,778	19,937	23,338	26,150	31,081	36,075

(Source: British Bankers Association Annual Statistics 1997, and the Abstract of Banking Statistics 2001-4)

As there is no break down of figures available it is not possible to assess the extent to which this transposed into an increase in existing revenue streams or new revenue from product diversification. It is, nevertheless, an important trend and does represent a major change in the bank's income.

Diversification also involves establishing a structure to manage the firm and although structural and corporate governance issues are beyond the scope of this research they could affect the success or otherwise of product diversification. In this respect, it is perhaps appropriate to mention

Claessens, S and Klingebiel's, 2001 work on banking groups, which has established several different models on corporate structure:

- An integrated approach- this is generally adopted were regulation allows and involves the bank sharing resources amongst different parts of the bank group. It has the advantage of providing a bank with full economies of scope and scale, and confers certain information advantages within the banking group. However, it can create conflicts of interest and issues relating to extension of the safety net.
- Bank parent company- this places the securities business in a legally separate subsidiary and, thereby, reduces the opportunity for integration, economies of scope, risk diversification and cross selling within the group. It can also result in conflicts of interest and, as above has implications for extension of the safety net.

- Holding company- under this model, the equities and other securities of the banking group are separately capitalised and incorporated under a holding company. This reduces the potential for economies of scale and scope, and the information advantages are similarly reduced. However, it can reduce risk arising from diversification, conflict of interests and does not incur the sort of issues associated with the other models relating to extension of the safety net

As already mentioned product diversification has the potential to realise economies of scope (and scale) and there is a fairly substantial literature on these subjects in banking. In broad terms, the literature on economies of scope examines the potential cost and benefits associated with economies of scope.

‘Economies of scope between investment and commercial banking provide an organizational advantage to universal banks’ (Danthine, Giavazzi, Vives, Xavier & Von Thadden, 1999) (p.xviii). More detail and a more balanced analysis is provided by Claessens and Klingebiel (2001) who highlight a number of potential benefits and costs, as follows:

Potential benefits:

- information advantages
- economies of scope
- economies of scale in IT and back office
- diversification of risk
- increased revenue from cross selling

Potential costs:

- conflicts of interest
- reduction in competition
- concentration of economic and political power
- increase in monitoring
- safety net expansion

These costs are essentially external to the organisation and there is no mention of any possible issues related to managing a wide range of resources.

In addition to the possible cost and benefits, product diversification can also have an impact on outcomes. In this respect, the literature recognises that product diversification can have mixed outcomes. For example, it can decrease total risk to the banking group but simultaneously it also has the potential to make banks safer by diversifying revenues (Baele, De Jonghe, Vander Vennet, 2007). However, it can also increase income volatility (Staikouros and Wood, 2001, in Heffernan, 2005).

With regard to economies of scale, there are two broad groups of empirical work on bank performance, which focus on the U.K. and Europe, and the United States. With regard to the UK and Europe, Drake (1995) found no evidence of either scale or scope economies in UK building societies. However, Molyneux (1996) found evidence of economies of scope in France, Germany, Italy and Spain. This finding was supported by the European

Commission (1997), which focused on Europe's largest banks (cited in Goddard, Molyneux and Wilson, 2001).

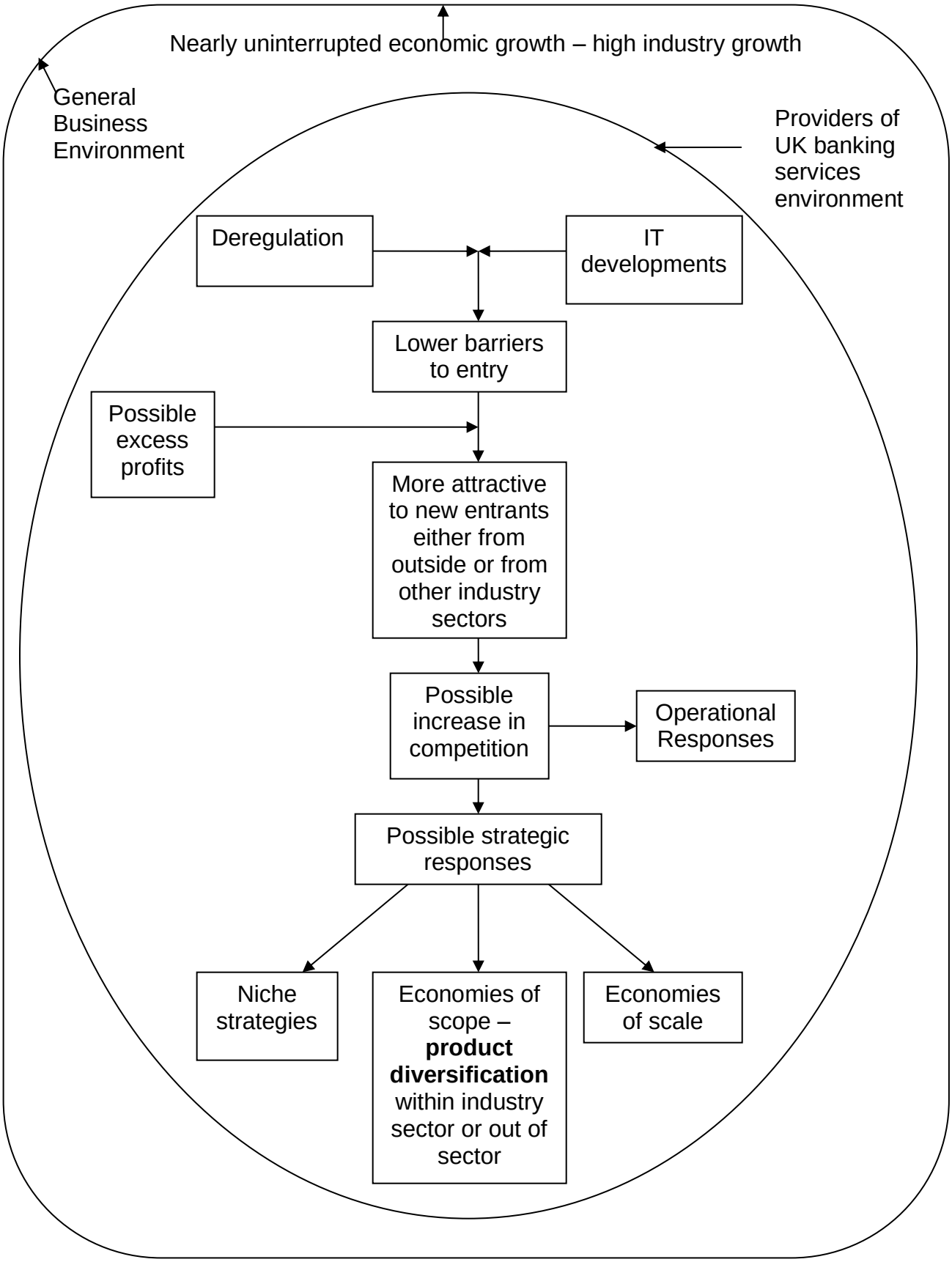
In contrast Cavallo and Rossi (2001, in Heffernan, 2005) who examined banks in France, Germany, Italy, Netherland Spain and the UK during 1992-7, found little evidence of economies of scope. This finding was supported by Lang and Welzel, 1995 research (in Claessens and Klingebiel, 2001) into German universal banks and small co-operative banks.

In the United States the findings are similarly mixed. For example, Berger, Hanweck and Hunphrey, 1987 and Berger, Hunter and Timme, 1993 (in Claessens, and Klingebiel, 2001), and Berger et al 1996, (in Heffernan, 2005) found little or no evidence of economies of scope. However, Vander Vennet (1999) in Claessens and Klingebiel, (2001) found that universal banks had significantly higher levels of operational efficiencies relative to specialised banks.

3.4 Reflection on the Major Trends

The major trends, which are largely a result of changes in regulation and I.T., have led to a series of strategic responses by providers of UK banking services during the period 1997-2004. These responses include product diversification, in an attempt to reap benefits primarily from economies of scope. Banks have also been subject to "market pull" pressures and have followed existing customers into overseas markets. As these customers product needs became more sophisticated and varied, the banks have had to reposition their product offerings. In some instances, these changes have dictated that commercial banks provided investment bank services or risk the possibility of losing the business. There is no conceptual model of banking product diversification which includes RBV or any study of providers of UK banking services 1997-2004. However, figure 3.1 attempts to capture the main trends and issues discussed in this chapter.

Figure 3.1 Industry Trends and Impact on Strategy



3.5 Developments - Post Banking Crisis

Subsequent to the commencement of this research, the recent banking crisis has had an impact on the U.K. (and global) financial system. This section of the chapter, accordingly examines the impact of this crisis on those providers of financial services that have followed diversification strategies. The section commences with a review of the Building Societies. Mortgage banks, sub-prime lenders, universal banks and investment banks are then examined. The review focuses on failures/major restructurings and major product diversification, and tries to evaluate the success and continuing relevance of product diversification.

Building Societies- With regard to the Building Societies, at the outset it should be recognised that not all societies, which pursued product diversification strategies encountered problems. In this respect, the Nationwide, Yorkshire and Skipton building societies were notably successful. This strongly suggests that there is nothing inherently wrong with the strategy itself. Rather, the acid test that determines success or failure is the underlying quality of senior management in these organisations.

Notable examples of building societies, which encountered serious problems having embarked on product diversification strategies, are as follows:

- The Cheshire heavily diversified into wholesale funding. Accordingly, just prior to the banking crisis in 2007, 66 percent of deposits came from the retail market. In difficult wholesale and money market conditions it attempted to generate liquidity by increased interest rates on retail deposits but this change in strategy squeezed margins and reduced profits. (FT.com 7.9.08)

- The Derbyshire was heavily exposed to non-traditional mortgages, especially, sub-prime, buy to let and self certified mortgages. (FT.com 7.9.08).

- The Dunfermline had diversified into commercial lending and self certified mortgages (BBC.co.uk accessed 6.9.2009)

  The credit crunch had a disastrous affect in these businesses and profit margins reduced substantially. As a result, these three building societies were all taken over by the Nationwide. (FT.com 7.9.08 and 11.6.09)

- The West Bromwich building society had attempted to grow its balance sheet by expanding into commercial property and buy-to let lending. Once again, when the credit crunch took hold this had a disastrous affect on bottom line profits (FT.com, 11.6.09)

- The Chelsea reported problems, which stemmed from a £41million buy to let fraud and from a substantial exposure to Icelandic banks. It also had one of the largest buy-to-let mortgage books in the sector and had lent heavily on new-build developments. (FT.com 23.8.09). As a direct consequence, the Chelsea merged with the stronger Yorkshire Building Society in 2009 (FT.com 2.12.09).

In addition to these changes, there were two other radical changes in the Building Society sector. These change, however, were not directly attributable to product diversification. The first related to the absorption of the Scarborough Building Society by the Skipton. This was triggered by the fall in house price falls and the economic recession following the banking crisis (FT.com 3.11.08) The second was the Yorkshire Building Societies takeover of the Barnsley, which had a potential loss of £10million on deposits in Icelandic banks (BBC.co.uk 22.10.2008).

Mortgage Banks - In examining the mortgage banks, it is salutary to reflect on the fact that all of the building societies, which demutualised in an endeavour to pursue product diversification strategy, have now ceased to exist as independent entities.

Northern Rock was rescued by the Government in 2008. It had followed a strategy of rapid growth by pursing market share and its mid-term balance sheet in 2007 revealed that it was the 8th largest bank and 5th largest mortgage lender in the U.K. Residential lending had increased by 55 percent in the first 8 months of 2007, and by the middle of that year its share of the net housing lending market was 19 percent. Total assets were £113.5billion and outstanding mortgages were £87.9 billion. These assets were funded by customer deposits of £30.1billion and equity of £1.95billion. The residual balance in funding came from the wholesale markets and the ratio between wholesale and retail funding was 75:25. In this respect, it was "an accident waiting to happen" (Hall, 2008) and when the wholesale markets began to dry up the bank found itself in an untenable position. In essence, Northern Rock's strategy of high growth in traditional products, funded by a liability product diversification strategy, involving high use of the wholesale markets was an abject failure.

The Spanish bank Santander took over all of the Alliance and Leicester, and part of Bradford and Bingley (the remainder was rescued by the government). It was no coincidence that both banks had the next highest retail to wholesale funding after Northern Rock with a ratio of around 50:50 (Hall, 2008). The Alliance and Leicester pursued a balanced product diversification strategy and had expanded both its range of assets and liabilities. In this respect, unlike Northern Rock, it had diversified on both sides of the balance sheet.

Commercial Banks - the two largest U.K. banks to have experienced failure were the Royal Bank of Scotland (RBS) and the Halifax, Bank of Scotland (HBOS). RBS had pursued a strategy of expansion via acquisitions. Some of these were overtly geographical, such as, its entry into US commercial banking. The other acquisitions of RBS were essentially driven by the desire to diversify the product portfolio and move into investment banking were as others, such as, the partial acquisition of ABN Amro were a combination of both. It ultimate failure, however, was largely due to its massive [organic]

expansion into investment banking, i.e. a new product area. (Simon Maughan, an analyst at MF Global Securities in The Independent 14.10.2008).

HBOS pursued a similar strategy of rapid expansion but this expansion was essentially confined to the personal and commercial banking areas that represented the core activities of the Halifax and Bank of Scotland. This expansion was financed from wholesale funds and resulted in disproportionate over reliance on wholesale funding and UK property. The result was an: 'extremely high loan to retail deposit ratio of 177 per cent' (FT.com 18.9.2008).

Sub-Prime Banks - with regard to the sub-prime banks, the credit crunch saw the London Scottish placed into administration. This was largely due to the losses it incurred in unsecured consumer credit (FT.com 1.4.2008). Another sub-prime provider– Cattles, had sought to pursue a strategy of product diversification by applying for a banking license (FT.com 22.4.2008). This would have enabled it to raise retail deposits and, thereby, diversify away from its reliance on wholesale funding. It was, however, forced to withdraw the licence application (FT.com 27.1.2009) because of it bad debts (FT.com 1.4.2009), which resulted in a pre-tax loss of £746.4m in 2008 (Annual Report 2008).

Investment Banks – Barclays Capital (the investment banking arm of Barclay Bank) produced significant profits been transformed in terms of geographical coverage and balance of products. This was accomplished largely through its acquisition of the US equities division of Lehman Brothers, which moved it away from being a niche investment bank focussed on corporate debt niche and established it as a comprehensive provider of investment banking services (FT.com 30.11.2008).

Foreign investment banks with a significant presence in London and with relevance to this study in terms of their product diversification strategies include *inter alia* the Bank of America, Morgan Stanley and Lazard Brothers. The takeover of Merrill Lynch by the Bank of America (FT.com 28.9.08), for

example, was a reversal of its previous policy of withdrawing from investment banking. The takeover represented a major product diversification strategy and effectively created a major “combined bank”. The spin off of the Discovery credit card business by Morgan Stanley (Morgan Stanley.com) left a retail broking and investment banking business. The emergence of investment banking boutiques, such as, Lazard Brothers (FT, 28.9.2008) were good examples of product niche strategies.

Product diversification is recognised as an important strategy In this respect, Hahn (2011) recently stressed the risk of product diversification in investment by banking moving into commercial banking through holding mortgages securities; and in the diversification of commercial banks into investment banking through underwriting and selling securities. Somewhat ironically, the investment banks with the highest levels of mortgage securities were the two highest profile failures, namely Bear Sterns (taken over by JP Morgan Chase) and Lehman Brothers (declared bankrupt). The strongest advocate of securitisation and the use of wholesale markets was Northern Rock, which was effectively bailed out by the British government. If nothing else, these examples serve to illustrate the difficulties associated with product diversification strategies and the importance of strong management.

3.6 Conclusion

This chapter has established the different types of organisation that provided banking services during the period 1997-2004. These banking organisations include commercial banks, building societies (with varying levels of product diversification), private banks, sub-prime banks, mortgage banks, investment banks, niche investment, and combined Banks.

All of these providers were affected by the trends, as discussed and resulted in radical operational and marketing changes. These changes altered how banks processed their business and served customers. In other words, many of the banks moved away from being essentially transaction oriented

organisations and became increasingly marketing orientated. Accordingly, at the strategic level, some banks pursued a strategy of product diversification and tried to gain greater efficiencies from economies of scope. This strategy was also conducive to following corporate customers into overseas markets and satisfying their need for a wide range of bank related services. However, as was illustrated by the examination of the recent banking crisis, product diversification can be a high risk strategy and can create considerable problems.

Having discussed the structure of the U.K. banking industry and the major trends and changes during the 1997-2004 period, the next chapter will discuss the research methods. Accordingly, in broad terms it will place research methods within the context of the research methods literature, discuss the methods used in the thesis to analyse the findings and introduce the reader to the research model, which emanated from the extant literature.

Chapter Four:
Research Methods

4 CHAPTER FOUR - RESEARCH METHODS

4.1 Introduction

The literature review identified gaps in the application of RBV to product diversification and eight associated research questions were designed to address the issues raised by these gaps. Essentially, these questions involve the identification and measurement of resources. The research questions also take into account performance indicators and external factors that can impinge on the providers of banking services within the U.K. In addition, the literature review identified a wide variety of organisational resources that need to be identified and measured. Chapter 3 examined suppliers of banking services in the UK from 1997-2004 and placed them into groups. This categorisation is essential in terms of structuring the results and presenting the findings.

This chapter will examine research philosophy and provide an overview of research methods. It then reviews existing strategy and RBV research methods to ensure that this research is cognisant with the relevant issues in the area. The research methods to be used in this thesis are then outlined and justified, and their limitations discussed. Table 4.1 summarises the combination of research methods (both qualitative and quantitative) that are used to address the research the research questions (RQs):

Table 4.1 Summary of Research Questions and Research Methods Used

Research Question	Method(s) Used
RQ1 Will there be greater differences in rent appropriation between the industry groups than within industry groups, and will there be even greater differences between industry sectors than within industry sectors (though the differences will not be uniform)?	Quantitative and Qualitative
RQ2 Will there be greater resource heterogeneity between the industry groups than within industry groups, and will there be even greater differences between industry sectors than within industry sectors (though the differences will not be uniform)?	Quantitative
RQ3 As resource identification is hindered by issues including intangibility, social complexity and causal ambiguity does this mean that additional analysis using Chairman's and CEOs comments from Annual Reports will provide a richer picture of resources and lead to the identification of resource bundles?	Qualitative
RQ4 Are there differences in the external environment between different industry sectors and groups? (RBV argues resources should be set in their external context)	Qualitative
RQ5 Is financial performance an inverted J shape as the amount of resource difference increases?	Quantitative
RQ6 To what extent do individual resource differences vary in product diversifications?	Quantitative

Although the RQs are shown as discrete stand alone questions it should be noted that they are not mutually exclusive. In other words, information derived from one question can sometimes be used to provide further insight into the issues addressed by another question.

The literature on epistemology and ontology uses several differing sets of terminology. For example Bryman (2004) uses the phrase constructivism to

denote an ontological position with reality being seen as a social construct as opposed to as an objective entity. Similarly, with realism being an epistemological position (Bryman, 2004; Travers, 2001) it can be regarded as a middle way between phenomenology/interpretivism and positivism (see also Saunders et al, (2003) and Quinlan (2011). Alternatively Easterby Smith et al (2008) identify social constructionism/constructivism as an alternative to positivism, which using Bryman's (2004) typology would make it an epistemological position furthermore they classify realism as an ontological position. Taking a third stance Creswell (2009) combines epistemologies and ontologies into a series of 'worldview's' which includes post positivism/post positivism and constructivism.

This thesis will follow Bryman's terminology and typology as from the author's experience it is the most common and the one he is most familiar with. This stance should not be taken as a rejection of the other terminologies but as a pragmatic decision to avoid confusion given the overlapping definitions. It also based on practical experience of confusing discussions with colleagues who use one of the other typologies.

4.2 Epistemology

Epistemology is concerned with the different ways of establishing what can be accepted as real (Hart, 1998). Historically, research philosophy is divided into two main areas, namely, positivism and phenomenology (Collis and Hussey, 2003). Other work examines three main approaches positivism, interpretivism and realism (Bryman and Saunders et al, 2003). However, a key issue, which underpins all of these approaches is can social science be studied in the same way as natural science? (Bryman, 2004).

Regarding positivism, Dirkheim sees sociology (a social science) as a natural science, which can use quantitative methods. As such, it has causal connections and the ability to make causal laws (Travers, 2001). Positivism

seeks objective description, data, scientific criteria, reliability and representativeness. It tends to use large samples of specific and precise data and uses quantitative data to test hypotheses. It typically has high reliability, low validity and facilitates high generalisability from a sampled population (Collis and Hussey, 2003) (Saunders et al, 2003) (Bryman, 2004). The data collected allows the development and testing of theory. In short, positivism makes a connection between natural science and social science (Hammersley and Atkinson: 1983).

In contrast Weber, whose work develops into interpretivism (Travers, 2001) seeks to understand what is happening inside someone's mind with understanding being more important than the ability to quantify. It attempts to understand how different groups may see the same event and aims to take account of human distinctiveness Bryman (2004). Interpretivism is in the hermeneutic phenomenological tradition. Phenomenology is typically regarded as subjective and more likely to use qualitative research methods and less likely to rely on formal hypotheses. Collis and Hussey (2003) argue that it normally applied to small samples and uses qualitative research methods to generate rich, essentially subjective data, which is conducive to theory generation. However, they also argue, it is also associated with low reliability and a lack of generalisability from one setting to another. In defence of interpretivism Bryman (2004) argues that people and institutions are fundamentally different from the natural sciences which do not address the impact of animate objects. Animate objects for business could include employees and reputuation.

Examining positivism through an interpretivism lens and interpretivism through a positivism lens can be useful in identifying some of the disadvantages in each approach. Travers (2001), for example, argues that interpretivists would criticise positivism for not addressing how subjects understand the world and that it can be decontextualised. Conversely, positivists would argue that interpretivists do not rise above common sense. Daft and Lewin (1990) cite Mills (1959) who criticises positivism as being a bureaucratic technique, which examines relatively minor problems. Similarly, Collis and Hussey (2003)

argue that positivism can sometimes fail to capture the essence of complex phenomena because of its reliance on a single numerical measure.

Applying both approaches to RBV, positivism can be criticised on its inability to respond to specific contexts. In particular, it is not appropriate in situations that involve a wide range of different resources, which can be combined into complex and interacting resource bundles; this concern also applies to external factors. In contrast, although interpretivism is unable to provide objective measurers of resources, external factors and business performance it is appropriate for examining intangible resources, complex and interacting resource bundles and intangible external factors.

The third approach, realism, is described by Travers (2001) as the most popular approach in social sciences. Accordingly, he argues that it is "looking beyond appearances to discover the laws or mechanisms, which explain human behaviour." (p.11). Realism provides a “middle way” in that it is conducive to both qualitative and quantitative methods. Moreover, it acknowledges the importance of human behaviour and attempts to take interpretivism to another level by examining further than face values and contrasting different people’ perspectives. This led Tsoukas (1989) to argue that realists look for generative mechanisms, causal powers and real structures, rather than empirical generalisations and causal laws. Realism’s middle position between positivism and interpretivism also allows it to take a broader view. In essence, it goes beyond common sense but it does not look for causal laws but rather looks for laws or mechanisms behind human behaviour. This enables it to test research questions, which, for example, relate to a range of resources and external factors, and rely heavily on human judgement.

The discussion so far suggests that the epistemological perspective, which fits closest with this research, is realism. It enables the study to combine a natural science and social science perspective (Brightman, 2004), and it also fits with the resource heterogeneity of RBV. However with RBV’s assumption of

resource heterogeneity the problem of identifying causal laws and then drawing broad generalisations remains formidable.

Given the variety of resources and the range of external factors under consideration, this research does not seek a single epistemological viewpoint. This is because although some of these variables, such as, financial position and the rate of economic growth, are relatively easy to measure, others, such as, knowledge and level of competition are far more difficult to ascertain. In this respect, it is important to establish at the outset that this research does not seek common sense or rigid causal laws but rather mechanisms.

4.3 Ontology

Ontology considers different propositions about what reality is (Hart 1998) and Bryman (2004) provides two options: reality can be seen either as an objective entity (objectivism) or a social construct (constructivism). This impacts on how research questions are formulated, depending upon whether they are examining objective entities or people. Bryman (2004) argues that with objectivism social phenomena are independent from social actors. In contrast, with constructionism where phenomena can lead to different versions of social reality, which can be constantly revised.

Arguably, objective entities are relatively easy to identify because they only need a single strong identification. Social constructs, however, are far more difficult to identify. This is because they can vary according to the perspective of the individuals assessing the construct. Using Barney's (1991) definition RBV has objective entities, such as, finance but it also social constructs where their could be individual perspectives, such as, culture and motivating factors. This is also an important consideration with external factors, which could, for example, incorporate objective economic statistic to assessing the impact of particular technological innovation. This suggests that when

examining resources and external factors, there is a clear need to take both ontological perspectives into account when framing research questions.

4.4 Validity and Reliability

Validity is concerned with ‘the extent to which measures and research findings provide accurate representation of the things they are supposed to be describing’. (Easterby-Smith, Thorpe and Jackson, 2008, p.334).

Valid research has a tendency to use qualitative methods that provide greater richness, such as, in depth interviews. The reliability of the data can be undermined, however, by subject/participant/observer error or bias (Saunders et al, 2003). Somewhat crucially, it is difficult reproduce valid research and to obtain objective measurements of resources and external factors. This suggests that a valid study will have a tendency towards interpretivism and be subjective.

Reliability is concerned with ‘the consistency of measurement in a composite variable’ p.332 (Easterby-Smith, Thorpe and Jackson, 2008)

Reliable studies tend to use quantitative methods, which can be easily reproduced and within the context of this research typically use externally available data on resources, external factors market and business performance. However, there is a danger that research using these methods lacks validity, especially, when it is applied to more subjective areas, such as, culture. Nevertheless, reliable studies tend to be positivistic and capable of producing generalisable results (Gibbert, 2006).

Validity and reliability can be regarded as two ends of a continuum and research involving only one research method runs the risk of occupying only one position on this continuum. This largely explains why research has a tendency to “triangulate” and utilise a range of research methods.

RBV assumes firm resource heterogeneity, with some resources being socially complex (Barney, 1991) and often grouped in bundles (Penrose, 1959). Socially complex resources, such as, culture and external factors are unlikely to be able to be consistently and reliably measured but they are capable of being validly measured. In contrast, financial resources can be objectively and reliably measured. This research will, therefore, utilise reliable and valid measures, as appropriate.

4.5 Research Approaches

Research can be either deductive or inductive: deductive research can be summarised as developing theory and then generating hypotheses [or research questions], which can then be tested by data collection. This leads to findings and the rejection or confirmation of hypotheses [or research questions] and possible revisions to the theory. The alternative is inductive research which reverses the above process in so much as theory is generated from the research. The researcher then attempts to draw generalisations from the theory (Bryman, 2004). Viewed in a slightly different way, deductive research looks for cause and effect but does not really address how human interpretations of the world, whereas inductive research is more concerned with the “context of event” (Saunders et al 2003). The two approaches can be linked with certain aspect of epistemology. For example, deduction is more readily associated with the positivistic approach of using data to test theory and induction is typically associated with a qualitative approach (Bryman, 2004).

As with epistemology and ontology the essence of good research is finding the most appropriate approach (Easterby Smith, 2002, in Saunders et al 2003). Saunders et al (2003), who also cite Cresswell (1994), argued that a wealth of literature and an established theoretical framework will generally be appropriate for deductive research, whereas inductive research is perhaps more appropriate when a new subject is being researched. This observation

led Cresswell (1994) to suggest that inductive research is typically more time-consuming than deductive research. Deductive research, however, has its problems too in so much as hypotheses [or research questions] do not permit alternative explanations. Saunders et al (2000), however, do make the important point that the two approaches are not mutually exclusive and that they can be combined to good effect.

Bearing in mind these points, this research will use a largely deductive approach, and draw upon the RBV theoretical framework and the wealth of literature in this area.

4.6 Research Design

Parasuraman (1991) (also see Elanain, 2003) outlined two different types of enquiry, namely exploratory and conclusive research. Table 4.2 identifies the main characteristics of both designs.

Table 4.2 Research Design – Exploratory and Conclusive

Research Project Components	Exploratory Research	Conclusive Research
Research purpose	General: to generate insights about a situation	Specific: to verify insights and aid in selecting a course of action
Data needs	Vague	Clear
Data sources	Ill defined	Well defined
Data collection form	Open ended, rough	Usually Structured
Sample	Relatively small; subjectively selected to maximise generation of useful insights	Relatively large: objectively selected to permit generalisation of findings

Data collection	Flexible; no set procedure	Rigid; well laid out procedures
Data analysis	Informal; typically non-quantitative	Formal; typically qualitative
Inferences/recommendations	More tentative than final	More final than tentative

Source: Parasuraman (1991) in Elanain (2003) p.104

Exploratory research is normally undertaken to provide insights into a new research topic. It is generally qualitative and uses a relatively small data base to generate preliminary results, which can be subsequently explored in more depth. Conclusive research can be descriptive or causal and is typically used in situations where the data is well defined and the researcher is looking to justify a particular course of action. In this respect the finding are regarded as prescriptive.

Within these two broad categories research can be further disseminated into descriptive and causal research. Descriptive research is used to describe the characteristics of observation and estimate human behaviour in a given population. In this respect the findings are useful in making predictions and estimating the probability of outcomes (Churchill, 1995, see also Elanain, 2003).

Descriptive research falls into two broad categories: longitudinal and cross sectional research. The former involves data collection over a period of time and tries to identify medium and long term patterns, which are not distorted by one-off events or shock to the system. In contrast cross sectional data is more a kin to a snap shot in time and can, therefore, can be more susceptible to shocks to the system or one-off events. In contrast, causal research aims to identify causal relations between discrete variables and draw appropriate conclusions (Parasuraman, 1991, see also Elanain, 2003).

Although Table 4.3 does not provide a comprehensive coverage of the different approaches to research design it, nevertheless, shows that the choice of research design is strongly linked to research objectives.

Table 4.3 Research Objectives and Appropriate Design

Research Objectives	Appropriate Design
To gain back ground information, to define items, to clarify problems and hypotheses [or research questions], to establish research priorities.	Exploratory
To describe and measure phenomena at a point in time	Descriptive
To determine causality	Causal

Adapted from Burns and Bush (2000) in Elanain (2003)

This research will be essentially conclusive (largely causal) but it will also contain elements of exploratory research. This is because its primary objective is to verify insights into the financial performance of product diversification and assist managers in selecting an appropriate course of action. In this respect, it has some clear data needs, such as, business performance data and financial resources. Some external factors can also be identified and quantified. Accordingly, the sample will be objectively selected to permit limited generalisation of the findings and qualitative analysis will be used to examine the differences between resources. These differences, together with external factors will be used to analyse their impact on business performance and tentative inferences and recommendations will then be drawn from the data. In this respect the research will be a mixture of exploratory and conclusive research.

The conclusive part of the research will utilise a longitudinal study for the period 1997-2004. It will be essentially descriptive because it aims to describe and/or measure phenomena at a particular point in time. This will involve the

identification of specific resources, the bundling of resources and the relevant external factors. It is, however, also causal because the research aims to determine, which external factors have an impact on organisational performance, and ascertain the impact of resource differences on product diversification. The causal aspect of the research is to some extent restricted by the use of statistical techniques, which can only measure relationships rather than causality. It is also difficult to demonstrate that all of the causal variables have been taken into account (Burns and Bush, 2000 in Elanain, 2003).

This research is also exploratory because it seeks to clarify the problem of resource operationalisation and the complexity of resource relatedness in product diversification. Using each of Parasuraman's (1991) components it seeks to generate insights into the nature of resource relatedness in product diversification. The data needed for comprehensive resource identification, however, is both vague and ill defined. The sample will, therefore be small and subjectively selected for resource bundles and the approach to data collection was essentially flexible. This is because this is the first attempt at fine grained analysis in this area and there were no precedents to follow.

This examination of research design demonstrates it is driven by the nature of the problem and the availability of data. It is, therefore, perhaps not that surprising that not surprising that the research combines elements of exploratory, descriptive and causal research.

4.7 Research Methods

Travers (2001) stated that the choice of methodology is based on the assumptions that the researcher has made. These may "be epistemological or political in character" (p.vi), or based on the assumption that the researcher supports "the view of the world that is promoted by a particular theoretical tradition" (p.vi). The discussion below is based on the assumptions that

resources and external factors are varied and require a range of epistemological and ontological positions. The research methods have also been applied in an endeavour to balance reliability and validity.

4.7.1 Method Options

This section will address a range of research methods available to researchers, discuss their respective advantages and disadvantages, and address possible combinations of methods.

Research methods can be divided into two broad areas: qualitative and quantitative (e.g. Bryman 2004, Saunders et al 2003).

Hitt et al (1998) have argued that qualitative methods can provide richness and a full understanding of a particular problem or set of issues. Specifically, qualitative work tends to be: "rich, full, earthy, holistic 'real'; their face validity is unimpeachable" (p. 590). It can provide "a far more precise way to assess causality in organisational affairs than arcane efforts like cross-lagged correlation" Miles (1979, p.590). Qualitative methods can also facilitate the production of "serendipitous findings" and "unforeseen theoretical leaps" and has the additional quality of "undeniability" (Smith, 1978 in Miles, 1979). Qualitative techniques are also useful in terms of providing practical insights (Shrivastava, 1987) and placing empirical evidence in a context, thereby, making it understandable and useable in a complex world (Hopkins and Hopkins, 1997). Case studies, in particular, can also provide a chain of evidence that highlights causality (Yin, 1981) and can give verification through triangulation (Shrivastava, 1987 and Hammersley and Atkinson, 1983).

The disadvantage with qualitative methods is that they can be laborious and some academic commentators have argued that they are essentially storytelling and do not lend themselves to generalisations (Stake, 1997).

Concerns have also been expressed about self reporting bias (Conant et al,1990),

Quantitative research methods can handle large amounts of data and are conducive to the analysis of large sample studies involving large amounts of data. They also produce precise statistical relationships, which qualitative analysis cannot do and are more conducive to producing generalisations (Hitt et al, 1998). Quantitative analysis, however, does have some disadvantages. For example, Hitt et al (1998) criticise the use of regression and cite Camerer and Fahey (1985) who express a concern about the failure of regression “to specify alternative theories prior to empirical testing” and “its weakness in establishing causation and disequilibrium affects" (p.11).

Given the wide range of areas of possible research topics, it is impossible to make broad definitive statements about what is the correct research design or research method. There is a tendency, but only a tendency, to use quantitative analysis for deductive scientific positivistic theory testing. Also qualitative techniques have a tendency to be used in inductive interpretivist work were changes depend more on peoples’ perceptions of reality. These general arguments suggest that quantitative analysis is more inclined to be objective and positivistic where as qualitative analysis more interpretivistic and constructionist (Bryman, 2004).

Perhaps more importantly, these arguments suggest that researchers should consider combining the two research methods. Combinations of research methods have been seen since 1988. Arguments for using just one research method stem from the fact that they are regarded as emanating from quite distinct philosophical traditions. However if they are looked at on a technical level, i.e. as a means of data collection and analysis, they can be comfortably combined (Bryman, 2004). Alternatively, a research project could combine more than one epistemology and ontology and combine differing methods in line with the traditions. This enables the selection of methods to fit the approach without the same time weakening the role of epistemology and ontology.

RBV research does not fit neatly into any of the contrasting epistemological or ontological positions. Therefore, following Bryman's (2004) logic it can be argued that research in this area should adopt a combination of qualitative and quantitative research methods. The literature review revealed that research in RBV is wide ranging and this consideration too could be regarded as a justification for using different research philosophies methods.

4.7.2 Combination of Methods

The research methods literature is not adverse to combining research methods (Hammersley, 1996 and Morgan, 1998 in Bryman, 2004)

Hamersley (1996) identified three approaches:

- triangulation - involves qualitative and quantitative analysis corroborating each other.
- facilitation - involves one research method supporting or informing the more dominant method.
- complementarity – involves two research methods being used to "dovetail together", Under this approach no method can be regarded as dominant.

Bryman (2004) developed the combined methods approach by providing a rationale of how and why research methods should be combined. Combined research methods have the advantage of potentially filling any gaps that might be created by simply using just one method. Similarly, one method could be used to assist the other. For example, a qualitative method could be applied to generate hypothesis and the quantitative method used to analyse the results. Bryman (2004), however, also discusses the disadvantages associated with combining different research methods and argues that they are not a substitute for well designed research. From a pragmatic perspective,

time restraints and the costs associated with undertaking the research could also detract from using a combination of research methods.

As argued earlier the research methods in this research will use a pragmatic approach and combining different methods, using Hammersley and Bryman as a template.

4.8 Strategic and RBV Research Methods Context

This chapter has examined research philosophies and methods used in social sciences. It will now review the literature on research in strategic management and specifically examine methods used in RBV. The aim is to identify any concerns that are raised by the literature when conducting research in this area. This section will also review both the DRBV and GRBV literature to ascertain whether GRBV research methods are appropriate for undertaking single industry fine grained DRBV research.

The tendency is for GRBV empirical work to be single firm and typically qualitative (see for example, Collis ,1991; Fiol,1991; Grant, 1991; Leonard Barton,1992; Hall,1992 and 1992; Henderson,1994; McGrath et al,1995; Mehra,1996; Javidan, 1998; Marcus and Greffen,1998;Yeoh and Roth,1999; Larson and Finlestein, 1999; Tripsas and Gavetti,2000; Carmelli and Tischler, 2004; and Skaggs and Youndt, 2004). Some studies use both qualitative and quantitative techniques (see for example, Henderson and Cockburn, 1994; Ray, Barney and Muhanna, 2004; and Ethiraj et al, 2005). Examples of studies that are exclusively quantitative include Mosakowski (1993); Harrison, Hall and Nargundkar (1993); Miller and Shamsie (1996); Mosakowski (1997); Pennings, Lee and van Witteloostuijn (1998); Bergh (2001); De Carlois (2003); and Liberman and Dhawan (2005). Some studies can be classified as single resource work (for example, Henderson, 1994) and some examine multiple resources (for example, Javidan, 1998). Some of these researchers select the resources for examination (Rao, 1994) were as others allow

industry experts or the organisation to do so (Knott, 2003). The later approach allows industry heterogeneity to be taken account but it can create comparability problems for multi industry studies.

DRBV is generally more quantitative than GRBV (see for example Wernerfelt and Montgomery, 1986; Chatterjee; 1992; Ingram and Thompson, 1994; Klepper and Simons, 2000; Reuer and Koza, 2000a; Karim and Mitchell, 2000; Leiblein and Miller, 2003; and Miller, 2004; etc). It typically relies on researchers to select the resource proxies and uses multiple regression techniques. However this type of research is becoming less common. There is some combined Capron, Dussage and Mitchell (1998), St.John and Harrison (1999), Mayer and Whittington (2003) and Koor and Lebleici (2005). Furthermore, there is a very small group of work which looks at diversification using small samples, which is more in depth and uses qualitative methods such as questionnaires (Nayyar, 1990; 1992; and 1993).

DRBV work is a mixture of single resource, for example Maijoor and Van Witteloostuijn (1996) and multiple resource (Ingram and Thompson, 1994; Chatterjee Wenerfelt, 1991; and Chatterjee and Singh,1999). Likewise there is limited single industry DRBV work (Batiz-Lazo and Wood, 2001; Ingram and Thompson, 1994; and Grant, 1987 and 1992), none of these are primarily focused on RBV.

Authors, such as, Scandura and Williams (2000) and Gummerson (2000) have raised the possibility of one research approach dominating these studies. This is an important concern because it is unlikely that there is any one single way of approaching DRBV research. Nevertheless, DRBV research has been largely positivist, qualitative, objective, scientific and experimental, as opposed to qualitative, subjective, humanistic and interpretive (Hussey and Hussey, 1997). This singular approach is also defended by commentators, such as, Palepu (1985) who argued that taking a positivistic approach using SIC (standard industry codes) to measure diversification is well accepted, replicable. Moreover the data, based on SIC codes, is readily available. Somewhat interestingly, Palepu (1985) does not

discuss the alternative interpretivist approach, which would stress validity, richness and subjectivity.

Another concern is that in those instances where the researchers select the resources for examination, there is a distinct possibility that it can lead to a researcher espoused theory (Argyris and Schon, 1978 in Mahoney and Sanhcez, 1997). Such studies also run the risk of not taking into account organisational constraints and different external environments, which typically necessitate different resources

In response to these concerns there have been calls for the use of a wide range of research methods (Powell, 2003), so-called triangulation (Scandura and Thompson, 2000), and different perspectives (Gummerson, 2000). The use of multiple methods has the additional benefit of being more realistic. Moreover, it has been argued that following methods used in previous studies can result in poor measurement (Boyd, Gove, and Hitt, 2005).

A good example of multiple research methods is Snow and Hambrick's (1980) (cited in Conant et al, 1990) study. They use four approaches for identifying and measuring diversification strategies and specifically warned against the use of single item scales and a single measurement approach. The four approaches are as follows:

1) Self typing - where respondents classify their organisation
2) Objective indicators – such as, percentage sales from new product, or external data, perhaps from CEOs interviews.
3) External assessment – using expert panels
4) Investigator inference - from interviews with industry experts, or extracting information from reports, government documents and press releases, etc.

Similarly, Venkatraman and Grant (1986) have expressed concerns over single item scales, except in early operationalisation. Rather, they prefer multi

item scales because they provide more discriminatory power and less measurement error.

If researchers are following previously used methodologies it is not surprising that weaknesses have been found, firstly in the use of construct validity, and secondly content validity.

Construct validity is “the extent to which the study investigates what it claims to investigate” (Gibbert, 2006 p.126). Scandura and Williams (2000) found a decrease in the use of construct validity in strategic management research from 84.3% in 1985-87 to 25.2% in 1995-97. More specifically, Boyd et al (2005) reviewed construct measures and argued that researchers are not aware of weaknesses in construct measures and what they measure. They list measures starting with the weakest: single indicators, single ratios, discrete indicators involving several single indicators, indices and finally scales and multiple measures. Weakness in construct validity is also apparent in the use of proxies in large sample empirical studies. (Barney, Wright and Ketchen, 2001). ‘However methodologies involving "indirect" observation could lead to erroneous conclusions: The researcher may not observe he or she set out to observe, and this impairs the construct validity of empirical findings in the RBV’ (Gibbert, 2006a, p.148)

With regard to content validity, Venkatraman and Grant (1986) define it as the "extent to which empirical measurement reflects a specific domain of content" (p.79) and Robins and Wiersema (2003) claimed that it is at the core of empirical research. Nevertheless, Robins and Wiersema (2003) argued that because there is no standard measure for content validity, little attention is paid to it and researchers typically look for convergence with past work.

4.9 Quantitative and Qualitative RBV Research Methods

This section examines the use of Qualitative and Quantitative methods in RBV research. It is worth stating again that no method or combination of methods is perfect. For example Bowen and Wieserma (1999) are critical of regression analysis in strategy and qualitative methods have been criticised by Spanos and Lioukas (2001).

4.9.1 Quantitative Methods

Quantitative DRBV work, which is typically multi industry, tends to use up to three sets of data: firstly, measures of relatedness, to measure level of diversification; secondly, externally available data proxies to measure resources across a range of industries; and, thirdly performance measures to assess firm performance.

4.9.2 Measurements of Relatedness

There has been a division on how to measure relatedness, which tend to include subjective measures, industry indices, (the most widely used being standard industry classification codes (SIC) codes), entropy (a measure of weighted sales) and Herfindal (measure of market share).

Rumelt (1974) following Wrigley (1970) used semi subjective researcher assessed classification. These involved a mixture of approaches and incorporated constrained (restricted to a central skill) and linked diversification (linked in some way, such as, markets or distribution systems) and unrelated. The most widely used industry index, however, are SIC codes (standard industry classification) codes. They are widely used in US based research (see for example, Palepu, 1985; Chatterjee and Wernerfelt, 1991; Davis and

Duhaime, 1992; Chang, 1995; Farjoun, 1994 and 1998; and Hansen, Perry, and Reese, 2004). SIC codes are numerical. In the UK they are up to five digits: the first two digits give a broad grouping, for example, 65 includes financial intermediaries, except insurance and pension funds. Third digit, for example, 65.1 denotes monetary intermediation, and the fourth and fifth digit (for example, 65.12/2 includes all building societies and 65.12/1 includes banks other than the Bank of England, discount houses and National Savings Banks (ONS website 28.5.2010). There are also two different types of diversification measures: categorical, which distinguishes one firm from another (for example, Wrigley, 1970 and Rumelt, 1974) and continuous diversification, which examines the scale of relatedness and typically involves SIC codes (for example, Robins and Wiersema, 1995).

Both measures have both been used to measure diversification but SIC codes have been more popular possibly because they involved less work and were reliable. However, SIC codes have been criticised on the basis that they are coarse and one dimensional.

Robins and Wiersema (1995) have argued that SIC codes are relatively coarse and provide a weak source of substantive relationships among industries, thereby, creating problems when trying to identify fine distinctions within the data. Similarly, Silverman (1999) has argued that because SIC codes are based on outputs, industries with different codes are assumed to be equidistant and 3 and 4 digit codes are assumed to be similar. They are also somewhat limited when looking in any detail at a single industry. In this respect, they are too restrictive for fine grained studies.

The criticism that SIC codes are one dimensional is based on the fact that they are supply side based and ignore other elements, such as, different customer segments, or commonalities in the production process (Hawawini, et al, 2003; and Markides and Williamson, 1996). Markides (2002) is also critical of SIC codes because they do not measure assets but as already mentioned focus exclusively on outputs.

Some researchers are aware of these problems but are less forthcoming when it comes to resolving them. Bowman and Helfat (2001), for example advocated that researchers should not rely exclusively on SIC codes. Jacobides and Winter (2005) similarly argued for 'a new empiricism, which defines industries in a more dynamic way, which transcends the traditional SIC definitions, and focuses on the comparative analysis of value chains instead' (p.410).

4.9.3 Proxies

The quantitative DRBV approach makes use of resource proxies and typically uses external data from a range of industries and coverts it into proxies to measures resources. For example, Chatterjee and Wernerfelt (1991) used research and development (R and D) to sales as a proxy for the R and D resource, and advertising to sales for the marketing resource. An advantage of proxies is they are readily available and provide reliable data, which can be used 'to proxy non observed individual characteristics' (Merino and Rodriguez, 1997, p.734).

The use of proxies, however, has incurred a number of criticisms. In broad terms these criticisms can be categorised as follows: i) what resources can be measured; ii) how accurate are the measurements. This criticism is compounded by the fact that, iii) proxies are used to measure several resources; and, iv) proxies do not have the facility to take into account firm heterogeneity. This is a particular problem with multiple industry studies and has led to attempts to refine quantitative methods and adopt a different approach.

Taking each of these criticisms in turn:

Which resources can be measured – this concern was raised very early in the literature. Rumelt (1982), for example, acknowledged that proxies can

constraint the areas that quantitative methods can access. Similarly, Liberman and Dhawan (2005) acknowledge that proxies limited the capabilities they were able to research. Likewise Barnett et al (1994) when they examined competition in retail banking and competence development, acknowledged limitations of proxies in accessing internal factors.

How accurate are the measurements- this raises the question as to how close the data is to the resource that it purports to measure? Verona (1999) argued that there was a weak link between variables and proxies. Barney and Zajac (1994), for example, expressed concern that Rao (1994) measured car producer reputations by the finishing position of their cars in competitive races. Miller and Shamsie (1996) acknowledge problems with proxies but, nevertheless, measured systemic knowledge based resources by using production costs on an aggregated industry basis. Mosakowski (1993) used corporate strategies (focus and differentiation) as a proxy for the resources associated with the strategy. Mosakowski acknowledged that the proxy had some weaknesses because resources may be different for firms with either the same product or same strategy.

Spanos and Lioukas (2001) argued that 'it appears impossible to capture the essence of valuable and hard to imitate idiosyncratic firm qualities from crude financial measures' (p.916). Ingram and Thompson (1994), for example, used the ratio between Head Office staff to total assets as a proxy for the management teams' capacity but acknowledge that it could not distinguish between differences in management quality. However, they also argued that they could not think of a better method of measuring management competency. Pennings, Lee and van Witteloostuijn (1998) have also expressed concerns about their statistical measurement of social capital and McGrath et al (1995) citing Clark, Chew and Fujilmoto (1987) have stated that 'publicly available data on R and D … does not provide evidence … on the operating characteristics of the firm'.(p258).

Proxies can be used to measure several resources- Sharma and Kesner (1996) similarly used fixed assets to sales as a proxy for asset dissimilarity

but admitted that this ratio could also be used to measure business efficiency. Boyd et al (2005) highlighted a range of measurement problems when size is used as a proxy for available resources; core rigidity; public profile; and propensity/ability to initiate competitive action. This raises a more fundamental question: if a single proxy can measure several resources how can it accurately measure a single resource?

Referring back to literature review the problems with measurement can be attributed to issues associated with causal ambiguity in large quantitative sample studies (Lockett and Thompson, 2001) and intangible resources Robins and Wiersema (1995).

The ability of proxies to measure firm heterogeneity- this is a problem when researchers use resource proxies across multi industry studies (see for example, Markides and Williamson,1996; Ginsberg, 1990; and Amit and Shoemaker, 1993).

The problems associated with proxies are not confined to DRBV. For example, Brush and Artz (1999), Harrison et al (1993), Pennings, Lee and van Witteloostuijn (1998) Miller and Shamsie (1996) all used proxies in GRBV. Moreover, Hamel (1991) was concerned with complex causal problems and argued that crude proxies result in research losing its value. This is because crude proxies tend to discount multi dimensionality and arrive at narrow theories. Despite these criticisms, proxies are a common method of measurement in diversification research.

There is, nevertheless a need for more general work in this area of measurement. Chang (1995), for example, expressed concern that inferred learning from sequential entry was not directly measured and argued for better measurements techniques to be developed. Berman, Down and Hill (2002) similarly argued that more research was required on identifying the inputs and outputs that can be proxied. Table 4.4 and Figure 4.1 summarises the main criticisms of proxies.

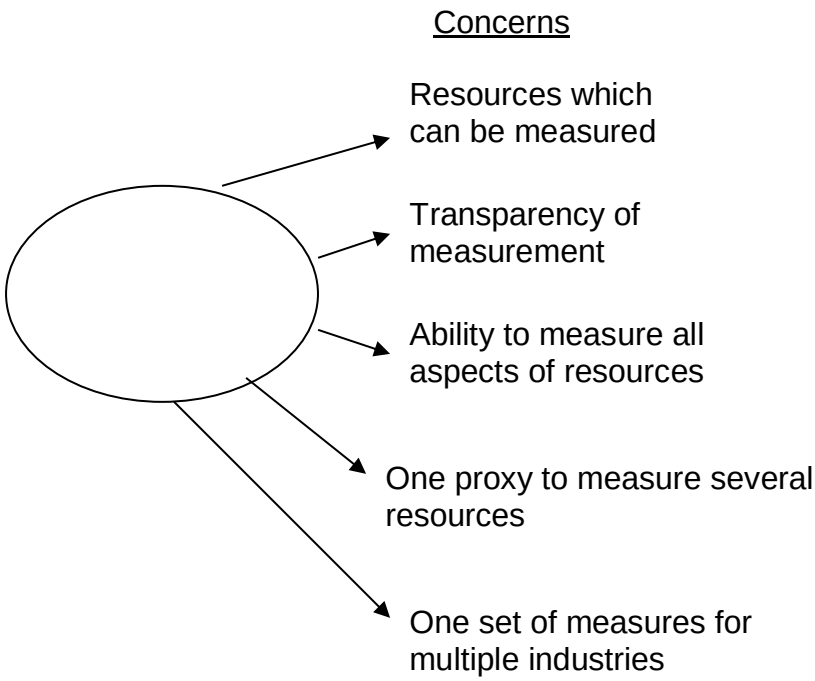
Table 4.4 Use of Proxy- Concerns

Author	Concerns
Which resources can be measured?	
Rumelt (1982)	Proxies constrain areas which can be accessed
Liberman and Dhawan (2005)	Cannot look at all capabilities because of weaknesses in proxies
Barnett et al (1994)	Limitations in accessing internal factors
Harrison et al (1993)	Proxies are coarse grained and cannot measure resource and skills development
How accurate are the measurements? (Transparency)	
Verona (1999)	Weak link between variables and proxies
Barney and Zajac (1994)	Concern over measuring auto makers reputation by finishing position in competitive races
Miller and Shamsie (1996)	Proxies can produce trivial indices
Mosakowski (1993)	Weakness of using strategy followed as proxy for resources used
Brush and Artz (1999)	Proxies mean there is a need to infer details of the unobserved
How accurate are the measurements? (Inability of a proxy to measure all aspects of a resource)	
Spanos and Lioukas (2001)	Concerned impossible to measure idiosyncratic resources from financial measures
Ingram and Thompson (1994)	Weakness in measuring capacity of a management team
Penning, Lee and van Witteloosuijn (1998)	Crude measurement of social capital
Clark, Chew and Fujimoto (1987) in McGrath et al (1995)	Cannot provide evidence of firm operating characteristics
Connor (1991) in Rouse and Daellenbach (2002)	Weakness in using product launches as an R & D proxy

Harrison et al (1993)	Weakness in using variance in R & D intensity to measure financial resource allocation
Same proxies used to measure several resources	
Boyd et al (2005)	Size used to measure four different resources
Ability to measure resources using a limited number of researcher decided resource proxies in multi industry studies	
Markides and Williamson (1996)	Concern expressed over ability to measure resources using a limited number of researcher decided resource proxies in multi industry studies

Figure 4.1 summarises the proxy concerns.

Figure 4.1 Proxy Concerns



4.9.4 Performance Measures

The literature reveals that growth and returns are the two most dominant means of measuring the efficient use of resources. Palich, Cardinal and Miller (2000), for example, use growth and profitability; Mishina et al (2004) use

growth; Barney (1986) uses normal returns; Teece (1986), Hitt, Ireland and Harrison (2001); and Knott (2003) use returns. Similarly, Robins and Wiersema (2003) cite Barney (1998) and Penrose (1959) and argue that profitable growth comes from exploiting resources,

Whilst return and growth are relevant to both mutual and profit maximising organisations, they are viewed differently. This difference will be revisited within the context of Research Question 5.

4.9.5 Findings Generated by Quantitative Research

Quantitative research findings generally have partial explanatory power and, although they can reveal relationships between resources and performance they do not shed any light on causality. In this respect, the conclusions generated by quantitative research can be limited and, in some instances, they can be conflicting.

Prahalad and Bettis (1986) argued that these problems emanate from the fact that statistical research only provides partial answers and limited explanations of the variance in performance: Rumelt (1974), for example, explained less than 20 percent of the variance in performance, Sharma and Kesner (1996) 26 percent and Montgomery (1979) only 38 percent. This suggests that there is considerable scope for a change in methodology, which will more accurately measure the variance in performance. King et al (2004) have argued that the large unexplained variance figures may also explain significant variances in post acquisition performance. Hansen et al (2004) responded to these criticisms by using Bayesian analysis and identified 96 percent of the variance in performance. However, this study focussed on a single firm and Bayesian analysis has not been used in DRBV studies.

Secondly, limits to conclusions, the use of external only data can limit the explanatory power of research. Chatterjee and Wernerfelt (1991) find that

some firms are better at diversification strategy and industry selection but do not analyse why this happened. Similarly, Slusky and Caves (1991) have a general conclusion that 'agency and management factors are bound up with corporate mergers' (p.294) but are unable to say how. Likewise Villagonga and McGahan (2005) cannot argue stronger than certain resources maybe valuable when protected from imitation and Mayer and Whittington (2003) were aware they could not explore why performance varied.

The diversification literature using quantitative methods, has also produced conflicting results. For example, Chatterjee and Wernerfelt (1991) highlighted disagreement between the research by Lubatkin (1987) and Rumelt (1974). Similarly, researchers, such as, Montgomery (1979), Bettis (1981), Rumelt (1982), Palepu (1985) Varadarajan (1986), Varadarajan and Ramanujam (1987) Jose, Nichols and Stevens; Lubatkin and Rogers (1989) found that related diversification produced better performance than unrelated diversification. In response, Chatterjee and Wernerfelt (1991) suggested that multi industry quantitative research should be "refined", but they provided no insight into how this could be achieved.

4.9.6 Refinement of Quantitative Methods

The conflicting results have led to a review of the research methods. These go further than the criticisms discussed above and include suggestions, of varying detail, to improve quantitative methods. Rouse and Daellenbach (1999) argued that RBV needs a different approach because large cross sectional studies are unable to disentangle all of the resource considerations that determine sustainable competitive advantage. In essence, they were arguing that researchers in strategy need better measures of firm resources. Shoenecker and Cooper (1998) similarly argued that financial statements are too coarse to provide sufficient insight into resource allocations. In this respect, financial statements might not provide sufficient information to adequately examine differences across firms.

In particular, SIC codes, resource measurement and the question of partial answers, have been addressed in the literature.

Regarding SIC codes, Robins and Wiersema (1995) argued that the occupational data codes used by Farjoun (1994) and Brumagim (1992) and Klavans (1990) in addition to SIC codes, are an improvement. They also suggested measurements using patterns of technical inflows as indirect indicators of strategic similarities. This approach involves a single measure and will not be appropriate in every industry. Moreover, it ignores other factors, such as finance and customers.

On the question of resource measurement, Levitas and Ndofor (2006) suggested that econometrics could provide better examples of the use of proxies. However, the emphasis in Levitas and Ndofor's paper is on the development of mathematical proxies and the issue of using external information to provide additional insights into an organisation is not addressed. A different approach is advocated by Cockburn et al (2000) who suggested using internal proxies, such as, internal output measures, which were backed up by interviews. This suggestion has been used by Ray et al (2003), Ethiraj et al (2005), and Henderson (1994), etc.

Hansen et al (2004) attempted to improve the quantitative methods by using Bayesian analysis. This approach enables them to create "what if" scenarios and take account of unobservables. Merino and Rodriguez (1997), following and citing Chamberlain (1980), use another method of measuring unobservables the statistical conditional likelihood approach. The primary objective of these alternative approaches is to improve the resource measures and reduce the amount of unexplained variation.

The research in this area, however, still fails to tackle concerns about indirect observations using numerical proxies. This failure can lead to erroneous conclusions because the researcher may not be observing what they intended to observe (Gibbert, 2006a). Furthermore they argue this can impair the

construct validity of empirical findings of RBV. More general concerns about quantitative methods are expressed by Starbuck (1993) who has expressed concerns about the assumptions embedded in data. This has led Starbuck to argue that: 'so called 'rigorous' methods are very prone to yielding deceptive data that is based on averages and lacks validity. In particular, Starbuck (1992) wants to avoid averages. In this respect, he cautions that quantitative data can over simplify situations and be blind to "individuality, peculiarity, excellence, interaction and subcultures" (p.889)

Although there has been a noticeable reduction in quantitative work since the mid 1990s, it does have some advantages. Palepu (1985), for example, in arguing for the use of proxies claims that they are easy to collect and they facilitate comparisons. Quantitative data is also an objective and reliable form of measurement, which fits with positivistic research.

This thesis, therefore, accepts that quantitative data (for measuring relatedness, resource proxies, and performance) is an established, though not perfect, tool of business research. However, it should be used with care and where possible take account of the criticism outlined above. Specifically, it should be refined or used in conjunction with other research methods. Whilst there has been some criticism of business performance measures their use has not been criticised to the extent that measures of relatedness and proxies have and they are consistently used in the more recent GRBV literature (see for example, Ray et al, 2004; and Ethiraj et al, 2005). Table 4.5 summarises the main approaches to refining quantitative research methods in this area.

Table 4.5 Summary of Quantitative Methods Refinement

Author(s)	Refinement
Rouse and Daellenbach (1999)	More work needed on refining measures of large multi industry studies

Shoenecker and Cooper (1998)	Measures too coarse
SIC codes	
Robins and Wiersema (1995)	Use occupational data codes In addition to SIC codes
Resource measurement	
Levitas and Ndofor (2006)	Use econometrics
Cockburn et al (2000)	Use more sophisticated proxies – internal data and interviews
Ray et al (2003), Ethiraj et al (2005), Henderson (1994) and Henderson and Cockburn (1994)	Use internal measures
Others	
Hansen et al (2004)	Bayesian analysis
Merino and Rodriguez (1997)	Statistical conditional approach
Starbuck (1992 and 1993)	General quantitative criticism lack validity and oversimplify

4.9.7 Qualitative Methods

It has already been pointed out that qualitative methods facilitate a richer method of data collection. It is also more conducive to obtaining insights into complex systems, especially, complex interactions between managers, employees, and the external environment of the organisation (Bettis and Prahalad, 1985). These considerations are essentially non linear and this raises the question as to how appropriate it is to use quantitative measures in these instances. In contrast a qualitative approach enables the research to get closer to managers (Nayyar, 1992; and Stimpert and Duhaime, 1997). In this respect, qualitative methods, such as surveys, can provide detailed information on particular industries, which can produce “an accurate breakdown of returns within more narrowly defined industry segments” (p.20)

(Bowman and Helfat, 2001). This additional information can improve resource identification and increase the possibility of establishing causality.

Improvements in resource identification- Godfrey and Hill (1995) believe that research into unobservables, i.e. intangibles, can be improved by repeated clinical studies based on a collection of firms in the same industry, and by using qualitative methods. Anand and Khanna (2000) called for more work on unobserved areas in alliance building. They went on to list intangibles [resources] as including personal, and organisational and cultural factors. Rouse and Daellenbach (2002) developed this approach by suggesting that researchers should attempt to "look inside firms" and augment their findings with complement secondary data. Similarly, Henderson and Cockburn (1994) argued that in depth interviews of 1-3 hours gave them the opportunity to capture some of the richness and complexity of competences.

Qualitative resource identification can be undertaken from outside the organisation. Mehra (1996), for example, used a panel of 12 industry experts to evaluate resource endowments. Combs and Ketchen (1999) citing Chen, Farh and MacMillan (1993) support this approach and argue that expert opinions are an effective and valid way of measuring unobservable constructs. Collis and Montgomery (1995) also believe that resources can be difficult for managers to value and that outsiders can sometimes form a more objective assessment based on published financial information.

The use of outsiders might, therefore, provide insight and arguably more detail than simply relying on ratios from external data. External experts are arguably more independent than internal observers but sight must not be lost of the fact that they are still outside the organisation. In this respect, there remains a question mark against how far they can access the unobservable and could close the gap of unexplained performances.

Causality - Iansiti and Clark (1994), and Tripsas (1997) used detailed case studies and were able to explain certain outcomes. In other words they were able to identify and explain the nature of causal relationships. Likewise

Henderson (1994) used case studies to examine the reasons behind successful drug discoveries and were able to explain what happened and why. In fact, a number of researchers have chosen to use qualitative methods, which typically involve going inside the organisation and using questionnaires and interviews to explain causality. Table 4.6 reveals the extant literature together with the research methods and findings from this research.

Table 4.6 Qualitative Methods Used in RBV Research

Author(s)	Research Method	Findings	GRBV, DRBV or other
Carmeli and Tishler (2004)	Interview pilot and questionnaire of general managers	Performance strongly explained by six intangible elements	GRBV
Collis (1991)	Single industry study with interviews with senior executives.	RBV complements economic analysis both essential to understand global strategy	GRBV
Ethiraj et al (2005)	In depth interviews and 6 years of performance data	Firm capabilities are often context specific. They contribute to firm performance	GRBV
Hall (1992)	CEO questionnaire	Identifies four intangible resources or capabilities most important employee know how	GRBV
Hall (1993)	Case studies including structured interviews using a predetermined of intangible resources list	Seeks to give structure to identifying nature and role of intangible resources. Suggests an audit and a manager of intangible resources	GRBV
Hitt and Ireland (1985)	Questionnaires.	'Corporate distinctive competences may facilitate effective man of interdependencies among multiple units'.(p.273)	GRBV
Javidan (1998)	Range of managers where asked, mainly in groups What they knew their firms did well?	'Managers from various parts and levels of the corporation should take part in the competency [identification] exercise'. (p.70) this should be a key part of strategic planning	GRBV
King and Zeithaml (2001)	Top and Middle managers 7-9 per organisation Interviews and questionnaires Identified resources - Top Ranked resources - Middle	Organisations with low [causal] linkage ambiguity have high performance.	GRBV
Knott (2002)	Managers from a cross section of functions and levels.	Some competences enduring over time and hard to alter,	GRBV

	Three cases. Looking for uniqueness and generic factors behind delivery of value. Also direct observation, documentation and consultation with external parties in addition to interviews	conversely others changed significantly during the study.	
Maritan and Brush (2003)	11 plant workers team leaders, business unit managers and corporate staff in four plants. Using semi structured interviews Some telephone follow up, some informal contact with other plant workers	There are intra firm isolating mechanisms which inhibit capability transfer similar to inter firm isolating mechanisms.	GRBV
Mehra (1996)	An expert panel of 12 industry experts to rate on a 7 point likert scale the capabilities of 45 US banks, this was subject to some inter raterr and business press checking, no major problems were found in this check.	Gap between possession and utlisation Some resources have a disproportionate degree of advantage others only work in certain combinations	GRBV
Schroeder et al (2002)	23 staff in each plant 8 different technical staff two groups of 4 workers questionnaires	Internal learning comes from cross training and suggestion schemes. External from suppliers, customers and proprietary processes and equipment by firm.	GRBV
Sharma and Vrendenburg (1998)	Top managers Staff and line/operations managers, technicians and engineers In depth interviews and mail survey	Industry stronger than firm or relatedness. When explaining post entry survival and growth	GRBV
Spanos and Liokas (2001)	Some CEOs questionnaires	'Industry forces influence market performance and profitability, firm assets act upon accomplishments in the mkt arena (ei market performance, and via the latter, to profitability'.(p.907)	GRBV
Tripsas and Gavetti (2000)	Single firm case study including, CEO level, other senior management, mid level project managers, first line	'Polaroid clearly illustrates the importance of management cognitive representations in directing search processes in a	GRBV

	research scientists and marketing specialists covered a rage of functional areas, R and D, marketing and manufacturing. Conducted 20 interviews with 15 people.	new learning environment, the evolutionary trajectory of organisational capabilities, and ultimately process of organisational adaptation'. (p.1147) Polaroid responded to technical changes but not in the competitive landscape.	
Yeoh and Roth (1999)	Interviews with product and marketing managers and external experts	Suggest need a layered approach to resources or at least a hierarchical view as one set of resources gains value through its contribution to changing another set of resources'.	GRBV
Capron et al (1998)	Senior managers	Targets and acquires frequently deploy resources following horizontal acquisition	DRBV
Grant (1992)	Records in the public domain and interviews.	Diversification did not result in significant performance improvement largely due to limited benefits from sharing and transferring activities and skills when balanced against the difficulties management faced due to diversification	DRBV
Hitt et al (2000)	Surveyed executives in 202 firms and semi structured interviews of 24 firm's executives.	Found important and similar company capability for both developing and emerging countries	DRBV
Hitt, Harrison, Ireland and Best (1998)	Multiple rater case survey	Target selection, friendly takeovers and configuration important factors in successful takeovers article	DRBV
Nayyar (1990, 1992, 1993)	Primary data from 80 US service firms by administering a questionnaire to CEOs, who were asked to consult relevant people where necessary. In 1992 he asked them to rank the 10 most important resources in the top ten companies within a multi firm organisation.	1990 Information asymmetries lead to costs in exchange transactions some prior to purchase if service firms diversify can reduce customer costs. 1992 'Actual not potential relatedness determines the results of diversification strategy' (p.219). 1993 Argues info asymmetry and economies of scope are benefits sought by diversifiers	DRBV

Zollo and Singh (2004)	Interviews and questionnaires to research the role of knowledge in post acquisition strategies.	Knowledge codification has a strong positive impact effect on acquisition performance experience accumulation does not.	DRBV
Lorenzoni and Lipparini (1999)	Open ended interviews with 19 CEOs, top mangers and technicians from three packaging companies The research covered 1988-1995 with interviews at the end of the period. Used technicians and engineers for detail of the processes, selected one product with help from top management.	Ability to intact with other company relational capabilities accelerates knowledge access and transfer with 'relevant effects on company growth and innovativeness'.(p.317)	RBV inter firm relationships
Skaggs and Youndt (2004)	CEOs if not COOs or presidents. One per firm to identify human capital	Strong relationship human capital and strategic positioning choices certain combinations result in superior performance.	Service Operations Human Capital
Campbell and Goold (1992)	Interview based	Looks at which skills managers focus on and central [HQ] role in managing them.	Parenting

There are two clear streams of work identifiable in table 4.6. The first typically relies exclusively on executive managers, were as the other stream draws upon a range of managerial levels. The former approach of using executive managers is supported by Simonin (1999) who argues that top executives are best able 'to observe and determine the impact of a specific alliance on the rest of the organisation's activities' (p.604) (see also Skaggs and Youndt, 2004).

The alternative approach of using a broad spectrum of managers is far more prevalent in the broad strategy and RBV literature (see for example, King and Zeithaml, 2001; (who cite Burgelman 1983, Guth and Macmillan 1986; Wooldrige and Floyd, 1990; Nonaka and Takeuchi, 1995); Javidan, 1998; and, Powell and Caringal, 2006, etc). This literature recognises that perceptions of organisational strength vary according to level of management. The literature also acknowledges that exclusive reliance on one level of management will not provide a comprehensive picture of the organisation.

As with quantitative work, the qualitative approach is not without its problems. A key issue is the perception of managers. Spanos and Lioukas (2001) acknowledge problems with perception risk and stress the importance of normalising against industry averages and the importance of guarding against industry barriers. McGrath et al (1995) provide a useful summary they cite Dess and Robibson (1984), Robinson and Rearce (1988) and, Venkatraman and Ramujam (1986 and 1987) who argue managers also have tendency to use subjective "self perception" performance measures. However, they concur with Crompton and Wagner (1994) and caution against a general condemnation of self perception and argue that respondents have skill, judgement and talent, which must be objective enough to keep them in their roles. Qualitative work also fits well with the RBVs internal focus and facilitates a richness of data, and a stronger understanding of why things happen compared to quantitative data.

4.9.8 Combined Methods

The use of combined methods enables the use of a wide array of theories, methodologies and perspectives, as advocated by Powell (2003). Hitt, Harrison, Ireland and Best (1998) advocate the development of non-traditional models, i.e. the combination of qualitative and quantitative approaches and, cite three examples of combined work in RBV, namely, Doz (1996), Collis (1991) and Kotha (1995).

Combining methods can be either sequential or simultaneous:

Rouse and Daellenbach (1999 and 2002) advocate a sequential approach and the use of quantitative coarse grained methods to identify the broad areas for further examination and then qualitative methods to examine these in more detail. Daellenbach suggests observer research is highly conducive to obtaining detailed information. There is, however, a limit to the data an observer can collect and a more balanced approach, employing a greater variety of quantitative measures, is more preferable.

Other researchers have adopted a simultaneous use of methodologies, i.e. triangulation. This can necessitates the combination of two different methodologies and can negate some of the weaknesses associated with using one methodology. The literature contains numerous examples of triangulation (see for example, Ray et al, 2004; Ethiraj et al, 2005; Henderson and Cockburn, 1994, Grant, 1992; and etc).

Combined work is not a substitute for good research design, however, it does increase the chances of effectively operationalising resources and this is precisely what quantitative multi industry studies attempt to do through resource proxies. The ability to operationalise resources is the key to reducing unobserved resources and strengthening the explanatory power of the research. Possibly because of the difficulties associated with operationalisation, some researchers have sought to limit operationalisation.

For example, Rouse and Daellenbach (2002) argued that there is no need to operationalise all the theoretical constructs. Levitas and Chi (2002) have similarly argued that empirical validation is possible without the verification of key constructs and they focus on empirical testing, the identification of patterns and creativity in operationalising. The important point to note is that well designed combined work offers the possibility both of empirical validation and strong explanation of the results (eg Ray et al, 2004; and, Henderson and Cockburn, 1994).

4.9.9 Calls for Fine Grained Research in DRBV

This research through a single industry case study answers the calls for fine grained research in DRBV (Markides and Williamson, 1996) using data from both inside and outside the organisation (Rouse and Dallenbach, 2002). Single industry studies have their weaknesses in so much as the results are not generally applicable to other industries (Hitt et al 1998). Accordingly, this single industry study does not seek or claim generalisability. Although this is a requirement of Popperian theories (see for example, Cook and Campbell, 1979; and, Gibbert, 2006), which is grounded in natural science, this may not always be achievable in RBV and more generally the social sciences (Levitas and Ndfofor, 2006).

The issues relating to the operationalisation of RBV, is a major problem (McGrath, 1996) in Das and Teng (2000); and, McGee (2004). Accordingly, the thesis responds to these calls by focusing on diversification in a single industry, i.e. U.K. based providers of banking services 1997-2004, and combining qualitative and quantitative methods. The thesis also examines multiple resources and places these in the external setting.

The call for fine grained diversification studies derives from concerns about conflicting results that have emanated from large multi industry in the DRBV literature. In addition to the four gaps already identified in the literature review

[chapter Two], the call for fine grained DRBV studies effectively constitutes another gap.

There are now five gaps as follows:

Gap One
Lack of research on firm level and industry group level resource heterogeneity in diversification, including rent appropriation

Gap Two
Lack of empirical single industry research on the importance of the external environment in diversification as part of an RBV study

Gap Three
Lack of research into resource comparison (level of similarity)

Gap Four
Lack of research into resource ranking and the prediction of business performance.

Gap Five
Lack of fine grained DRBV research

Figure 4.2 revisits the literature origins of these five gaps.

Figure 4.2 Literature Origins of the Gaps

Gaps	Literature
One Resource heterogeneity, rent appropriation and bundles Two External Environment	Dominant GRBV augmented by DRBV
Three Level of Resource Similarity	DRBV requiring GRBV underpinning
Four Resource Ranking	Blending GRBV and DRBV
Five Fine Grained Study	Research Methods

As RQ3 derives from the GRBV, DRBV and relevant research methods literature its full relationship to the literature can now be ascertained. GRBV literature establishes the importance of resource bundles which are worth more than individual resources, for example Chang and Singh (1999), Penrose (1959), Wernerfelt (1984), Barney (1986), Starbuck (1992 and 1993) Helfat (1997) and Powell and Dent-Micallef (1997). The GRBV literature also highlights issues in resource identification, originating from intangibility (eg Godfrey and Hill (1995) social complexity (eg Barney, 1991) and casual ambiguity (eg King and Zeithaml, 2001). In contrast, there is a dearth of DRBV literature creating a gap in the study of resource bundles in DRBV. Furthermore, the research methods literature highlights concerns over the use of proxies. Also the author could not identify any empirical research comparing the data from proxies with that from comments in Annual Reports. Accordingly there is gap which can be filled, in this diversification thesis, by RQ3 - As resource identification is hindered by issues including intangibility, social complexity and causal ambiguity does this mean that additional

analysis using Chairman's and CEOs comments from Annual Reports will provide a richer picture of resources and lead to the identification of resource bundles?

To evaluate the impact of similarities and differences in resources on performance and set this in the context of their external environment requires a measurement of:

1. Relatedness
2. Resources
3. External environment
4. Performance

On the question of relatedness there are serious concerns over SIC codes and the lack of sufficient information they convey. For resources there are issues associated with both content and construct validity. For example, external quantitative proxies enable objective reliable measurement but they are positivistic and there is debate about how effective their measurement is. In addition they cannot demonstrate casual linkages. Internal or external qualitative measures would be subjective but they would broaden the range of resources which can be measured. Moreover, they have high validity, can provide causality but low reliability, and are realist or interpretivistic. In this respect, there is no debate on the usefulness of quantitative measures for business performance.

4.10 Research Design

This section identifies various research design options, discusses access issues, justifies the selected research design and acknowledges that not all research is perfect (McGrath, 1982 in Scandura and Williams, 2000). The first section will set out the broad approach, it is followed by a section

examining how data was gathered and analysed for each of the research questions.

The research was initially intended to explore resource and external factor similarity and difference. This would have incorporated the ranking and strength of resources and focused on the issue of resource identification and causal ambiguity. To provide a contrast with the existing bias of DRBV towards large multi industry quantitative studies, it was planned to conduct a qualitative study of two investment banks and two commercial banks. The research was to be in two stages: i) interviews to gather a set of external factors and relevant resources; and, ii) questionnaires, which would have used a Likert scale to facilitate a more detailed and quantitative analysis of the results.

The research would have assessed diversification on a product basis (investment or commercial banking services) and would have been more conducive to a fine grained approach than SIC codes. The intention was to have measured performance using financial returns.

Access was first attempted through personal contacts in both commercial and investment banking. These contacts had been developed by the researcher who has over 28 years of experience working and lecturing in the banking industry. Unfortunately, the process of gaining access to the banks commenced in September 2007 and coincided with the run on Northern Rock. Accordingly, having conducted several interviews further access became difficult with the commercial banks and virtually impossible for the investment banks. It was, therefore, decided to completely review the research strategy.

Two alternatives were considered: the first would have involved replicating quantitative large multi industry studies using slightly different methods and/or different industries. This was rejected because it was considered that small modifications would add little to existing knowledge. The second alternative was for a single industry study that would combine qualitative and quantitative methods and rely on publicly available data. Data sources available included

Annual Reports for most sample organisations, data bases, such as, Bankscope and Fame, The Annual Abstract of Banking Statistics, the Building Society Year Book and the BSA Library. This second alternative was selected because it addressed the call for fine grained DRBV research and offered greater possibilities for creating knowledge.

This necessitated a change in the research questions. Essentially, those that required internal data (and related to causal ambiguity) were replaced with questions that focussed more on external and resource differences, and resource bundles. By drawing on objective data, such as, financial and numerical data, and subjective data from the textual analysis of documents, greater emphasis [compared to the original proposal] was placed on reliability and less on validity. Questions about the bias and perceptions of interviewees and questionnaire respondents were also eradicated. In addition, a larger number of organisations were able to be examined and there was less focus on validity because multiple proxies could now be used to measure resources, thereby, providing greater reliability. This alternative approach still answered the call for 'fine grained' DRBV research. Moreover, as far as the researcher could ascertain, single industry research, grounded in DRBV utilising both qualitative and quantitative company data solely from the public domain, has not been previously undertaken to assess business performance of different diversification strategies. Accordingly, many of the proposed research methods have been developed by the researcher. These methods operationalise the conceptual model, which was developed from the extant literature, and can be regarded as innovational and new.

The revised, more quantitative focus of the research does not necessitate the adoption of a totally positivistic outlook. The research is fine grained and examines a relatively small number of organisations in their environmental context. It does not aim to be applicable to other UK firms or to providers of banking services in other countries, nor is it looking for causal laws because it assumes firm and industry resource heterogeneity. The research is still informed by a realist perspective and aims to develop through fine grained research, a model for examining the role of RBV in product diversification.

Although the research focus is on one industry, the model could possibly be adapted for use in other industries.

The research was constrained by publicly available information but the following data was used:

- Resource proxies, [which were largely numerical]: included information on employees, branches/offices and customer data; and, financial information relating to the largest assets and liabilities, sources of income and details of impairment losses. The main source was Bankscope (consolidated accounts) supplemented by FAME, and Building Society Association (BSA) Year Book. Limited use was made of Annual Reports and Accounts.

- Reports and statements of Chairmen, CEO's and some Director's in Annual Reports: these were evaluated to establish empirically based environmental factors. It is generally acknowledged that these reports can be part of a public relations exercise. This possibility, however, is reduced by the rigorous examination they receive from analysts and investment managers, etc.

- Chairman's, CEO's and some Directors statements in Annual Reports for six organisations where evaluated for in depth resource analysis. This facilitated the gathering of in depth qualitative resource data and provided insights into resource bundles. The six were chosen on the basis of being representative of the sample organisations.

It was initially decided to look at data from 1997 [the earliest on Bankscope] to 2006. This would have provided a period of relative growth and stability, prior to the banking crisis and provide a data set spanning 10 years. The period, however, was reduced to 8 years, from 1997-2004 because 2004-5 marked the change in Accounting Standards from GAAP to IFRS. The introduction of the new reporting standards meant that the format of annual reports changed and this resulted in some major differences in the way financial figures were

calculated. This resulted in a lack of consistency and made comparisons between 2004 and 2005 onwards problematic.

The chapter has already explained that U.K. SIC codes can be too general for fine grained research. Accordingly, as discussed in chapter 3, the sample organisations were categorised according to type of financial provider. However, the range of diversification strategies adopted by building societies was too varied to fit into, the niche, partial and broad categories, and a different approach was necessary. In this respect, the products offered by the building societies were used as a starting point to categories the building societies. The information was extracted from their respective websites during June and July 2008. The comments of Chairmen, Chief Executives and, in some instances, the directors were analysed from 1997 to 2008 for new products offerings and withdrawals. In this way a profile of product offerings from 1997 to 2004 was developed. To be included in the profile, products had to be provided throughout most of the eight year period. This provided the basis for a typology of building societies based on product diversification. This ranged from the narrowest niche - Mortgages and Savings (M and S) and reflected diversification in discrete stages, as follows: Mortgages, Savings and General Insurance (M, S and GI), Mortgages, Savings, General Insurance and Commercial Banking (M, S, GI and CB), Mortgages, Savings, General Insurance, Commercial and Personal Banking (M, S, GI, CB and PB). At the other end of the spectrum to M and S, building societies involved in broad product diversification were classified as Multiple Diversification (M D).

The sample, which consists of twenty nine financial institutions, is regarded as being fairly representative of the total population. In order to reduce the impact of size, organisations with mean assets of less than £500 million were excluded. The only exception was the inclusion one fund manager, which had a mean asset figure of £397.45 million. The sample only includes independent companies because Bankscope contains only limited information on subsidiaries. In an endeavour to reduce distortions in the findings, Bankassurers, such as, LloydsTSB and HBOS, which have diversified substantially outside banking, were also excluded from the sample. London

based international organisations, which produced more than 50 percent of their income from, or if this information was not available held over 50% of their assets overseas in overseas operations were similarly excluded. As were organisations which radically changed strategy during the period such as Schroders and Bradford and Bingley. Also investment trusts were excluded as they had minimal staff appearing to outsource some activities.

Judgement calls have been used before in the diversification literature (see for example, Rumelt, 1974). Accordingly, because there was no large UK based independent investment banks an exception to the above fifty percent rule was made and four global independent investment banks were included in the sample. For consistency reasons these investment banks were chosen from one country - the United States. The U.S. has a range of large independent investment banks, which operate in markets that are not to dissimilar to London. This necessitated using financial information prepared under US accounting regulations. As such, they were not directly comparable to the U.K. financial accounts but were included to give a full range of organisations providing banking services. Finally, because Bankscope data was not always available for the entire period, only those organisations with at least five years data were included in the sample.

The organisations included in the study were initially categorised according to bank type as discussed in chapter 3. As table 4.7 reveals, for some types of bank, the sample represented the entire population.

Table 4.7 Organisations Researched - Whole Population, Industry Groups and Organisations

Industry Group	Organisation
Private bank	C Hoare
Mortgage providers (mortgage banks plus other specialist provider)	Alliance and Leicester, Northern Rock and Paragon
Other consumer credit (sub prime)	Cattles
Retail bank	Co-operative
Combined banks	Barclays and Close Brothers
UK based niche providers of investment banking services	3i, Aberdeen and Rathbone

However, for other categories of bank a representative sample was chosen, as follows:

- Four broad based investment banks – the largest US based Goldman Sachs, Lehman Brothers, Merrill Lynch and Morgan Stanley

To include all building societies with mean assets in excess of £500m would have given an unbalanced sample, i.e. 28 building societies and 16 “other” organisations. A sample was, therefore, selected, which included the top ten building societies. The smallest of these had mean asset size of £3675.13 million, whereas the other banks categories, such as, sub prime lenders of consumer credit, private bank, and specialist U.K, based investment banking had mean assets under £2bn. To address this imbalance, four building societies with mean assets below £2bn were included in the sample. This increased the product diversification range of the sample building societies because two of these were smaller niche players exclusively selling mortgages and savings (M and S) or mortgages savings and general insurance (M S and GI).

The building societies included in the sample are as follows:

- Top ten:
    - Britannia, Chelsea, Coventry, Derbyshire, Leeds, Nationwide, Portman, Skipton, West Bromwich, Yorkshire
- Four smaller Societies:
    - Hinckley, Leek, Scarborough and Progressive

Table 4.8 reveals how these building societies were categorised using the research typography.

Table 4.8 Building Society Industry Groups and Organisations in this Study

Industry Group	Organisation
B/soc mortgages and savings	Hinckley
B/soc mortgages, savings and general insurance	Progressive
B/soc mortgages, savings, general insurance and financial advice (independent or tied)	Chelsea, Coventry, Derby, Leeds, Leek, Scarborough and Yorkshire
B/soc mortgages, savings, general insurance, financial advice and business banking	Portman and West Bromwich
B/soc mortgages, savings, general insurance, financial advice, business and personal banking	Britannia and Nationwide
B/Soc multiple diversification (including diversification into database management, healthcare and other IT related areas and personal banking)	Skipton

(personal banking involves offering one or more of personal unsecured lending, and current accounts and credit cards)

The organisation of the data set based on the research design, as explained above, resulted in the following thirteen industry groups (see Table 4.9)

Table 4.9 Complete Set of Industry Groups

B/Soc mortgages and savings
B/Soc mortgages, savings and general insurance
B/Soc mortgages, savings, general insurance and financial advice
B/Soc mortgages, savings, general insurance, financial advice and business banking
B/Soc mortgages, savings, general insurance, financial advice, business and personal banking
B/Soc multiple diversification
Private bank
Mortgage specialists
Other consumer credit (sub prime)
Retail bank
Combined banks
Niche providers of investment banking services.
Broad based investment banks

This was representative of the following four broad industrial categories:

- Building Societies
- Retail banking (commercial, private, mortgage specialists, and other consumer credit)
- Investment banking (broad and niche)
- Combined banks

As Table 4.10 reveals, the following organisations did not have a complete set of Bankscope data for the entire period under investigation.

Table 4.10 Organisations with Incomplete Bankscope Year Data

Organisation	Years available
Missing One Year	
Paragon	1998-2004
Co-operative bank	1998-2004
Close Brothers	1998-2004
3i	1998-2004
West Bromwich Building Society	1998-2004
Scarborough Building Society	1998-2004
Missing Two years:	
C. Hoare	1999-2004
Missing Three Years:	
Goldman Sachs	2000-2004
Lehman Brothers	2000-2004
Merrill Lynch	2000-2004
Morgan Stanley	2000-2004
Aberdeen	2000-2004
Derby Building Society	2000-2004
Hinckley Building Society	2000-2004
Leek Building Society	2000-2004

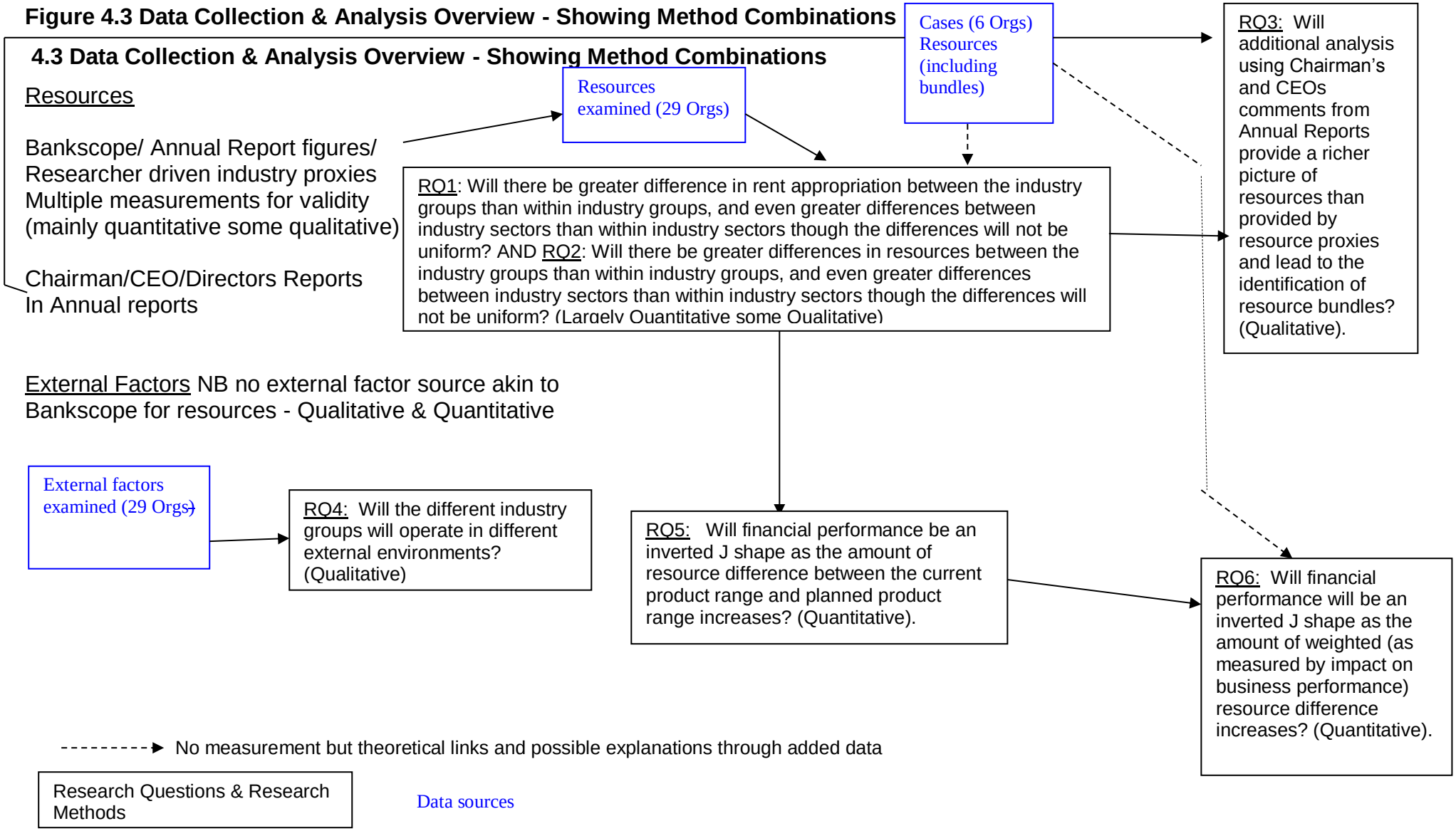
The final groupings and organisations used in the sample are shown in Table 4.11 and incorporate: private banks, mortgage providers, other consumer credit (i.e. sub prime), combined banks, U.K. based niche providers of investment banking services, broad based investment banks, and mutual societies, such as, the building societies and Co-operative Bank, which is categorised as a retail bank.

Table 4.11 Complete set of Industry Groups and Organisations

Industry Group	Organisation
B/soc mortgages and savings	Hinckley
B/soc mortgages, savings and general insurance	Progressive
B/soc mortgages, savings, general insurance and financial advice (independent or tied)	Chelsea, Coventry, Derby, Leeds, Leek, Scarborough and Yorkshire
B/soc mortgages, savings, general insurance, financial advice and business banking	Portman and West Bromwich
B/soc mortgages, savings, general insurance, financial advice, business and personal banking	Britannia and Nationwide
B/Soc multiple diversification (including diversification into database management, healthcare and other IT related areas and personal banking)	Skipton
Private bank	C Hoare
Mortgage providers	Alliance and Leicester, Northern Rock and Paragon
Other consumer credit (sub prime)	Cattles
Retail bank	Co-operative
Combined banks	Barclays and Close Brothers
UK based niche providers of investment banking services	3i, Aberdeen and Rathbone
Board Investment Banks	Goldman Sachs, Lehman Brothers, Merrill Lynch and Morgan Stanley

Figure 4.3 encapsulates the data collection methods and the methods adopted in the thesis to examine and analyse the findings.

Figure 4.3 Data Collection & Analysis Overview - Showing Method Combinations



4.11 Research Methods as Applied to Each Research Question

The research methods used to research each research question will be reintroduced, outlined in detail and justified, using epistemology, ontology, reliability and validity and methods.

The thesis uses one method of researching the research themes, research questions, which lend themselves to a broader, realist or and interpretivistic discussion of the data will be used

4.11.1 Research Question One

RQ1: Will there be greater differences in rent appropriation between the industry groups than within industry groups, and will there be even greater differences between industry sectors than within industry sectors (though the differences will not be uniform)?

4.11.2 Research Question Two

RQ2: Will there be greater resource heterogeneity between the industry groups than within industry groups, and will there be even greater differences between industry sectors than within industry sectors (though the differences will not be uniform)?

The first two research questions use the same research method, i.e., multiple resource proxies with the underlying data being obtained from Bankscope, Fame, the BSA year book and Annual Reports. Multiple proxies were used to increase measurement accuracy (see below for more details). However, this resulted in data not always being available for every organisation and to

restrict the analysis to complete sets of data would have severely restricted the analysis.

As far as the researcher cold ascertain, this is the first attempt to operationalise a fine grained DRBV study and, therefore, there is limited precedent to draw on. Whilst proxies can be justified as a first attempt at operationalisation the research, they have a number of weaknesses. These weaknesses, which have already been discussed, stem from issues, such as, transparency, which resources can be measured, and how well can proxies fully reflect all aspects of the resources being measured, etc. The researcher acknowledges that there are some resources, such as, I.T and organisational knowledge, which cannot be measured from the external data available. Regarding transparency the research uses data directly linked to the resource it seeks to measure, for example, cost income ratios for efficiency, number of branches for the network and operating losses for losses. Measuring all aspects of a resource is also extremely difficult. In an attempt to address this problem, this research uses multiple resource proxies. This method undoubtedly increases the number of aspects measured but it does not fully resolve the problem. (See below for details on how the proxies were chosen).

However, using a large number of resource measurers is an accepted method for increasing construct validity. (Boyd et al, 2005)

There is no comprehensive list of banking resources in the literature. However, as the literature review revealed, a good starting point for proxy development are Grant's (1991) six resource categories: financial, physical, human, technical, reputation and organisation.

Financial – an insight into the different aspects of the financial resources of the sample was provided by the following data sources-liquidity (Bankscope ratios), capital ratios (Bankscope for all organisations). An insight into financial risk was also obtained by calculating financial ratios from underlying Bankscope data. These ratios were used to compare losses to total balance

sheet size, profit, different measures of capital (the buffer to absorb losses) and to identify and measure the largest source of loss.

Physical – most providers of banking services have multiple branch outlets and, therefore the number of branches is an important aspect of physical resource utilisation. However, it is difficult to measure the expenditure on I.T in branches (or elsewhere within the organisation) or the impact that considerations, such as, location of branches, customer service and the quality of management have on the efficiency of branches (see, for example, Fitzsimmons and Fitzsimmons, 1996).

Human – information on staff numbers and staff costs are available. Coff (1997) and Howcroft and Hamilton (1999) highlighted the importance of human factors in determining customer retention levels in financial services and because banking has traditionally been a labour intensive industry, staff feature prominently in the related literature.

Technical – Wernerfelt (1984) argued that resources and products are two sides of the same coin, though this is not a universal view when considering diversified organisation (Markides and Williamson, 1996). Accordingly, the research endeavours to reflect the range and type of skills in the organisations and accordingly the dominant logic required (Prahalad and Bettis, 1986; and Bettis and Prahalad, 1995). This was captured through balance sheet ratios, which focus on the relative size of certain asset and liabilities, and measures of income.

Reputation – marketing spend is a frequently used proxy for reputation and this research, accordingly, gathered data on marketing expenditure.

Organisation – The efficiency of the organisation is ascertained by a combination of cost-income ratios and human resources to assets.

The adapted resource groups, which are assessed by more than one resource proxy are revealed in table 4.12

Table 4.12 Grant's (1991) Resource Categories and the Resource Categories Used in the Research

Grant's (1991) Resource Categories	Resource Categories used in this research
Human	Employees
Finance	Loan Losses
Finance	Capital
Finance	Liquidity
Reputation	Marketing
Finance and Organisation	Income
Organisation	Efficiency
Physical	Network
Technical and Organisation	Balance Sheet Services
Finance, Organisation and Technical	Income

No source of loses other than loans was available

In adapting Grant's (1991) work to providers of banking services it is perhaps not surprising that there is a heavy emphasis on finance. It is acknowledged that there are some intangible resources, which are not included, such as, knowledge and culture. Similarly, some tangible resources, such as, I.T. are also excluded because there is no externally available data. The measurement of these resources is possible to some extent through textual analysis but this is difficult to quantify and not used for numerical comparisons.

Existing literature was an influence when deciding the specific proxies used to measure each resource. For example Chatterjee and Wernerfelt (1991) used

marketing and R & D expenditure to sales as proxies. Accordingly the proxies typically included a resource specific measure eg employee costs or loan losses and an organisation wide figure, such as assets, or total costs. Other proxies followed the same pattern of a more specific figure and a general figure and where influenced by the author's knowledge and experience from his career of 28 years in banking or lecturing banking. This led to the use of proxies such as cost income ratio and the liquidity ratios. Multiple measures of resources enabled the use of differing figures to measure different aspects of the resource, for example see liquidity proxies.

Bearing in mind these omissions and caveats data was collected from a variety of sources in an endeavour to obtain the most comprehensive data. As Tables 4.13 and 4.14 reveal, this lead to the following proxies, for research questions one and two:

Table 4.13 Resource Proxies for Research Question One

• Employees	
○ Cost of staff /operating expenses	Both Bankscope
○ Staff cost / total income	Both Bankscope

Table 4.14 Resource Proxies for Research Question Two

Resource/ Proxies	Data Source(s)
• Employees	
○ Cost of staff /operating expenses	Bankscope
○ Staff cost / total income	Both Bankscope Total income is net interest income+ other operating income, the later is also net)

○ Cost per employee	Cost from Bankscope and employee numbers FAME for UK based profits seeking organisations, BSA for B/soc and Annual Reports for broad investment banks
• Balance Sheet Services	
○ Largest Asset / Balance Sheet size	Bankscope for both except A & L and Northern Rock were the Annual Report were used due to lack of detail in Bankscope (the finest was loans)
○ Type of Largest Asset - descriptive	Bankscope except A & L and Northern Rock were the Annual Report was used due to lack of detail in Bankscope
○ Largest Liability / Balance Sheet size	Bankscope
○ Type of Largest Liability – descriptive	Bankscope
• Marketing	
○ Marketing Expenditure to Total Net Income	Bankscope
○ Marketing Expenditure to Balance Sheet Size	Bankscope
○ Marketing Expenditure to Overheads	Bankscope
• Income	
○ Net Other Operating Income to Interest Income	Bankscope

○ Gross income from top source / income second top source	Bankscope
○ Largest Source of Other Operating Income - descriptive	Bankscope
○ Largest Source of Gross Income – descriptive	Bankscope
○ Top Source Of Operating Profit By Division - descriptive	Bankscope/Annual Reports
• Efficiency	
○ Cost Income ratio*	Bankscope
○ Assets per employee	Assets from Bankscope employee numbers FAME for UK based profits seeking organisations, BSA for B/soc and Annual Reports for broad investment banks
• Networks	
○ Assets per branch or office	Assets from Bankscope, branches or offices from BSA for the B/Soc Annul Reports all Investment, Cattles, A & L, BBA Annual Abstract of Banking Statistics for Co-operative, Barclays and Northern Rock
○ Staff per branch or office	Employee numbers FAME for UK based profits seeking organisations, BSA for B/soc and Annual Reports for broad investment banks. Branch or offices from BSA for the B/Soc Annul Reports all Investment, Cattles, A & L, BBA Annual Abstract of Banking Statistics for Co-

	operative, Barclays and Northern Rock
○ Customers per branch or office	BSA (B/Soc) only
• Losses	
○ Loan Losses to Equity	Bankscope
○ Loan Losses to Balance Sheet Size	Bankscope
○ Loan Losses To Tier One Capital	Bankscope
○ Loan Losses to Pre tax Profit	Bankscope
○ Largest element of impairment losses to total impairment losses	Bankscope
○ Type of Largest Element of Losses – descriptive	Where available Bankscope and Annual Reports more detail needed. B/soc all Bankscope and one Combined (Close Brothers). Annual reports provided more detail where present for the other organisations Consumer Credit (Cattles) Mortgage providers (A & L and Northern Rock), Retail (Co-op), Private bank (Hoare), Niche Investment banks (3i and Rathbone) and one combined (Barclays)
.	
• Capital	
○ Equity To Assets*	Bankscope
○ Capital To Assets*	Bankscope
○ Capital Adequacy Ratio*	Bankscope
○ Tier One Capital	Bankscope

Adequacy Ratio*	
• Liquidity	
○ Interbank ratio*	Bankscope
○ Liquid assets to Short-Term Funding*	Bankscope
○ Net Loans to Total Assets*	Bankscope

*ratio calculated by Bankscope. All other ratios were calculated for this dissertation.

Annual Reports were used for Barclays Bank branches. This was because the British bankers Association (BBA) only shows UK branches and Barclays has a large overseas branch network.

In those instances where it was not possible to obtain a full set of data for the proxies, the minimum requirement of data was for half of the years, this was the same as the minimum data available for balance sheet growth (a performance indicator see Research Questions five and six). If this level of data was not available the proxy was omitted. In other words, only those proxies, with data for at least half the years of the study were used (for the vast majority there was more than four years data). As Table 4.16 reveals, this resulted in a reduction in the resources proxies. The resource proxies that were omitted are shown as “crossed out” in Table 4.15 together with the data availability by organisation.

Table 4.15 Resource Proxies and Data Availability

Resources and Resource Proxies	Data Available
• Employees	
○ Cost of staff /operating expenses	For all organisations except one mortgage provider

○ Staff cost / total income	For all organisations except one mortgage provider
○ Cost per employee	For all except one mortgage provider and one broad investment bank
• Balance Sheet Services	
○ Largest Asset / Balance Sheet size	For all organisations
○ Type of Largest Asset	For all organisations
○ Largest Liability / Balance Sheet size	For all organisations
○ Type of Largest Liability	For all organisations
~~• Marketing~~	
~~○ Marketing Expenditure to Total Net Income~~	Four broad investment banks and one mortgage provider
~~○ Marketing Expenditure to Balance Sheet Size~~	Four broad investment banks and one mortgage provider
~~○ Marketing Expenditure to Overheads~~	Four broad investment banks and one mortgage provider
• Income	
○ Net Other Operating Income to Interest Income	Missing Consumer credit
○ Gross income from top source / gross income from second top source	There is no data for the broad investment banks, the consumer credit organisation, a niche investment bank, private bank, one combined and a mortgage provider
○ Largest Source of Other Operating Income	Missing private and other consumer credit
○ Largest Source of Gross income	No data for two broad investment banks, consumer credit and one mortgage provider.

~~o Top source Of Operating Profit By Product/Division~~	Missing all B/Soc, other consumer credit, two mortgage providers, private bank, one broad investment bank and two niche investment banks
• Efficiency	
o Cost Income ratio	All except consumer credit
o Assets per employee	All except one broad investment bank
• Networks	
o Assets per branch or office	Missing private bank, mortgage provider and two broad investment banks
o Staff per branch or office	Missing private bank, mortgage provider and two broad investment banks
~~o Customers per branch or office~~	Data for all B/Soc except B/Soc multiple and one B/Soc M, S, GI & FA
• Losses	
o Loan Losses to Equity	For all organisations
o Loan Losses to Balance Sheet	For all organisations
~~o Loan Losses To Tier One Capital~~	Data for two mortgage providers, one B/Sc M,S,GI &FA, one combined bank
o Loan Losses to Pre tax Profit	Data for all organisations
o Type of Largest Element of Loan Losses	Missing data for all broad investment banks and one niche investment bank
o Largest element of impairment losses to total impairment losses	No data for niche investment banks, broad investment banks, combined banks, private bank, mortgage providers, and consumer credit.
• Capital	
o Equity To Assets	Data for all organisations

○ Capital To Assets	Data for all organisations
~~○ Capital Adequacy Ratio~~	Missing all investment banks, consumer credit, private bank, B/Soc M & S, B/Soc M,S & GI, one mortgage provider and two B/Soc M,S, GI & FA (14 organisations)
~~○ Tier One Capital Adequacy Ratio~~	Missing all investment banks, consumer credit, private bank, B/Soc M & S, B/Soc M,S & GI, one mortgage provider and two B/Soc M,S, GI & FA (14 organisations)
• Liquidity	
~~○ Interbank ratio~~	Data for two mortgage providers, one retail, one niche investment bank and the combined banks
○ Liquid assets to Short-Term Funding	All except one niche investment bank
○ Net Loans to Total Assets	All except two niche investment banks

The missing data resulted in a reduction in the numerical proxies, to 17, with nine resource groups. Somewhat disappointingly, it meant that there were no marketing proxies. Nevertheless, all of the remaining groups had at least two proxies giving multiple measurers with multiple positions.

By using multiple measures per resource, the design took account of the concerns of Boyd et al (2005). Ratios can also be treated as scales because they have multiple measurement positions. This provides more discriminatory power and less measurement error (Venkatraman and Grant, 1986). The research also addresses Conant et al.'s (1990) concern over single measurement and single item scales. The problems encountered in developing the specific RBV proxies were, to some extent, anticipated. This is

because it is the first time they have been used in a multiple industry study. As such, they are largely exploratory and will undoubtedly be developed in future studies.

The data was analysed for each organisation, group and sector using descriptive statistics, i.e. means and ranges. The data is largely presented in tables, which show the industry sector ranges and means. This approach was also highly conducive to providing insight into variation over the collection period.

The industry sector means were based on the un-weighted means of the groups. This allowed the full spread of any variation to be taken into account. From a practical perspective, this is important because if the results are used to aid diversification a weighted mean could narrow the range of diversification opportunities.

4.11.3 Research Question Three

RQ3: As resource identification is hindered by issues including intangibility, social complexity and causal ambiguity does this mean that additional analysis using Chairman's and CEOs comments from Annual Reports will provide a richer picture of resources and lead to the identification of resource bundles?

Resource identification issues including intangibility, social complexity and causal ambiguity meant that additional analysis using Chairman's, CEOs and Directors (where there were no other suitable material) comments from Annual Reports, etc provided a richer picture of resources and lead to the identification of resource bundles.

To review all of the organisations used in the study would have been very time consuming. It would have required examining 232 (some were missing)

annual reports and, therefore, a selective sample was used. The selective sample was chosen to be representative of the study organisations and to provide an opportunity to examine some of the more interesting aspects of the research questions.

The chosen organisations and the reasons why they were are as follows:

- Progressive-was one of the least diversified building societies but the annual reports contained some useful data on resources. In contrast, the Hinckley Building Societies annual reports contained no useful data on resources.

- Skipton Building Society-was the most diversified Building Society.

- The annual reports of Alliance and Leicester (a mortgage provider) contained good data and arguably it was the closest to a commercial bank, in contrast, the annual reports of the Co-operative, a commercial bank, had little useful data).

- Cattles was included because it was the only member of its group (sub prime). In addition, it often appeared at the lowest (salary per employee) or highest (risk) end of the data range.

- The annual reports of Morgan Stanley were the most concise of the broad investment banks. The annual reports of the other broad investment banks were typically much longer and it was proportionately more difficult to extract relevant information.

- The annual reports of Close Brothers provided useful internal information that was at odds with the other combined bank.

No niche investment bank was selected. This was because they occupied a range of niches and there reports were, therefore, non representative of the group.

The cognitive mapping was used to obtain the views of individuals about the world (Eden et al, 1983, in Easterby Smith, 2008). As such, it can provide insight into a person's understanding of concepts and their relationships (Miles and Huberman, 1994). This insight can be typically elicited from texts, (McKeowan and Beck, 1990 in Miles and Huberman, 1994), such as those found in annual reports. Accordingly, cognitive maps were developed to provide greater detail and enabled the sector's view of relationships between the resources to be assessed. However, an important caveat about the use of cognitive maps is that although they are realist and valid they are subjective (Eden et al, 1983, in Easterby Smith, 2008) and, therefore, are not necessarily reliable.

Content analysis, which was popularised by Miles and Huberman (1994), was also used to identify the different external factors. It is a procedural approach for capturing complicated qualitative data and enables the identification and extraction of key themes from comprehensive data (ul-Haq and Howcroft, 2007). The analysis of qualitative data aims to condense highly complex contextual information into a simplified by easily understood format (Easterby Smith, 2003). Accordingly, this thesis will reduce the qualitative data by selecting, simplifying, abstracting and transforming it, so that it fits predetermined patterns and themes (Ghauri and Gronhaug, 2005). The predetermined themes can then be coded and presented in tabular form (Miles and Huberman, 1994).

Data was selected from the annual reports according to the predetermined definition of resources used in this thesis (see the Literature Review chapter). This facilitated the identification of resources and also simplified the data for transformation into cognitive maps. No software was used as the majority of annual reports were paper based and it was felt that any benefits gained from converting these into electronic format would be outweighed by the time this

would involve. Textual analysis, which is frequently used in grounded analysis was not used in this research because the codings were well established [resource definition and PESTC] and there was a prior hypothesis (research question) that required a deductive rather than inductive approach (Easterby Smith, 2008).

4.11.4 Research Question Four

RQ4: Are there differences in the external environment between different industry groups? (RBV argues firms should be set in their external context)

The Chairmans' CEOs' and Directors' comments in annual reports were examined for the period 1997-2004 for all organisations. The only exceptions were one of the mortgage providers – Paragon, where there where no annual reports available and the Co-operative Bank, which did not have complete coverage, as the 2000 annual report was not available. The detail varied, for example, in the case of C. Hoare, an unlimited company whose shares are not traded, the information was very limited. In the instance of Barclays Bank, Hinckley Building Society, Rathbone Bros and Cattles plc there was a very consistent formulaic wording. The information contained in the annual reports of the Skipton, the Chelsea Building Society and Goldman Sachs, was very detailed. There was also a difference in terms of focus, for example, the Co-operative Bank mentioned very few external factors where as others, such as the Skipton Building Society provided more detail.

Information from the textual and cognitive maps for groups, or where the data was very similar several groups, were produced from the data from the annual reports. This was accomplished by utilising the predetermined pattern of PESTC factors and produced a coding system, which facilitated the identification of quantitative and non quantitative factors. This was highly conducive to simplifying the data and transforming it into cognitive maps. No attempt was made to make value judgments and no software was used as the

majority of annual reports were paper based. This was because it was felt that any benefits gained from converting the reports into electronic format would be outweighed by the time involved in the conversions.

4.11.5 Research Question Five

RQ5: Will financial performance be an inverted J shape as the amount of resource difference between the current product range and planned product range increases?

From the literature review it was established that financial performance might be an inverted J shape as the amount of resource difference increases.

The numerical resource proxies used for the resource similarity Research Questions One and Two were used. However, as already revealed by Table 4.16, some of these were excluded from the analysis because of problems associated with data availability.

The dependant variables used in the analysis were based on the identification of diversification within the industry. These were based either on diversification strategies that had been implemented, were there was sufficient information in the public domain to suggest that they were being seriously considered, or for the building societies based on the evolution of the industry. Accordingly, tables 4.16 and 4.17 reveal the diversification strategies of the banks and the building societies respectively.

The dependent variables were largely derived from the literature and constituted generic measures of growth and returns. Performance in banking can be measured by Returns on Average Assets (ROAA) Return on Average Equity (ROAE) and Net Interest Margin (NIM), which are available in Bankscope. In order to measure growth, increases in the balance sheets were used.

A strategy of profit maximisation would typically involve maximising returns, i.e. profits or share holder value, in the long term. However, building societies strongly advocate mutuality, which has member/customer benefits as the primary objective and, therefore, profits and share holder value do not feature in their annual reports.

In order to benchmark performance some of the building societies use net interest margin (NIM) as a measure of overall performance. The narrower NIM is the more benefits their members receive in the form of interest rates on savings and borrowings. NIM must also be sufficient to maintain the capital base of the societies, provide resources for future investment opportunities and expand the product portfolio.

Table 4.16 Product Diversification- Excluding Building Societies

Product Diversification Original Market(s)	Product Diversification New Market(s)	Example
B/Soc M,S, FA,CB & PB	Mortgage Bank	Demutualised B/Soc Including Abbey, A & L and Northern Rock.
B/Soc M,S, FA,CB & PB	Retail Bank	The Acquisition of C & G by Lloyds, in reverse Bristol and West by Britannia and then the Britannia and Co- operative Merger.
Consumer Credit	Retail	proposed, none implemented, strategy of Cattles 2008-09, they applied for and then withdrew their application for a banking license to enable them to take deposits
Mortgage Providers	Retail	A& L a borderline case but seeking to diversify away from of mortgage income.

Retail	Combined	Barclays Retail bank acquired investment banking businesses post 'Big Bang' to create Barclays de Zoete Weld (BZW), County NatWest and later Abbey diversification into wholesale/investment banking
UK Niche Investment Bank	Broad Investment Bank	Possible route if diversifying from a narrow to broad strategy
Private bank	UK Niche investment bank	Rathbone has a private Bank

For B/Soc there was a logical line of progression followed over the years by the most diversified B/Socs, ie Skipton, Britannia and Nationwide. For example, Progressive moved into financial advice from 2002 onwards (a move from B/Soc M, S & GI to B/Soc M, S, GI & FA); Derbyshire moved into business lending 2005 (a move from B/Soc M, S, GI & FA to B/Soc M, S, GI, FA & CB); Skipton post 1991 moved into a variety of new areas (from B/Soc M, S, GI & FA to B/Soc Multiple), and Portman's acquisition by Nationwide (from B/Soc M, S, GI, FA & CB to B/Soc M, S, GI, FA, CB & PB).

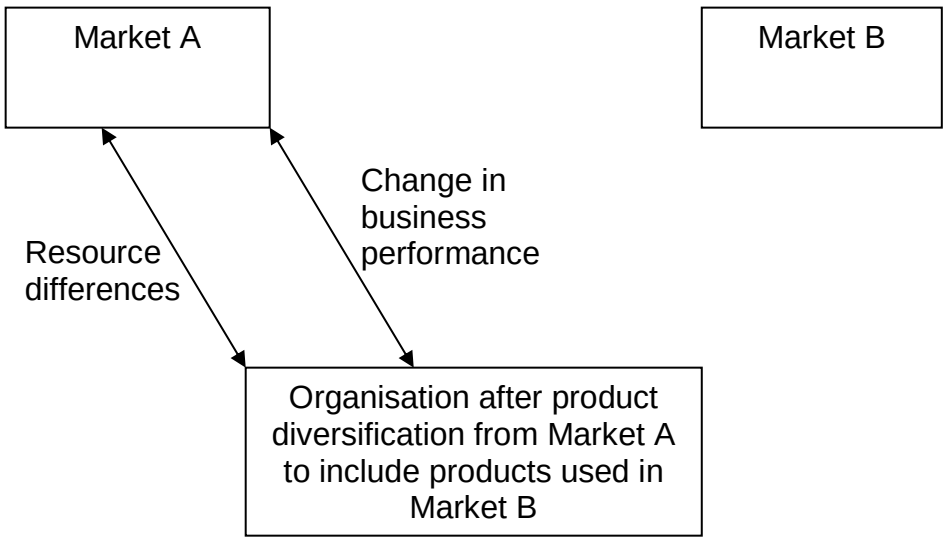
Table 4.17 Product Diversification for Building Societies only

Product Diversification Original Market(s)	Product Diversification New Market(s)
B/Soc M & S	B/Soc M, S & GI
B/Soc M, S & GI	B/Soc M, S, GI & FA
B/Soc M, S, GI & FA	B/Soc M, S, GI, FA and CB
B/Soc M, S, GI, FA & CB	B/Soc M, S, GI, FA, CB and PB
B/Soc M, S, GI & FA	B/Soc Multiple
B/Soc M, S, GI, FA & CB	B/Soc Multiple
B/Soc M, S, GI, FA, CB and PB	B/Soc Multiple

.

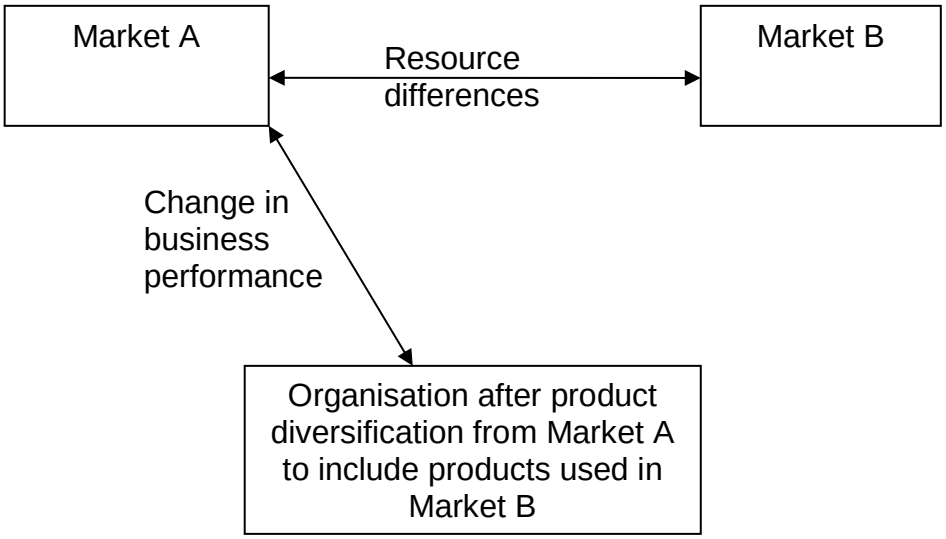
The resource and performance differences were measured by using the difference between the none-diversified organisation and diversified organisation (see Figure 4.4). This enabled any resource combinations which took place during diversification to be taken into account (Markides and Williamson, 1994).

Figure 4.4 Measuring Resource and Performance Differences



An alternative approach is revealed by Figure 4.5 and would have involved measuring the resource difference between organisations in the two different markets. However there was a dearth of suitable organisations.

Figure 4.5 Alternative Method of Measuring Resource and Performance Differences



This latter approach would have measured the difference between the old and new resources. However, it would not have not have provided an aggregated figure and would not take into account any resource transformation through combination.

To calculate the level of resource difference, each of the resources proxies where ranked from 0 -100, were zero represented the lowest score and 100 the highest. This gave each proxy and performance differences an equal weighting and negated the differences in the range of differences.

The mean of the differences were calculated for each resource, ensuring that each group had equal weighting, irrespective of its number of proxies. The mean of the resource differences was used as the figure for the total resource differences. As the direction of the difference in resources is not important,

only the difference itself was used. Accordingly, the direction or sign of the difference (i.e. + or –) was not taken into account. However, the sign (+ or –) was retained for performance differences.

The four performance variables and resource differences were compared at an individual business performance and group performance differences level. This enabled a collective figure to be used and gave flexibility to analyse each performance variable separately. The issue of differing performance goals was addressed by producing two sub sets of results: one for mutual organisations (i.e. Building Societies and the Co-operative Bank [Retail Bank]) and one for profit maximising organisations.

This is important because mutual organisations are typically looking to pass maximum benefits onto their members. Accordingly, they reduce margins (net interest margin), cost of lending (ROAA), and try to keep “profits” to a minimum. This necessitated an alteration on the interpretation of the data, with reductions in net interest margin, ROAA and ROCE being regarded as a positive outcome for product diversification. However, a reduction in balance sheet size was interpreted as a negative outcome and growth positive.

To take account of the differences between mutual and profit sharing organisations, the business performance measures were calculated on a case by case basis. Where product diversification involved two mutual groups the mutual goals where used and where the product diversification involved two profit maximising groups the profit maximising goals where used. However, where it involved mixed groups, for example, “mortgage providers” diversifying into “retail” or “retail” diversifying into “combined”, the performance of the product diversification strategy was measured by the goals of the group diversified into. Accordingly, if a “mortgage provider” diversified into “retail” the mutual goals were used as the appropriate measure, and if a “retail” organisation diversified into “combined” the profit maximising goals were used.

This approach was conducive to the construction of a table to calculate the resource and performance differences; and a table and series of charts to compare the resource differences and performance differences.

4.11.6 Research Question Six

RQ6: To what extent will individual resource differences vary in product diversifications?

Resource homogeneity suggests that individual resource differences between organisation groups will not be of a consistent size. The key to addressing this question lies in comparing the resources of the sample organisations. Therefore, it was decided to utilise the numerical data from RQ 5. Accordingly, data from each diversification was used and ranking resources by resource difference. In this respect, the two largest and two smallest and the range were used.

4.12 Research Summary and Conclusions

In summarising the proposed research Table 4.18 reiterates the six Research Questions and then relates each of these to the different research methods, the different sources of information and the underlying research philosophies.

Table 4.18 Research Summary - Research Questions, Method, Data Sources and research Philosophy

Research Question	Method	Data Sources	Research Philosophy
RQ1.There will be greater differences in rent appropriation between the industry groups than within the groups, though the later will not be uniform.	Assessment of similarity and difference of two resource proxies, intra and inter group. Quantitative.	Bankscope and FAME.	Largely positivist, but not looking for generalisability or causal laws. Objective.
RQ2. There will be greater differences in resources between the industry groups than within the groups, though the later will not be uniform.	Assessment of similarity and difference of all resource proxies, intra and inter group. Largely quantitative limited number of qualitative proxies	Bankscope, Annual Reports, FAME, BSA and BBA	Largely positivist, but not looking for generalisability or causal laws. Objective.
RQ3. Resource identification issues including intangibility, social complexity and causal ambiguity mean that additional analysis using Chairman's and CEOs comments from Annual Reports	Textual analysis placed into cognitive maps. Qualitative.	Six Organisations Chairman's, CEO's and where the first two were not present Director's Comments in Annual Reports	Realist with elements of social construct

will provide a richer picture of resources and lead to the identification of resource bundles.			
RQ4. There will be differences in the external environment between different industry groups (RBV argues firms should be set in their external context).	Textual analysis placed into cognitive maps. Qualitative.	Chairman's, CEO's and where the first two were not present Director's Comments in Annual Reports	Realist social construct
RQ5. Financial performance will be an inverted J shape as the amount of resource difference increases.	The mean of group resource proxy differences compared with differences in performance indicators for possible diversification strategies. Quantitative	Data from RQ1 and RQ2 and Business Performance data from Bankscope.	Largely positivist, but not looking for generalisability or causal laws. Objective.
RQ6. Resource homogeneity will mean that individual resource differences between organisation groups of will not be of consistent size.	Identifying the proxies with the two largest and two smallest differences. quantitative methods	Using data from RQ5	Largely positivist, but not looking for generalisability or causal laws. Objective.

The research methods have a number of limitations, which reflect the researcher's inability to obtain internal data from interviews and questionnaires. To some extent the timing of the empirical research, which coincided with the banking crisis, meant that it was virtually impossible to gain access to the banks. This was especially the case with the investment banks. In this respect the data and, therefore, the findings are not as detailed as envisaged.

The research also focuses on a single industry and therefore, this does cast a question mark over the generalisation of the findings. Conversely, as far as the author can ascertain, this work is the first attempt to attempt an examination of multiple resources and external factors from a RBV diversification perspective to examine the business performance of different product diversification strategies.

The remaining chapters will present and analyse the findings. Conclusions will then be drawn from the analysis and recommendations for management will be made.

Chapter Five:

Results

5 CHAPTER FIVE - RESULTS

This chapter reports the facts that the research has discovered (Saunders et al, 2009). Accordingly the results for each research question are examined separately using the techniques outlined in Chapter Four. Those results are then reviewed in the context of relevant literature, for that research question, to examine their relationship to the extant literature, and finally overall findings for each question are discussed.

As such the chapter is divided in sections, each examining the results for a Research Question. It starts with Research Question One, then Research Question Two, Three, Four, Five and Six. At the end of each RQ is a discussion section which draws together the key thoughts and sets the findings in the context of the extant literature. Adopting this approach for RQ2 has the advantage of avoiding the repetition which would have resulted from examining same literature at the end of each proxy and at the end of the RQ in the discussion section. Reference to the literature at resource level occurs where it is specific to that resource.

At this stage it is useful to list the Research Questions.

5.1 Research Questions:

RQ1. Will there be greater differences in rent appropriation between the industry groups than within industry groups, and will there be even greater differences between industry sectors than within industry sectors (though the differences will not be uniform)?

RQ2. Will there be greater resource heterogeneity between the industry groups than within industry groups, and will there be even greater differences

between industry sectors than within industry sectors (though the differences will not be uniform)?

RQ3. As resource identification is hindered by issues including intangibility, social complexity and causal ambiguity does this mean that additional analysis using Chairman's and CEOs comments from Annual Reports will provide a richer picture of resources and lead to the identification of resource bundles?

RQ4. Are there differences in the external environment between different industry groups? (RBV argues firms should be set in their external context)

RQ5. Will financial performance follow an inverted J shape as the amount of resource difference between the current product range and planned product range increases?

RQ6. To what extent do individual resource differences vary in product diversifications?

5.2 Industry Groups and Sectors

The first two research questions examine different levels of resource similarity in Industry Groups and Industry Sectors:

- The Industry Groups are shown in Table 5.1 below:

Table 5.1 Industry Groups

Group	**Number of Organisations**
Niche Investment banks	three organisations
Broad investment banks	four organisations
Universal banks	two organisations

Private bank	one organisation
Retail bank	one organisation
Mortgage providers	three organisations
Other consumer credit –	one organisation
Building Societies who offer savings, mortgages, general insurance and financial advice	six organisations
Building Societies who offer savings, mortgages, general insurance, financial advice, and commercial banking	two organisations
Building Societies who offer savings, mortgages, general insurance, financial advice, commercial and personal banking	two organisations
Building Society multiple diversification	one organisation
Building Society mortgages, savings and general insurance	one organisation
Building Society mortgages and savings	one organisation

- The Industry Sectors are shown in Table 5.2 below:

Table 5.2 Industry Sectors

Industry Sectors	**Detail of Organisations**
Building Societies	all fourteen building societies
Retail	one consumer credit organisation, one retail bank, one private bank and three mortgage providers
Investment banking	four Broad investment banks and three niche investment banking providers
Combined banks	two organisations - this is treated an industry group and an industry sector

While these sectors and groups are often considered to part of one industry, it has been argued that there are significant differences between investment banks and other areas of banking such as retail banks (Heffernan, 2005 and

Canals, 1993). If these differences are large enough this would give two industries, providers of banking services and Broker Dealers (Large Broad Investment Banks) - the US National Association of Securities Dealers does not recognise the term 'Investment Bank' it uses the term 'broker dealer' (Heffernan, 2005).

If this analysis is adopted, this would mean that with one group and sector, combined banks, straddles the two industries of investment banking (niche and broad) and providers of deposit taking, lending and money transmission services.

The results are divided by resources, and further subdivided into the proxies for each resource to increase the validity of the results (Boyd et al 2005 and Conant et al 1990). The proxies, which are of two types, ratio and descriptive, are set out below:

<u>For Research Question One:</u>

- Employees
    - Cost of Staff/Operating Expenses
    - Staff Cost/Total income

<u>And the following for Research Question Two:</u>

- Employees, this includes the two proxies used in RQ1 as rent appropriation is a subset of employees.
    - Cost of Staff/Operating Expenses
    - Staff Cost/Total income

And in addition a further proxy:

    - Cost Per Employee

- Balance Sheet Services
    - Largest Asset/Balance Sheet size
    - Type of Largest Asset - descriptive

    - Largest Liability/Balance Sheet size
    - Type of Largest Liability - descriptive
- Income
    - Net Other Operating Income/Interest Income
    - Gross Income from Top Source/Gross Income from Second Top Source
    - Largest Source of Other Income - descriptive
    - Largest Source of Gross Income - descriptive
- Efficiency
    - Cost Income Ratio
    - Assets per Employee
- Networks
    - Assets per Branch or Office
    - Staff per Branch or Office
- Losses
    - Losses to Equity
    - Losses/Balance Sheet Size
    - Losses/Pre tax Profit
    - Type of Largest Element of Losses - descriptive
- Capital
    - Equity/Assets
    - Capital/Assets
- Liquidity
    - Liquid Assets/Short-Term Funding
    - Net Loans/Total Assets

At this stage it should be noted that totally random resource heterogeneity would mean that there could be no link between resource similarity and differences, and levels of product diversification.

Format for RQ1 and RQ2

For each proxy, the figure used is the mean of the sector or group being discussed; the data will be presented in the following format:

- Total industry range, to give context.
- Group data, ranges within each sector, with group means used if means indicate the ranges contain outliers. This enables an assessment to be made whether groups are occupying all or part of the sector range. The six single firm groups will by definition occupy part of the sector range only. They are private bank, retail, consumer credit, multiple B/Soc, B/Soc M and S and B/Soc M, S and GI. Slanted means are identified 'slanted means' occur where the mean (group or sector) is closer to one end of their range than another, meaning that there is greater group or sector representation towards one end of its range. The following groups have more than two organisations and may have 'slanted means': niche investment banks, broad investment banks, mortgage providers, B/Soc financial advice.
- Sector data is presented in the same way as groups, ll sectors except combined banking have more than two members and could have a 'slanted mean'.
- NB some the means exhibit rounding.

The data is then presented using floating bar charts which visually show the minimum and maximum and range of each industry group and each of the industry sectors. Each floating bar chart is colour coded, red for the industry sectors, green for Building Society group, dark blue for retail groups, light brown for combined group and light blue for investment banking group. The data is also presented in tabular form showing minimum, maximum, range and means for each of the industry groups and industry sectors. See Appendix Two for the individual organisation, group and sector means, as well as minimum, maximum and range figures for each group and sector. Tables are used for descriptive proxies; a red box indicates no data. Finally there is a discussion of the data and a summary of its level of randomness.

5.3 Research Question One

Will there be greater differences in rent appropriation between the industry groups than within industry groups, and will there be even greater differences between industry sectors than within industry sectors (though the differences will not be uniform)? RQ1 is addresses through two proxies Cost of Staff/Operating Expenses and Staff Cost/Total Income (see Appendix Two for proxy means per organisation, industry group and sector).

5.3.1 Cost of Staff/Operating Expenses

This is a measure of the nature of the employee cost base to be managed; it could indicate the bargaining power of employees - the higher the relative cost of staff, the higher their bargaining power. It also might be an indication of level of skills. A high figure could also indicate the employment of skilled employees - a low figure might indicate lower employee skills. These differences could have major impact on HR and organisational behaviour within organisations, (Coff, 1999) cited in Blyer and Coff (2003) and Maijoor and van Witteloostuijn (1996). See Figure 5.1 and Table 5.3 below for a visual and tabular presentation of the data.

Total industry range

For cost of staff/operating expenses the range is 0.78 with a minimum of 0.22, consumer credit and a maximum of 1.00, niche investment bank, a range of 0.78.

Group ranges within each sector

B/Soc – the total sector range for cost of staff/operating expenses is 0.42 to 0.56, a range of 0.14. Within this B/Soc FA have range from 0.44 to 0.56, a range of 0.12 occupying 86% of the sector range. B/Soc M, S, GI, FA, CB and PB have a range from 0.42 to 0.48, a range of 0.06, occupying 43% of the sector range, B/Soc M, S, GI, FA and CB have range of 0.53 to 0.54, a range

of 0.1, occupying 7% of the range. Multiple B/Soc has mean of 0.52, B/Soc M, S & GI 0.50, and B/Soc M & S 0.52, the means are at different places on the range, though towards the maximum. There are no slanted means, B/Soc M, S, GI & FA mean is in the middle of its range, mean of 0.50 range 0.44 to 0.56.

Retail – the total sector range for cost of staff/operating expenses is 0.22 to 0.62, a range of 0.40. Within this mortgage providers have a range from 0.30 to 0.47, a range of 0.16, occupying 40% of the sector range. The other groups have means spread throughout the range, the lowest is consumer credit 0.22 (sector minimum), then retail 0.41, then private 0.62 (sector maximum).

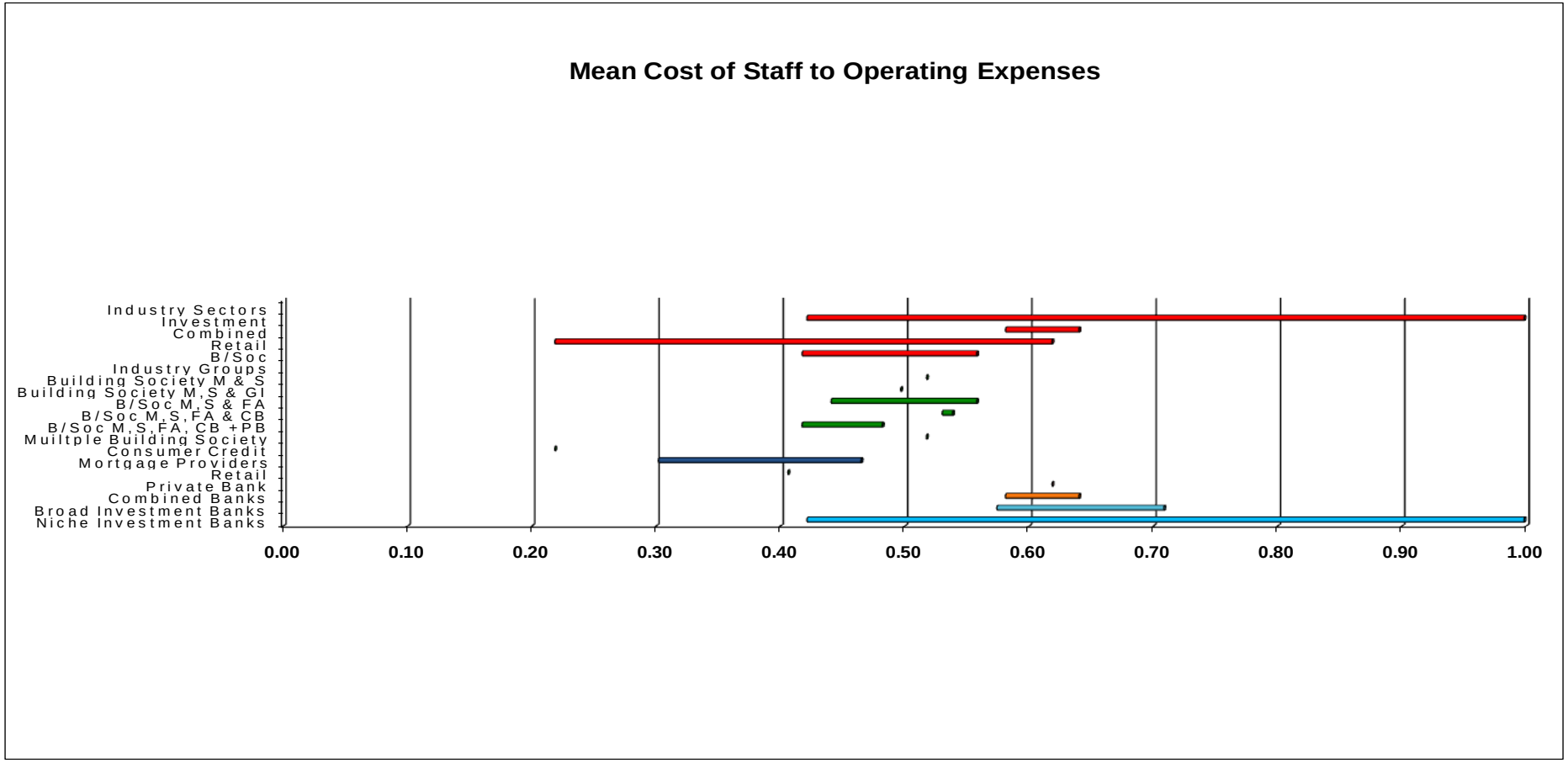
Combined is both a group and a sector - see sector ranges.

Investment – total range for cost of staff/operating expenses is 0.42 to 1.00, a range of 0.58. Within this the whole range is occupied by niche investment banks 0.42 to 1.00. Broad investment banks have a range from 0.57 to 0.71, a range of 0.13, occupying 22% of the sector range. The group mean of niche investment banks is slanted; the mean of 0.66 is closer to the minimum of 0.42 than the maximum of 1.00.

Sector ranges within the industry

For cost of staff/operating expenses the total industry ranges from a minimum of 0.22, consumer credit, to a maximum of 1.00, niche investment bank, a range of 0.78. Within this *B/Soc* have a range from 0.42 to 0.56, a range of 0.14, occupying 18% of the total range; r*etail* a range from 0.22 to 0.64, a range of 0.42, occupying 54% of the total range. *Combined* a range of 0.58 to 0.64, a range of 0.06, occupying 8% of the industry range. *Investment* a range from 0.42 to 1.00, a range 0.58, 74% of the total range. The investment mean of 0.65 is slanted, being closer to the minimum of 0.42 than the maximum of 1.00 (the outlier 3i). There is a marginal slant in B/Soc with the mean of 0.50 slightly closer to the maximum of 0.56 than the minimum of 0.42.

Figure 5.1 Floating Bar Chart Cost of Staff to Operating Expenses



Data available for all organisations except one mortgage provider.

Table 5.3 Cost of Staff to Operating Expenses

Industry Group	Min	Max	Range	Mean
Niche Investment Banks	0.42	1.00	0.58	0.66
Broad Investment Banks	0.57	0.71	0.13	0.65
Combined Banks	0.58	0.64	0.06	0.61
Private Bank	0.62	0.62	0.00	0.62
Retail	0.41	0.41	0.00	0.41
Mortgage Providers	0.30	0.47	0.16	0.38
Consumer Credit	0.22	0.22	0.00	0.22
Multiple Building Society	0.52	0.52	0.00	0.52
B/Soc M, S,FA,CB & PB	0.42	0.48	0.06	0.45
B/Soc M, S,FA & CB	0.53	0.54	0.01	0.53
B/Soc M, S,GI & FA	0.44	0.56	0.12	0.50
B/Soc M, S & GI	0.50	0.50	0.00	0.50
B/Soc M & S	0.52	0.52	0.00	0.52
Industry Sector				
B/Soc	0.42	0.56	0.14	0.50
Retail	0.22	0.62	0.40	0.41
Combined	0.58	0.64	0.06	0.61
Investment	0.42	1.00	0.58	0.65

Data available for all organisations except one mortgage provider.

As shown in Figure 5.1 no sector occupies all of the industry range and they occupy differing parts of the industry range, there is a clear variation within the sectors. The lower end is the retail sector, which overlaps with B/Soc in the middle and investment at the upper end. There is also overlap between B/Soc and investment. The slanted means have an impact on this picture, giving niche investment banks (where the mean is closer to the minimum) and also investment banks greater overlap with the other sectors. This overlap is reduced if the less pronounced slant in mortgage providers, towards the lower end, is taken into account. The sectors are not separate - there is overlap, with one sector totally overlapped, but not all sectors are overlapped. In essence there is a pattern; the resource range is not random.

5.3.2 Staff Cost/Total Income

This is a measure of the importance of employee costs to the total income stream. It also gives another indication of the possible bargaining power of employees - the higher it is the higher their bargaining power - and might be an indication of level of skills. A high figure could be due to the employment of skilled employees; a low figure might indicate lower skills. These differences could have major impact on HR and organisational behaviour within organisations. See Figure 5.2 and Table 5.4 below for a visual and tabular presentation of the data.

Total industry range

For staff cost/total income the range is 0.36, from a minimum of 0.15 - consumer credit, to a maximum of 0.51 - broad investment bank.

Group ranges within each sector

B/Soc – For staff cost/total income the sector range is 0.25 to 0.38, a range of 0.14. Within this B/Soc M, S, GI & FA have range from 0.25 to 0.38, a range of 0.14 (rounding) occupying 100% of the sector range. B/Soc M, S, GI, FA, CB and PB have a range from 0.26 to 0.30, a range of 0.04, occupying 29% of the sector range. B/Soc M, S, GI, FA and CB have range of 0.28 to 0.34, a range of 0.06, occupying 43% of the range. Multiple B/Soc has a mean of 0.38 (sector maximum), B/Soc M, S & GI 0.27, and B/Soc M & S 0.34. B/Soc M, S, GI & FA mean of 0.29 is slanted being closer to the minimum of 0.25 than the maximum 0.38.

Retail – For staff cost/total income the sector range is 0.15 to 0.48, a range of 0.34. Within this mortgage providers have a range from 0.15 to 0.18, a range of 0.03, occupying 9% of the sector range. The other groups have means spread throughout the range; the lowest is consumer credit 0.15 (sector minimum), then retail 0.26, then private 0.48 (sector maximum).

Combined is both a group and a sector - see sector ranges.

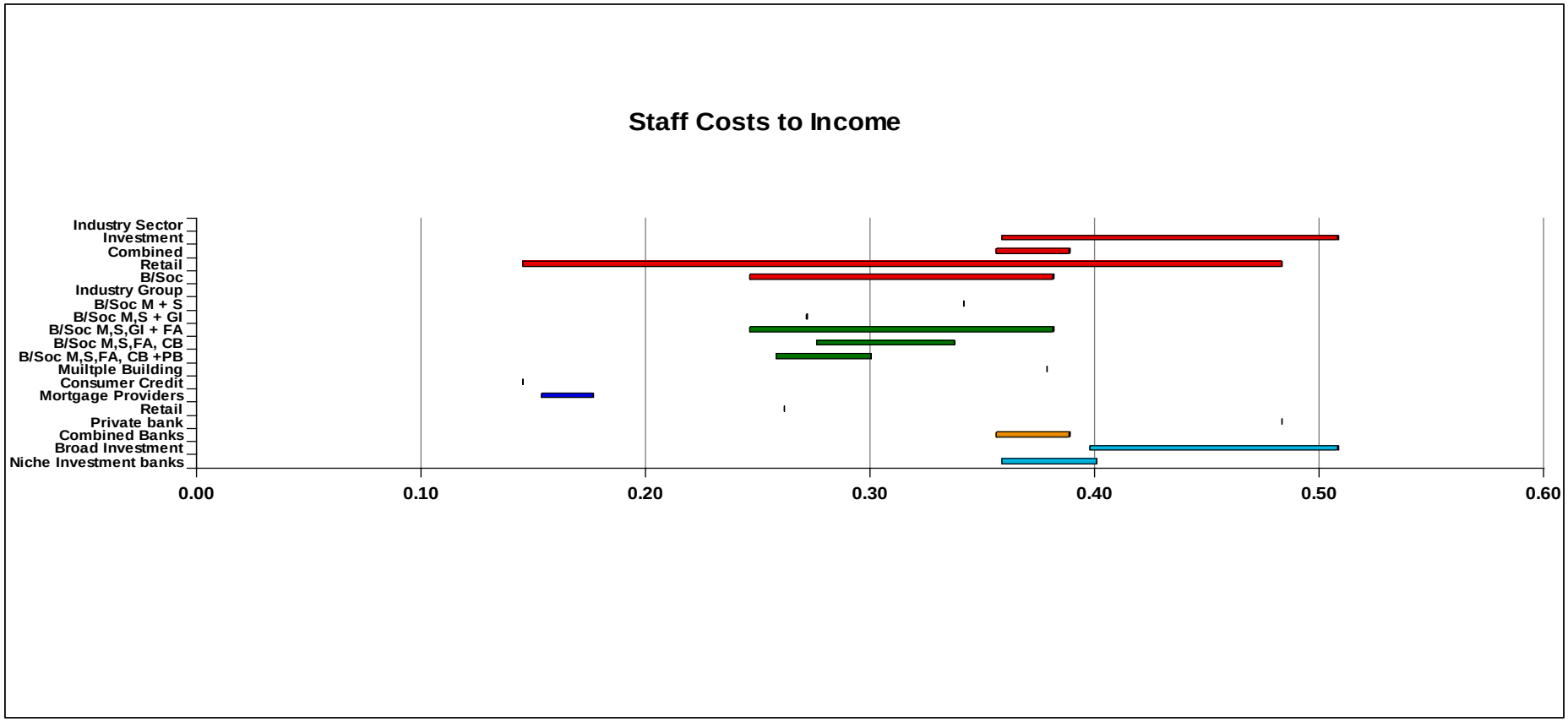
Investment – For staff cost/total income the range is 0.36 to 0.51, a range of 0.15. Within this niche investment banks have a range of 0.36 to 0.40, a range of 0.04, occupying 27% of the sector range. Broad investment banks have a range from 0.40 to 0.51, a range of 0.11, occupying 73% of the sector range. The group mean of broad investment banks is slanted; the mean of 0.47 is closer to the maximum of 0.51 than the minimum of 0.40.

The B/Soc have some variation within the sector though B/Soc M, S, GI & FA do occupy the whole range. The other multi-group ranges show variation. Though there is large amount of overlap in investment, the retail sector is widespread with no overlap.

Sector ranges within the industry

For staff cost/total income the industry range is 0.36, from a minimum of 0.15 - consumer credit to a maximum of 0.51 - broad investment bank. Within this, *B/Soc* have a range from 0.25 to 0.38, a range of 0.14, occupying 39% of the total range, *retail* a range from 0.15 to 0.48, a range of 0.34, occupying 94% of the total range. *Combined* have a range of 0.36 to 0.39, a range of 0.03, occupying 8% of the industry range. *Investment* have a range from 0.36 to 0.51 a range 0.15, 42% of the total range. Investment mean of 0.38 is slanted, being closer to the minimum of 0.36 than the maximum of 0.51. Likewise for retail, the mean of 0.27 is closer to the minimum 0.15 than the maximum of 0.48. There is a marginal slant in B/Soc with the mean of 0.31 slightly closer to the minimum of 0.25 than the maximum of 0.38. As the means are slanted the same way their impact is limited. It increases the strength of the overlap between retail and B/Soc and reduces the B/Soc combined overlap.

Figure 5.2 Floating Bar Chart - Staff Costs to Income



Data available for all organisations except one mortgage provider.

Table 5.4 Staff Costs to Total Income

Industry Group	Min	Max	Range	Mean
Niche Investment Banks	0.36	0.40	0.04	0.38
Broad Investment Banks	0.40	0.51	0.11	0.47
Combined Banks	0.36	0.39	0.03	0.37
Private Bank	0.48	0.48	0.00	0.48
Retail Bank	0.26	0.26	0.00	0.26
Mortgage Providers	0.15	0.18	0.03	0.17
Consumer Credit	0.15	0.15	0.00	0.15
Multiple Building Society	0.38	0.38	0.00	0.38
B/Soc M, S, ,FA,CB & PB	0.26	0.30	0.04	0.28
B/Soc M, S, ,FA & CB	0.28	0.34	0.06	0.31
B/Soc M, S,GI & FA	0.25	0.38	0.14	0.29
B/Soc M, S & GI	0.27	0.27	0.00	0.27
B/Soc M & S	0.34	0.34	0.00	0.34
Industry Sector				
B/Soc	0.25	0.38	0.14	0.31
Retail	0.15	0.48	0.34	0.26
Combined	0.36	0.39	0.03	0.37
Investment	0.36	0.51	0.15	0.38

Data available for all organisations except one mortgage provider.

As shown in Figure 5.2, there is variation within the industry with all sectors occupying part of the range though retail has the least variation, occupying 94% of the industry range. The floating bar chart shows the building societies in the middle with an overlap with combined and investment banking, the latter two also overlap. The main differences are at sector rather than group level.

The picture is similar to staff/operating expenses, (see 5.3.2 above). Although the groups are slightly more spread out, there is a pattern; the resource range is not random, though retail does cover nearly all of the industry range (94%).

5.3.3 Discussion of Research Question One

The two proxies produce similar results; these are well represented in the 'floating bar' charts (see Figures 5.1 and 5.2). For the industry sectors, there is a common overall pattern, combined is grouped with investment at the higher end, there is an overlap with the B/Soc who occupy the central position, which in turn overlaps with the lowest sectors, the retail group minus the private bank. The private bank is higher and can be grouped with combined and investment sectors for both proxies. There is difference in the overlap, for staff costs to income, as retail overlaps at each end of its range with retail (less private bank) and at the upper end with investment, combined and private. For staff cost to operating expenses, the industry sectors have greater overlap with the highest and lowest groups overlapping with themselves as well as the middle group.

Within the sectors there is substantial overlap amongst industry groups for the B/Soc for both proxies. For the other sectors, staff cost to total income is more spread out, with less industry group overlap for combined and investment (plus private) and no overlap for retail (less private), than for staff costs to operating expenses where there is more overlap for combined and investment (plus private) and some for retail.

In essence, for the proxies used to evaluate rent appropriation it is argued that there is a pattern and not random scatter. With groups occupying part and not all of the rent appropriation range of their industry sectors and industry sectors occupying part and not all of the industry rent appropriation range.

As rent appropriation has not been examined in UK providers of banking services, this creates new knowledge, it confirms that high rent appropriation takes place in investment banking, in this case in the UK adding the UK to Coff's (1997) US analysis.

5.4 Research Question Two

Will there be greater resource heterogeneity between the industry groups than within industry groups, and will there be even greater differences between industry sectors than within industry sectors (though the differences will not be uniform)? RQ2 is addressed by examining a wide range of resources, employees, balance sheet services, income, efficiency, networks, losses, capital and liquidity. Each of these resources contains a number of proxies, as discussed below (see Appendix Two for proxy means per organisation, industry group and sector).

5.4.1 Employees

The two proxies used in RQ1 were used for rent appropriation, as a subset of employees. They are therefore also used in the same form as part of the wider analysis of employees and are not repeated here; also an additional proxy is added of cost per employee.

5.4.1.1 Cost per Employee

This is another measure of employees' skills. The higher the figure, the greater levels of skill, and arguably power within the organisation, especially as in the service sector employees can be considered part of the service (Lovelock, 1991). Higher skilled employees may require different management from less skilled. This figure does not take into account part-time employees as this figure was not always available. See Figure 5.3 and Table 5.5 below for a visual ('floating bar chart') and tabular presentation of the data.

Total industry range for costs per employee is 0.277, with a minimum 0.17 - mortgage provider and a maximum 0.244 - broad investment bank.

Group ranges within each sector

B/Soc – The total sector range of costs per employee is 0.019 to 0.027, a range of 0.008. Within this, B/Soc M, S, GI & FA have a range from 0.19 to

0.27, a range of 0.008, occupying 100% of the sector range. B/Soc M, S, GI, FA, CB and PB have a range from 0.022 to 0.023, a range of 0.002, occupying 25% of the sector range. B/Soc M, S, GI, FA and CB have range of 0.024 to 0.027, a range of 0.003, occupying 37% of the range. Multiple B/Soc has a mean of 0.021, B/Soc M, S & GI 0.024, and B/Soc M & S 0.022.

Retail – The total sector range of costs per employee is 0.017 to 0.067, a range of 0.050. Within this mortgage providers have a range from 0.017 to 0.025, a range of 0.007, occupying 14% of the sector range. The other groups have means spread throughout the range; the lowest is consumer credit 0.020, then retail 0.027, then private 0.067 (sector maximum).

Combined is both a group and a sector - see sector ranges.

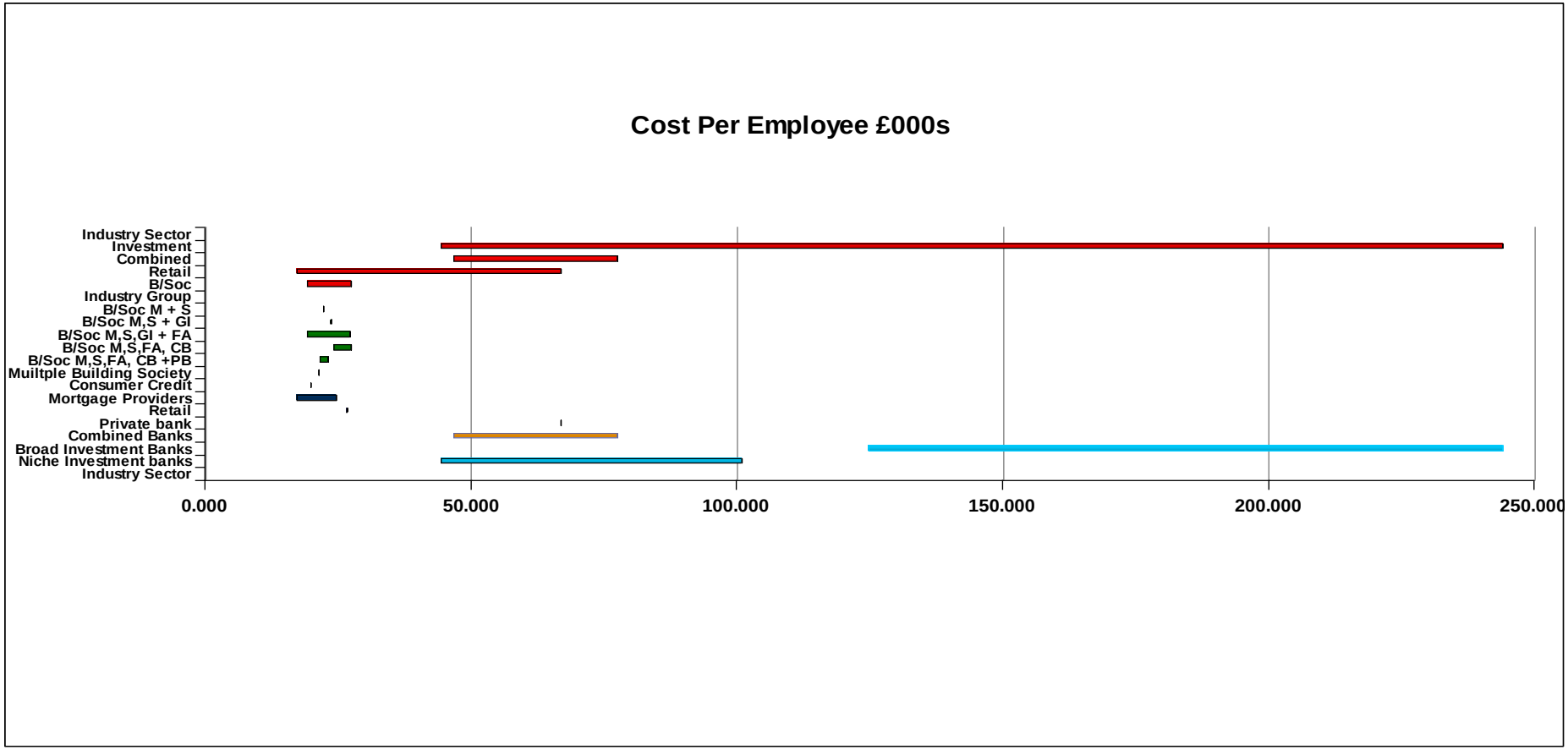
Investment – Total range of cost per employee is 0.044 to 0.244, a range of 0.200. Within this niche investment banks have a range from 0.044 to 0.101, a range of 0.057, occupying 29% of the sector range. Broad investment banks have a range from 0.125 to 0.244, a range of 0.119, occupying 60% of the sector range. There is no overlap between the two groups.

The multi-group sectors demonstrate group variation within the sectors, B/Soc less so then investment, followed by retail.

Sector ranges within the industry, for cost per employee is a minimum of 0.17 - mortgage providers, a maximum of 0.244 – broad investment bank, a range of 0.227. Within this, *B/Soc* have a range from 0.019 to 0.027, a range of 0.008, occupying 3.5% of the total range; *retail* a range from 0.017 to 0.067, a range of 0.047, occupying 21% of the total range. *Combined* have a range from 0.047 to 0.077, a range of 0.031, occupying 14% of the industry range; *investment* a range from 0.044 to 0.244, a range of 0.200, 88% of the total range. The investment mean of 0.128 is slanted, being closer to the minimum of 0.044 than the maximum of 0.244. There is a slant in retail, with the mean of 0.035 closer to the minimum of 0.017 than the maximum of 0.067.

There is variation within the total industry with sectors occupying different parts of the industry range. The lower end is retail and the B/Soc; with retail also overlapping with combined and investment. Combined overlaps totally with Investment. There are clear groups; no sector occupies the whole range though investment does occupy 88%.

Figure 5.3 Floating Bar Chart Cost per Employee (£000s)



Data available for all organisations except one mortgage provider and one broad investment bank.

Table 5.5 Mean Cost per Employee

Industry Group	Min	Max	Range	Mean
Niche Investment Banks	0.044	0.101	0.057	0.073
Broad investment Banks	0.125	0.244	0.119	0.183
Combined Banks	0.047	0.077	0.031	0.062
Private Bank	0.067	0.067	0.000	0.067
Retail Bank	0.027	0.027	0.000	0.027
Mortgage Banks	0.017	0.025	0.007	0.021
Consumer Credit	0.020	0.020	0.000	0.020
Multiple Building Society	0.021	0.021	0.000	0.021
B/Soc M, S,FA,CB & PB	0.022	0.023	0.002	0.022
B/Soc M, S,FA & CB	0.024	0.027	0.003	0.026
B/Soc M, S,GI & FA	0.019	0.027	0.008	0.022
B/Soc M, S & GI	0.024	0.024	0.000	0.024
B/Soc M & S	0.022	0.022	0.000	0.022
Industry Sector				
B/Soc	0.019	0.027	0.008	0.023
Retail	0.017	0.067	0.050	0.034
Combined	0.047	0.077	0.031	0.062
Investment	0.044	0.244	0.200	0.128

Data available for all organisations except one mortgage provider and one broad investment bank.

As shown in figure 5.3 the slanted means have an impact on this picture; niche investment banks have a mean which is closer to the minimum thereby increasing the group and the investment bank sector overlaps with the retail sector. This overlap is reduced if the less pronounced slant in mortgage providers, towards the lower end, is taken into account. The sectors are not separate - there is overlap, see Figure 5.3, B/Soc is totally overlapped by retail and combined totally by investment, also retail partially overlaps with combined and with investment, with the greater overlap being with combined. However there is not complete overlap.

There is a pattern; the resource range is not random. Sectors occupy different parts of the industry spectrum.

Taking all three employee proxies, there is clear picture in cost per employee and cost to total income for investment banking, private and combined, and to a lesser degree in staff costs to operating expenses. Building society staff are clearly grouped in the middle in cost to income and less so in cost to operating expenses, with retail being lower and combined and investment higher though overlapping. This suggests a higher reliance on staff in B/Soc than in the retail profit seeking organisations, though the salaries of both groups are at the same levels, suggesting greater expenditure on non staff items in the retail profit seeking group, perhaps reflecting more complex organisations. For example A&L (mortgage provider) had a wide range of products as did Co-op (retail bank) whereas Cattles (consumer credit) is the lowest on two of the three proxies, staff to operating expenses and total income and offers a simpler product range than A & L and Co-op. In essence, there is clear divide on employment, with investment, combined and private on one side and retail banking service providers (retail sector, less private and Building Societies) on the other side.

For those three proxies there is a pattern and not a random scatter. There is a tendency towards greater heterogeneity within sectors than groups.

5.4.2 Balance Sheet Services

The proxies that have been used to assess balance sheet services are: Largest Asset/Balance Sheet; Type of Largest Asset (descriptive); Largest Liability/Balance Sheet, and Type of Largest Liability (descriptive). It should be noted that funds under management do not appear on Bankscope data. This affects the investment banking, combined organisations and especially the niche investment banks as two of them specialise totally or partially in fund

management (Aberdeen and Rathbone). Accordingly it is their figures which will be distorted the most.

5.4.2.1 Largest Asset/Balance Sheet Size

This proxy measures the level of diversification, the lower the figure the greater the asset diversification. Also when combined with the largest asset information the proxy indicates the key asset balance service and accordingly and its relative importance to the organisation/group. The wider the range of assets/liabilities/income streams an organisation manages, the greater the chance of economies of scope. The greater range also increases the chance of moving outside the organisation's Dominant Logic (Prahalad and Bettis, 1986, and Betts and Prahalad, 1995) and its boundaries (Argyres, 1996). However not all products require financial assets, for example general insurance and financial advice could be totally fee income from commissions and would therefore not appear in the balance sheet proxies.

To gain a more complete picture of balance sheet product skills, this asset proxy needs to be linked with liabilities as a percentage of balance sheet size and largest liability. Some information on the importance of sources of income, both balance sheet and others, can be gained from the relative income figures and sources. These together will identify some of the key skills required and the range of skills required. See Figure 5.4 and Table 5.6 below for a visual and tabular presentation of the data.

Total industry range for largest asset/balance sheet the range is 0.72, with a minimum of 0.16 - broad investment bank and a maximum of 0.88 - consumer credit.

Group ranges within each sector

B/Soc – For largest asset/balance sheet the total sector range is 0.67 to 0.81, a range of 0.14. Within this B/Soc M, S, GI & FA have a range from 0.76 to 0.81, a range of 0.04, occupying 29% of the sector range. B/Soc M, S, GI, FA,

CB and PB have a range from 0.67 to 0.70, a range of 0.03, occupying 21% of the sector range. B/Soc M, S, GI, FA and CB have a range of 0.69 to 0.72, a range of 0.03, occupying 21% of the range. Multiple B/Soc has a mean of 0.73, B/Soc M, S & GI 0.78, and B/Soc M & S 0.79. The means are slanted towards the upper end.

Retail – For largest asset/balance sheet the total sector range is 0.50 to 0.88, a range of 0.37 (rounding). Within this, mortgage providers have a range from 0.60 to 0.81, a range of 0.21, occupying 57% of the sector range. The other groups have means spread throughout the range; the sector maximum is consumer credit 0.88, then retail 0.54, then private 0.50 (sector minimum).

Combined is both a group and a sector - see sector ranges.

Investment – for largest asset/balance sheet the total sector range is from 0.16 to 0.66, a range of 0.50. Within this, niche investment banks have a range of 0.40 to 0.66, a range of 0.27, occupying 54% of the sector range. Broad investment banks have a range from 0.16 to 0.32, a range of 0.16, occupying 32% of the sector range. The group mean of broad investment banks is slanted; the mean of 0.26 is further away from the minimum of 0.16 than the maximum of 0.32.

The multi-group sectors demonstrate substantial group variation within the sectors.

Sector ranges within the industry, for largest asset/balance sheet, minimum 0.16 - broad investment bank, maximum 0.88 - consumer credit, a range of 0.72. Within this, *B/Soc* have a range from 0.67 to 0.81, a range of 0.14, occupying 19% of the industry range; *retail* a range from 0.50 to 0.88, a range of 0.37, occupying 51% of the industry range. *Combined* have a range of 0.36 to 0.48, a range of 0.12, occupying 17% of the industry range. *Investment* have a range from 0.16 to 0.66, a range of 0.50, occupying 69% of the industry range. The retail mean of 0.65 is slanted, being closer to the minimum of 0.50 than the maximum of 0.88.

Figure 5.4 Floating Bar Chart - Largest Asset/Total Assets

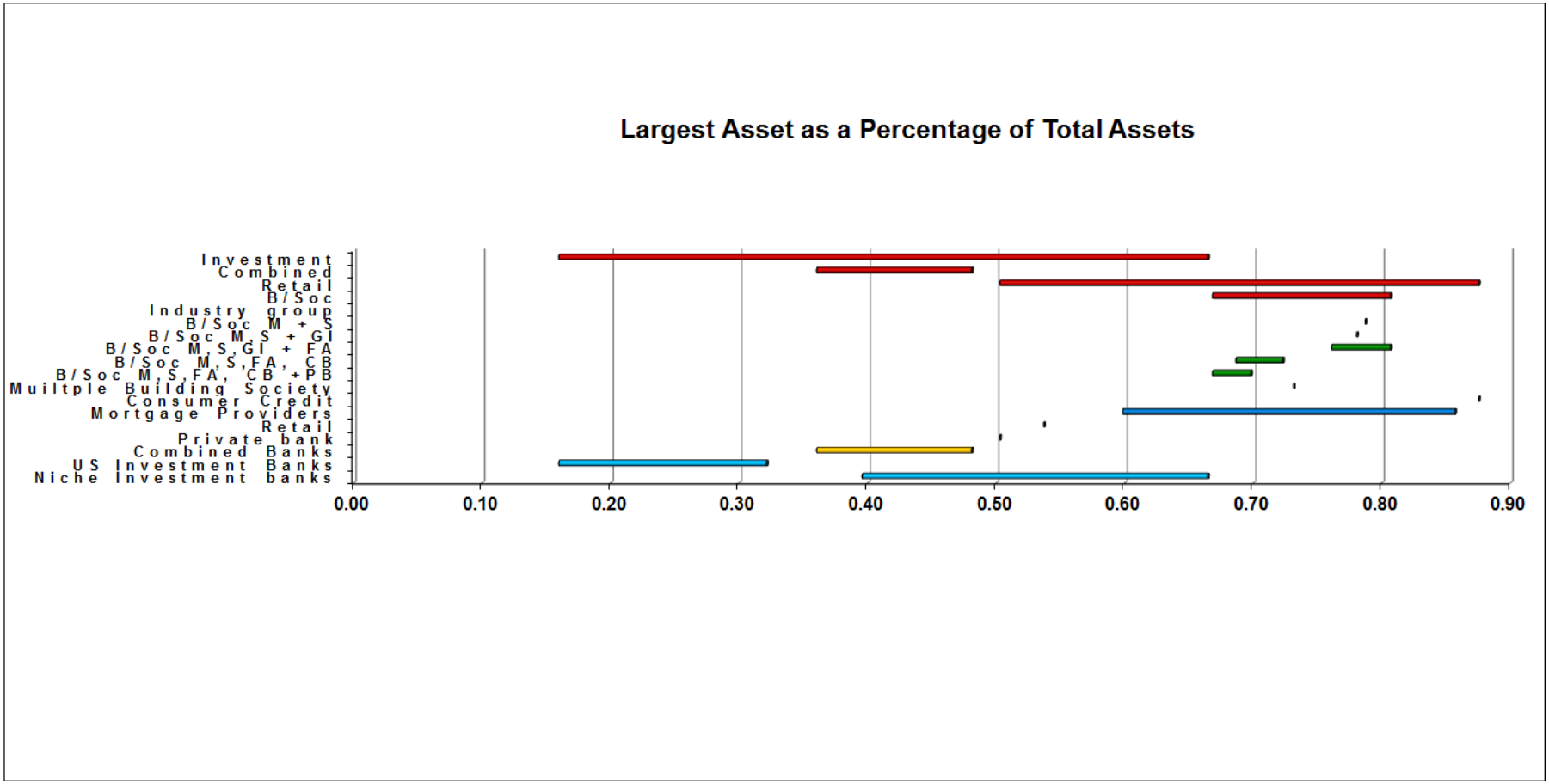


Table 5.6 Largest Asset/Total Assets

Industry Group	Min	Max	Range	Mean
Niche Investment Banks	0.40	0.66	0.27	0.53
Broad Investment Banks	0.16	0.32	0.16	0.26
Combined Banks	0.36	0.48	0.12	0.42
Private Bank	0.50	0.50	0.00	0.50
Retail	0.54	0.54	0.00	0.54
Mortgage Providers	0.60	0.86	0.26	0.70
Consumer Credit	0.88	0.88	0.00	0.88
Multiple Building Society	0.73	0.73	0.00	0.73
B/Soc M, S,FA,CB & PB	0.67	0.70	0.03	0.68
B/Soc M, S,FA & CB	0.69	0.72	0.03	0.70
B/Soc M, S,GI & FA	0.76	0.81	0.04	0.78
B/Soc M, S & GI	0.78	0.78	0.00	0.78
B/Soc M & S	0.79	0.79	0.00	0.79
Industry Sector				
B/Soc	0.67	0.81	0.14	0.74
Retail	0.50	0.88	0.37	0.65
Combined	0.36	0.48	0.12	0.42
Investment	0.16	0.66	0.50	0.40

As shown in Figure 5.4, there is variation within the total industry with sectors occupying different parts of the industry range. Though investment occupies 69% of the industry range, the investment mean slant gives greater emphasis to the overlap. Whilst there is some overlap between the sectors, combined and investment are separate from Building Societies, with a retail overlap.

There is a pattern; the resource range is not random.

5.4.2.2 Largest Asset

This descriptive proxy enables an assessment to be made of the operational skills - size (retail or wholesale), risk management, customer management

and the length of relationship, required by organisations to manage their largest asset.

Table 5.7 Largest Asset

Organisation	2004	2003	2002	2001	2000	1999	1998	1997
3i	equity investments	equity investments	equity investments	equity investments	equity investments	equity investments	equity investments	equity investments
A&L	residential mortgages	residential mortgages inc securitised	residential mortgages inc securitised	residential mortgages inc securitised	advances secured on residential properties	advanced secured on residential properties	advances secured on residential properties	advances secured on residential properties
Aberdeen	goodwill	goodwill	goodwill	goodwill	cash at central banks			
Barclays	customer loans	customer loans	customer loans	customer loans	customer loans	customer loans	customer loans	customer loans
Britannia	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans
C Hoare	bank deposits	bank deposits	bank deposits	bank deposits	bank deposits	bank deposits		
Cattles	HP/instalment lending	HP/instalment lending	HP/instalment lending	HP/instalment lending	HP/instalment lending	HP/instalment lending	HP/instalment lending	HP/instalment lending
Chelsea	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans

Close Bros	loans and advances	loans and advances	bank deposit deposits and placings	bank deposit deposits and placings	bank deposit deposits and placings	bank deposit deposits and placings		
Co-op	loans	loans	loans	loans	loans	loans	loans	loans
Coventry	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans
Derby	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans			
G/Sachs	principal transactions trading	principal transactions trading	principal transactions trading	principal transactions trading	principal transactions trading			
Hinckley	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans			
Lehman Brothers	reverse repos	reverse repos	reverse repos	reverse repos	reverse repos			
Leeds	residential mortgage	residential mortgage	residential mortgage	residential mortgage	residential mortgage	residential mortgage	residential mortgage	residential mortgage

	loans	loans	loans	loans	loans	loans	loans	loans
Leek	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans			
Merril Lynch		securities borrowed under agreements to resell	securities borrowed under agreements to resell	securities borrowed under agreements to resell	securities borrowed under agreements to resell			
Morgan Stanley	securities borrowed	securities borrowed	securities borrowed	securities borrowed	securities borrowed			
N/Rock	advances secured on residential property	loans and advances to customers	advances secured on residential property	advances secured on residential property	advances secured on residential property	advances secured on residential property	advances secured on residential property	advances secured on residential property
Nationwide	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans
Paragon	loans and advances to customers	loans and advances to customers	loans and advances to customers	loans and advances to customers	loans and advances to customers	loans and advances to customers	loans and advances to customers	

Portman	loans secured on residential property	loans secured on residential property	loans secured on residential property	loans secured on residential property	loans secured on residential property	loans secured on residential property	loans secured on residential property	
Progressive	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans			
Rathbone	bank deposits and placings	bank deposits and placings	bank deposits and placings	bank deposits and placings	bank deposits and placings	bank deposits and placings	bank deposits and placings	bank deposits and placings
Scarborough	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans
Skipton	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans
West Bromwich	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans
Yorkshire	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans

Data available for all organisations.

As table 5.7 indicates, the building societies are uniform, with the largest asset being mortgages: traditional low return, low risk and long duration with low liquidity. Two of the mortgage providers - are mortgages, the third, Paragon, has the wider definition of loans and advances to customers (no annual reports were available for the organisation to give further details).

Retail has a broad ranging largest asset of loans, for the retail bank these would be expected to vary between secured and unsecured and corporate and retail, giving a wider range of risk and duration.

Other consumer credit is HP instalment credit but as they are a sub-prime lender these are higher credit risk than above but with no long-term lending, so less duration and greater liquidity, higher volume.

Private bank – the largest asset of bank deposits (would be wholesale) reflects the lower level of lending associated with private banks. These are loans to other banks, traditionally lower margin and lower risk business of varied duration. This lending would tend to be in large tranches.

The combined banks are split, with Barclays having largely customer loans, whereas Close Brothers has loans and advances and placings - lending to other banks. The customer loans is a mixture of small high volume personal customer and larger lower volume corporate, with a variation in risk from very low margin to large corporate business to higher margin unsecured personal and varied duration from overnight to longer term upto 30 years mortgage lending. The lending to other banks would traditionally be lower margin and lower risk business of varied duration. This lending would tend to be in large tranches.

The building societies, mortgage providers, private bank, retail and combined bank services discussed have credit and liquidity risk (from type of product and duration), with the possibility of interest rate risk if not matched or hedged.

The large broad investment banks are all trading assets which tend to be wholesale, trading in high volumes and resulting in market not credit risk (unless all of the activities are executing customer trades). The skills needed will vary if trading on own account.

Niche investment banks vary reflecting their niche, one equities longer term high risk high return, medium tranche, one the same as a combined bank (placing money with other banks), one is a mixture largely a generic other investments though two years are deposits with other banks, significant variety, the other is largely goodwill (the funds it manages are not on its balance sheet).

Overall there is greater homogeneity within groups than between groups, with B/Soc and mortgage providers relying on mortgages, Broad investment banks trading assets, with some variation in combined and niche investment.

There are clear differences in the nature of the largest asset in terms of the operational skills: i) size - retail or wholesale, ii) risk management - market (traded assets) or credit (lending), from high risk such as trading and low risk, eg mortgages. Customers vary from expert to expert (other financial institutions and large corporates) expert to non-expert (majority of retail customers) (Decker and Thornton, 2002) and length of relationship transactional or longer term.

Examining the two asset measures, there is a divide between the groups. The Building Societies are heavily focused on one asset - residential mortgages (highest 0.81 and lowest 0.67). However as the group mean for this proxy is reduced the largest asset is less reflective of the asset service skills needed. This is particularly relevant for broad investment banks where the mean for the largest asset is 0.25.

This proxy supports RBV with more variation at inter sector than inter group level.

5.4.2.3 Largest Liability/Balance Sheet

As for largest asset, this is a measure of the level of diversification. The lower the figure, the greater the liability diversification and when combined with the largest liability information, this proxy will indicate the key liability service and from that indicate the skills required and the relative importance of that skill to the organisation. The greater the range the greater the chance of moving outside the organisation's dominant logic (Prahalad and Bettis, 1986) and Betts and Prahalad, 1995) and its boundaries (Argyres, 1996). However not all products require financial liabilities eg general insurance and financial advice could be totally fee income from commissions.

To gain a more complete picture of balance sheet product skills, this proxy needs to be linked with the asset proxies (types of assets, assets/balance sheet size) and type of largest asset. Other information on services and the skills needed can be gained from the income proxies (operating to net interest income and relative gross income as well sources of income). This combination will provide information on the key skills required and the range of skills required to manage the whole banking services base of the organisations examined. See Figure 5.5 and Table 5.8 below for a visual and tabular presentation of the data.

Total industry range for largest liability/balance sheet the range is 0.77, with a minimum of 0.14 - broad investment banks and a maximum of 0.91- Mortgage Provider.

Group ranges within each sector

B/Soc – The total sector range for largest liability/balance sheet is 0.71 to 0.87, a range of 0.16. Within this, B/Soc M, S, GI & FA have range from 0.77 to 0.84, a range of 0.07 occupying 44% of the sector range. B/Soc M, S, GI, FA, CB and PB have a range from 0.71 to 0.76, a range of 0.05, occupying 32% of the sector range, and B/Soc M, S, GI, FA and CB have range of 0.80 to 0.83, a range of 0.03, occupying 19% of the range. Multiple B/Soc has a mean of 0.78, B/Soc M, S & GI 0.85, and B/Soc M & S 0.87 (sector

maximum). The means are at different places on the range, though towards the maximum.

Retail – The total sector range for largest liability/balance sheet is 0.38 to 0.91, a range of 0.53. Within this, mortgage providers have a range from 0.38 to 0.91, a range of 0.53, occupying 100% of the sector range. The other groups have means spread throughout the range; consumer credit 0.56, retail 0.50 and private 0.51. These are at the lower end of the range. The mortgage providers mean is slanted the mean of 0.59 being closer to the minimum than the maximum.

Combined is both a group and a sector - see sector ranges.

Investment – The total range for largest liability/balance sheet is 0.14 to 0.65, a range of 0.51. Within this niche investment banks have a range of 0.34 to 0.65, a range 0.31, occupying 61% of the sector range. Broad investment banks have a range from 0.14 to 0.39, a range of 0.25, occupying 49% of the sector range. The group mean of niche investment banks is slanted; the mean of 0.53 is closer to the maximum of 0.65 than the minimum of 0.34. The group mean of broad investment banks is slanted; the mean of 0.25 is closer to the minimum of 0.14 than the maximum of 0.39.

With the exception of retail through mortgage providers, which restricts the variation in this sector, the other two multi-group sectors demonstrate group variation within the sectors.

Sector ranges within the industry Minimum 0.14 - broad investment banks, maximum 0.91- mortgage provider, a range of 0.77. Within this *B/Soc* have a range from 0.71 to 0.87, a range of 0.16, occupying 21% of the total range, *retail* a range from 0.38 to 0.77, a range of 0.53, occupying 69% of the total range; *Combined* a range of 0.27 to 0.28, a range of 0.01, occupying 1% of the industry range; and *Investment* a range from 0.14 to 0.65, a range 0.51, 66% of the total range. Retail mean of 0.53 is slanted, being closer to the minimum of 0.38 than the maximum of 0.91. There is a slant in B/Soc with the

mean of 0.81 slightly closer to the maximum of 0.87 than the minimum of 0.71.

Figure 5.5 Floating Bar Chart - Liability/Total Assets

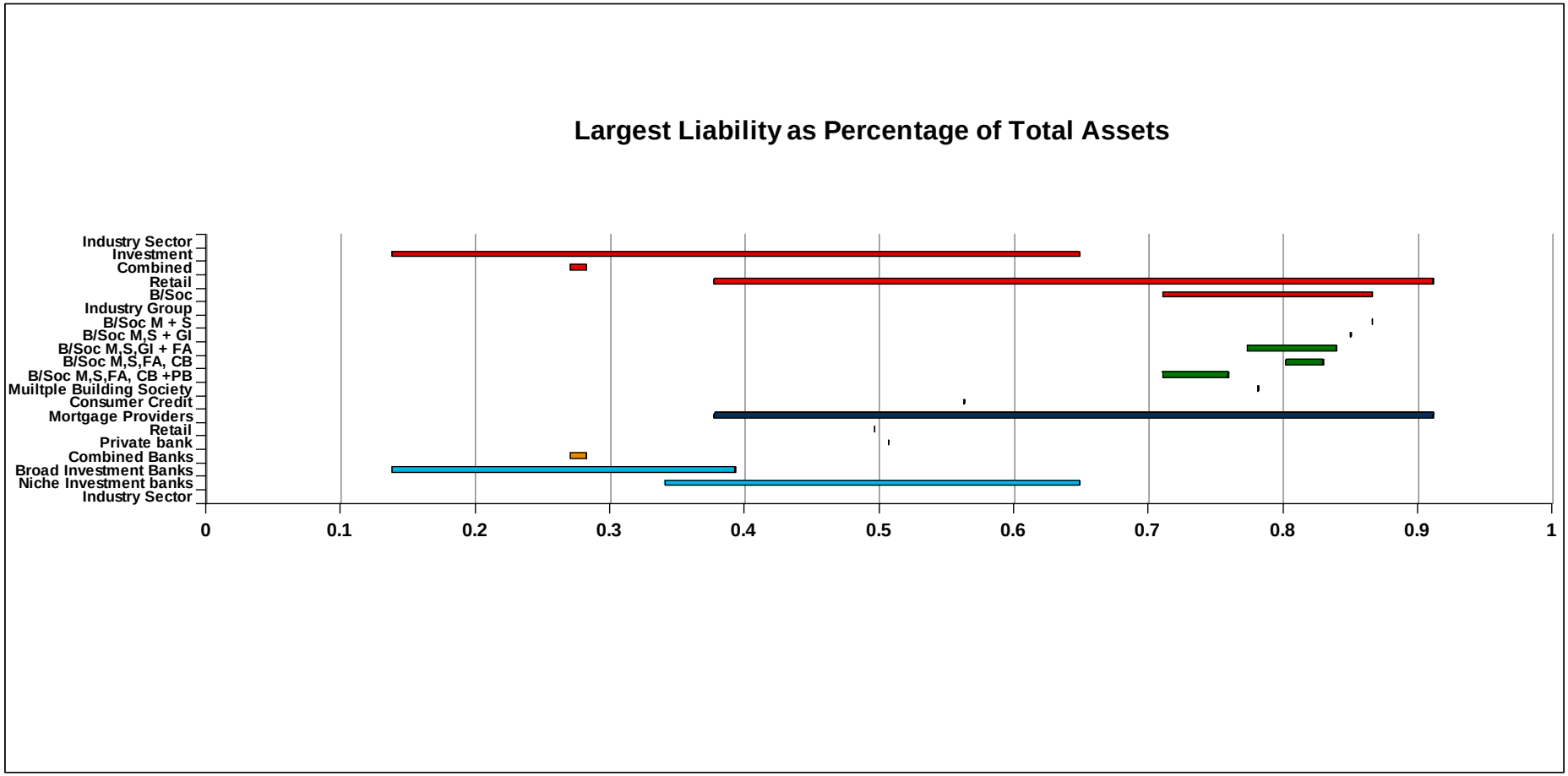


Table 5.8 Largest Liability/Total Assets

Industry Group	Min	Max	Range	Mean
Niche Investment Banks	0.34	0.65	0.31	0.53
Broad Investment Banks	0.14	0.39	0.25	0.25
Combined Banks	0.27	0.28	0.01	0.28
Private Bank	0.51	0.51	0.00	0.51
Retail	0.50	0.50	0.00	0.50
Mortgage Providers	0.38	0.91	0.53	0.59
Consumer Credit	0.56	0.56	0.00	0.56
Multiple Building Society	0.78	0.78	0.00	0.78
B/Soc M, S,FA,CB & PB	0.71	0.76	0.05	0.74
B/Soc M, S,FA & CB	0.80	0.83	0.03	0.82
B/Soc M, S,GI & FA	0.77	0.84	0.07	0.81
B/Soc M, S & GI	0.85	0.85	0.00	0.85
B/Soc M & S	0.87	0.87	0.00	0.87
Industry Sector				
B/Soc	0.71	0.87	0.16	0.81
Retail	0.50	0.91	0.53	0.54
Combined	0.27	0.28	0.01	0.28
Investment	0.14	0.65	0.51	0.39

As shown in figure 5.5, there is sector variation within the industry. No sectors occupy the whole industry range, though investment and retail both occupy c. two thirds of the range. The building societies are grouped at the least diversified end. They overlap with retail and retail overlaps with investment, whose range covers combined. The slanted mean reduces the B/Soc overlap.

There is a pattern; the resource range is not random.

5.4.2.4 Largest Liability

This descriptive proxy enables an assessment to be made of the operational skills - size (retail or wholesale), risk management, customer management and the length of relationship, required by organisations to manage their largest liability.

Table 5.9 Largest Liability

Organisation	Mean	2004	2003	2002	2001	2000	1999	1998	1997
3i	0.65	equity	equity	equity	equity	equity	equity	equity	equity
A&L	0.50	due to customer	customer demand deposit	customer demand deposit	customer demand deposit	customer demand deposit	customer demand deposit	customer demand deposit	customer demand deposit
Aberdeen	0.34	securities business	securities business	securities business	equity	equity			
Barclays	0.75	deposit and short-term funding	deposit and short-term funding	deposit and short-term funding	deposit and short-term funding	deposit and short-term funding	deposit and short-term funding	deposit and short-term funding	deposit and short-term funding
Britannia	0.71	retail deposit	retail deposit	retail deposit	retail deposit	customer deposit	customer deposit	customer deposit	customer deposit
C Hoare	0.51	customer time deposits	customer time deposits	customer time deposits	customer demand deposits	customer demand deposits	customer time deposits		
Cattles	0.56	interbank > 1 year and long-term debt	interbank > 1 year and long-term debt	interbank > 1 year and long-term debt	interbank > 1 year and long-term debt	interbank > 1 year and long-term debt	interbank > 1 year and long-term debt	Interbank > 1 year	Interbank > 1 year

Chelsea	0.84	customer deposit	customer deposit	customer deposit	customer deposit	customer deposit	customer deposit	customer deposit	customer deposit
Close Bros	0.28	customer time deposits	customer time deposits	customer time deposits	customer time deposits	customer time deposits	customer time deposits		
Co-op	0.50	deposits due customers	customer demand deposits	customer demand deposits	customer demand deposits	customer demand deposits	customer demand deposits	customer demand deposits	customer demand deposits
Coventry	0.81	customer deposit	customer deposit	customer deposit	customer deposit	customer deposit	customer deposit	customer deposit	customer deposit
Derby	0.80	retail deposit	retail deposit	retail deposit	retail deposit	retail deposit			
G/Sachs	0.14	senior long-term debt	senior long-term debt	repos	repos	senior long-term debt			
Hinckley	0.87	retail deposit	retail deposit	retail deposit	retail deposit	retail deposit			
Lehman Brothers	0.39	repos	repos	repos	repos	repos			
Leeds	0.79	customer deposit	customer deposit	customer deposit	customer deposit	customer deposit	customer deposit	customer deposit	customer deposit
Leek	0.80	retail deposit	retail deposit	retail deposit	retail deposit	retail deposit			
Merrill Lynch	0.21	repos	repos	repos	repos	repos			

Morgan Stanley	0.25	repos	repos	repos	repos	repos			
N/Rock	0.60	time and savings	time and savings	time and savings	time and savings	time and savings	time and savings	time and savings	time and savings
Nationwide	0.76	customer deposit	customer deposit	customer deposit	customer deposit	customer deposit	customer deposit	customer deposit	customer deposit
Paragon	0.75	wholesale debts > 1 year	wholesale debts > 1 year	wholesale debts > 1 year	wholesale debts > 1 year	wholesale debts > 1 year	wholesale debts > 1 year	wholesale debts > 1 year	
Portman	0.84	customer deposit	customer deposit	customer deposit	customer deposit	customer deposit	customer deposit	customer deposit	
Progressive	0.85	retail deposit	retail deposit	retail deposit	retail deposit	retail deposit			
Rathbone	0.60	customer demand deposit	customer demand deposit	customer demand deposit	customer demand deposit	customer demand deposit	customer demand deposit	sight customer deposit	sight customer deposit
Scarborough	0.84	retail deposit	retail deposit	retail deposit	retail deposit	retail deposit	retail deposit	retail deposit	retail deposit
Skipton	0.78	customer deposit	customer deposit	customer deposit	customer deposit	customer deposit	customer deposit	customer deposit	customer deposit
West Bromwich	0.80	retail deposit	retail deposit	retail deposit	retail deposit	retail deposit	retail deposit	retail deposit	retail deposit

Yorkshire	0.77	customer deposit	customer deposit	customer deposit	customer deposit	customer deposit	customer deposit	customer deposit	customer deposit

Data available for all organisations.

As table 5.9 reveals, again the Building Societies are a homogeneous group, with the largest liability being customer deposits. These will be largely retail with a heavy emphasis on savings rather than transaction accounts. These deposits will tend to be personal, small and as savings accounts (other than the B/Soc personal banking, which will have some transaction accounts) and have low liquidity.

Two of the mortgage providers (A&L and Northern Rock) have retail deposits as their largest liability, though A&L has demand, which have more volatile and liquidity requirements than the time of Northern Rock.

The third mortgage provider and other consumer credit (Paragon and Cattles) have no access to retail deposits and rely on the money markets with funding 1 yr +. This gives an element of duration, but makes the organisation reliant on a few large sources of funding. This type of funding is low volume in large tranches, obviating the need for the ability to handle large numbers of deposits.

Retail (Co-op) had the same deposits as the B/Soc and two mortgage providers, with all bar one year being demand deposits. As they have a current account base there will be higher liquidity than for the majority of building societies, and this requires the ability to handle a large number of transactions.

Private bank (C.Hoare) is similar but relies on a mixture of time and demand deposits, with the former being the largest for four out of the six years. Time deposits give more security of funding as they are less volatile than demand deposits, but as retail deposits avoid the reliance on a very few money market suppliers.

Combined banks - one (Close Brothers) has the time deposits (no detail on wholesale or retail); the other (Barclays) shows a mixture of deposits and short-term funding, suggesting a reliance on both retail and wholesale

funding, with a mixture of short-term and long-term, giving a mixture in size and volume. The combined bank with time deposits has less liquidity risk.

The niche investment banks again demonstrate their variety, from the equity capital (3i) with no requirement to pay dividends (whilst borrowed funds have the legal obligation to pay interest) and no requests for redemption (unlike term loans). Another (Rathbone Brothers) relies on demand/sight customer deposits, and the third (Aberdeen) used securities business liabilities for three years with equity for two years.

Three of the four broad investment banks rely on the market in the form of repos. One (Goldman Sachs) shows some variety with three out of five years being long-term debt, with its credit risk; repos with market and credit risk are its major source of funding for the other two years.

The investment banking is clearly different from the other areas with its reliance on non-lending finance. The retail banking services providers and combined banks relied on money lent to them (credit, liquidity and interest rate risk), with the retail providers being split between those whose largest liability is wholesale, those largest provider is retail and a mixture. There is also a mixture of duration.

There is limited intra-sector variation but significant inter-sector variation.

There are some patterns throughout the four balance sheet services proxies. The B/Soc is a tight group with lower diversification and range or services to manage, giving a narrower required dominant logic (Prahalad and Bettis, 1986 and Bettis and Prahalad, 1995), with common largest asset and liability. Their largest products are retail with credit liquidity and interest rate risk. This gives common risk, customer and operational management challenges in these areas.

The widest diversification is found in the investment banks and combined, who also have the largest range of largest services. This is logical as they rely

on a wider range of assets and liabilities. This requires a wider dominant logic (Prahalad and Bettis, 1986 and Bettis and Prahalad, 1995), and management of resources (Penrose, 1959 in Kor and Maloney, 2000).

There is greater mixture in the retail sector (including private banking) with retail liabilities and a mixture of wholesale and retail assets. There is greater homogeneity in the importance of their largest asset and liability with these being in between the other two groups, with the exception of other consumer finance on largest asset/balance sheet. They have less balance sheet services risk than the investment and combined banks.

5.4.3 Marketing

An attempt was made to examine heterogeneity in marketing by using three proxies: Marketing Expenditure to Total Net Income, Marketing Expenditure to Balance Sheet Size, and Marketing Expenditure to Overheads. Unfortunately, as data was only available for four broad investment banks and one mortgage provider, it was therefore impossible to use the three marketing proxies to assess marketing as a resource to analyse RQ2.

5.4.4 Income

Differing income streams can be proxies for different resources which need managing in different ways. For example, fee income, such as bureau de change and share dealing fees, usually has limited underlying financial risk which could reduce or eliminate that income, whereas interest income from lending could be reduced or eliminated by risks such as a loan default (credit risk) in later years of a term loan. Gross and net income can present different management challenges. For example, gross interest income can fluctuate widely with changes in interest rates, net interest income (interest margin) it

can be insulated from this if both interest income and interest cost move in the same way. The largest source of income gives an indication of the skills needed. For example trading and principal investment requires different skills from retail financial services.

Income is measured using four proxies: net other operating income to interest income; largest source of other operating income – descriptive; largest gross income source – descriptive; and gross income from top source/gross income from second top source. Unfortunately, due to a shortage of data, there was no data for all B/Soc, other consumer credit, two mortgage providers, private bank, one broad investment bank and two niche investment banks, it was not possible to use a fifth proxy top source of operating profit by division/product as part of the analysis of income for RQ2.

5.4.4.1 Net Other Operating Income to Net Interest Income

The lower the figure the greater the reliance on net interest income and any organisation over 1 has more net non- interest than net interest income. Negatives for net other operating income to interest income are ignored because they represent a loss but still show the relative importance of income streams. Those in the middle of the range are most diversified with two relatively even types of net income. Those at each end are more reliant on one type of net income.

In more detail, interest income carries risks: 1) any surplus net interest income is after administration costs and could be outweighed by a loss in asset value, usually a bad debt in later years. 2) A provider of banking services is typically pricing an asset (predominantly interest income), taking into account estimated risk, actual risk is only known on maturity. 3) Interest rate risk.

This is different from other forms of income. Fees on M & A, commission on a sale of a financial instrument, a market deal or commission received from a

third party for selling insurance do not carry the same risks. There is no interest rate, pricing or default risk.

Lending, the source of interest income, also requires some underlying capital, creating a cost which fee income may not.

The data is presented in two forms. All data, see Figure 5.6 and Table 5.10, and with the investment bank industry sector and niche investment bank industry group removed to show more detail of the relationship between the other sectors, see Figure 5.7.

Total industry range

For net other operating income to interest income the range is 88.13 from a minimum of 0.02 B/Soc M & S, to a maximum of 88.15 niche investment bank.

Group ranges within each sector

B/Soc – For net other operating income to interest income the total sector range is 0.02 to 1.84, a range of 1.83. Within this, B/Soc M, S, GI & FA have a range from 0.10 to 0.33, a range of 0.23, occupying 13% of the sector range, B/Soc M, S, GI, FA, CB and PB have a range from 0.21 to 0.41, a range of 0.20, occupying 11% of the sector range, B/Soc M, S, GI, FA and CB have a range from 0.28 to 0.44, a range of 0.15, occupying 8% of the range. Multiple B/Soc has a mean of 1.84 (sector maximum), an outlier with large fee income from multiple diversification, B/Soc M, S & GI 0.15, and B/Soc M & S 0.02 (minimum). The means are at spread throughout the range.

Retail – For net other operating income to interest income the total sector range is 0.30 to 0.71, a range of 0.42. Within this mortgage, providers have a range from 0.30 to 0.71, a range of 0.42, occupying 100% of the sector range. The other groups have means spread throughout the range, retail 0.49, and private 0.56. The mortgage providers' mean is slanted. The mean of 0.47 is closer to the minimum of 0.030 than the maximum 0.71.

Combined is both a group and a sector - see sector ranges.

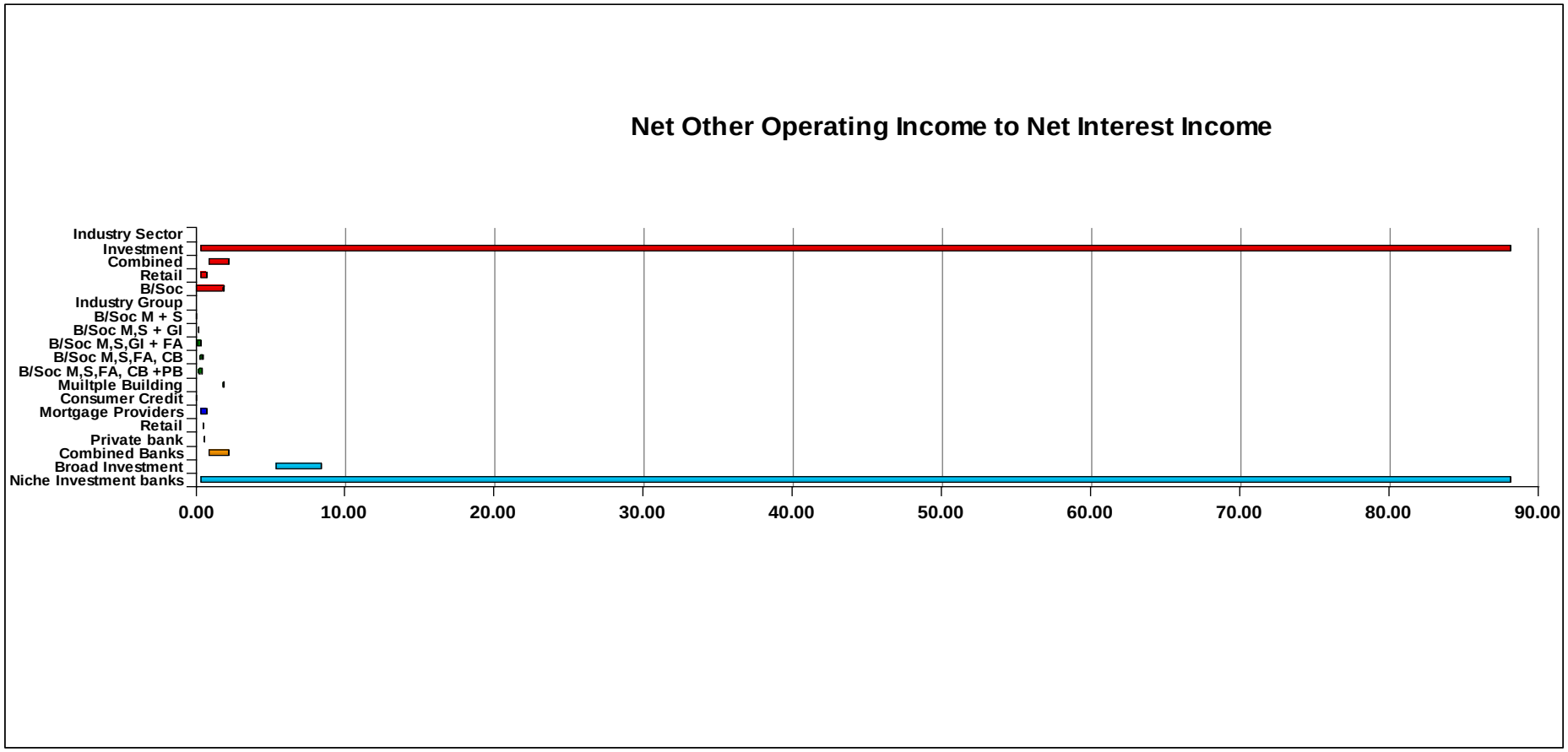
Investment – For net other operating income to interest income the total range is 0.31 to 88.15, a range of 87.34. Within this, the whole range is occupied by niche investment banks, 0.31 to 88.15. Broad investment banks have a range from 5.36 to 8.38, a range of 3.02, occupying 3.5% of the sector range. The group mean of niche investment banks is slanted. The mean of 31.69 is closer to the minimum of 0.31 than the maximum of 88.15.

There is limited variation in investment and retail sectors with one group occupying the whole range in each case. However, there is still some variation. Broad investment does not cover the whole sector range, the other retail groups have different values and B/Soc shows large variation.

Sector ranges within the industry

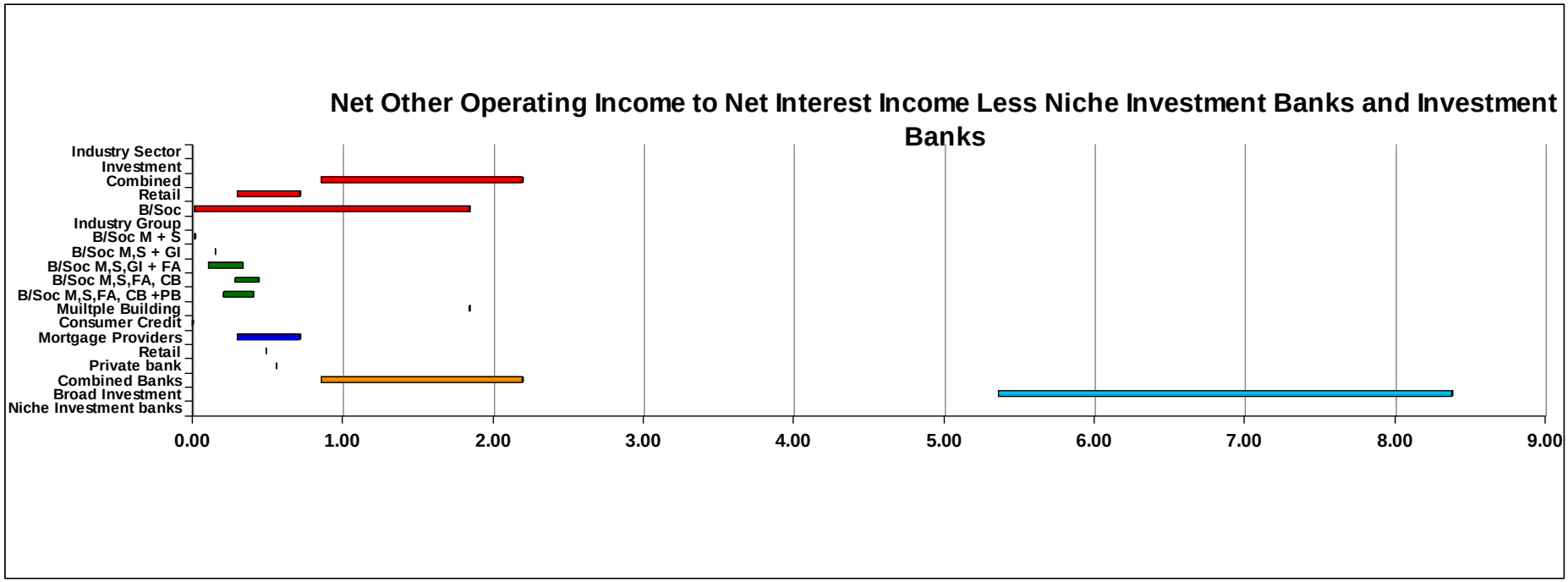
For net other operating income to interest income the minimum is 0.02 B/Soc M & S, the maximum is 88.15 niche investment bank giving, a range of 88.13. Within this, *B/Soc* have a range from 0.02 to 1.84, a range of 1.83, occupying 2% of the total range. R*etail* range is from 0.30 to 0.71, a range of 0.42, occupying 0.5% of the total range. *Combined* range is from 0.85 to 2.19, a range of 1.33, occupying 2.0% of the total range. *Investment* has a range from 0.31 to 88.15, a range 87.84, 99.6% of the total range. *Investment* mean of 19.26 is slanted, being closer to the minimum of 0.31 than the maximum of 88.15. There is a slant in B/Soc with the mean of 0.49 being closer to the minimum of 0.02 than the maximum of 1.84.

Figure 5.6 Floating Bar Chart - Net Other Operating Income to Net Interest Income



There is no data available for one organisation - consumer credit. The chart shows -88.15 as +88.15.

Figure 5.7 Floating Bar Chart - Net Other Operating Income to Net Interest Income Less Niche Investment Banks and Investment Banks



There is no figure for one organisation - consumer credit.

Table 5.10 Net Other Operating Income to Net Interest Income

Industry Group	Min	Max	Range	Mean
Niche Investment Banks	0.31	88.15	87.84	31.69
Broad Investment Banks	5.36	8.38	3.02	6.83
Combined Banks	0.85	2.19	1.34	1.53
Private Bank	0.56	0.56	0.00	0.56
Retail Bank	0.49	0.49	0.00	0.49
Mortgage Providers	0.30	0.71	0.42	0.47
Consumer Credit				0.00
Multiple Building Society	1.84	1.84	0.00	1.84
B/Soc M, S,FA,CB & PB	0.21	0.41	0.20	0.31
B/Soc M, S,FA & CB	0.28	0.44	0.15	0.36
B/Soc M, S,GI & FA	0.10	0.33	0.23	0.24
B/Soc M, S & GI	0.15	0.15	0.00	0.15
B/Soc M & S	0.02	0.02	0.00	0.02
Industry Sector				
B/Soc	0.02	1.84	1.83	0.49
Retail	0.30	0.71	0.42	0.50
Combined	0.85	2.19	1.34	1.52
Investment	0.31	88.15	87.84	19.26

There is no figure for one organisation - consumer credit.

As shown in Figures 5.6 and 5.7, there is variation within the total industry with sectors occupying different parts of the industry range, though investment banking does occupy 99.6% of the industry range. The lower end is the B/Soc sector, which overlaps with retail in the middle and investment at the upper end. There is also overlap between B/Soc and investment. Though Investment does occupy 99.6% of the total industry range 11 out of the 14 B/Soc are below the investment banking range. The slanted means have an impact on this picture, niche investment banks (where the mean is closer to the minimum), gives investment banks a greater overlap with the other sectors. This overlap is reduced if the less pronounced slant in mortgage providers, towards the lower end, is taken into account. The sectors are not

separate - there is overlap. All sectors are overlapped by at least one - there is not complete overlap between all sectors. The slanted means are in groups with large overlaps and have no major impact on the strength of the overlaps.

In summary, there is a apptern with some variation at both inter group and inter sector; the resource range is not random.

5.4.4.2 Largest Source of Other Operating Income

This descriptive proxy provides details of the non interest income for the organisations in the study. This enables the source of that income to be identified, differing sources of income could require differing skills, for example trading is a different activity and requires different skills to asset management.
.

Table 5.11 Largest Source of Other Operating Income

Organisation	2004	2003	2002	2001	2000	1999	1998	1997
3i	fees	fees	fees	fees	fees	fees	fees	fees
A&L	fees	fees	fees	fees	fees	fees	fees	fees
Aberdeen	other operating income	other operating income	other operating income	other operating income	other operating income			
Barclays	fees	fees	fees	fees	fees	fees	fees	fees
Britannia	other	fees	fees	fees	fees	fees	fees	fees
C Hoare								
Cattles								
Chelsea	fees	fees	fees	fees	fees	fees	fees	fees
Close Bros	fees and commissions	fees and commissions	fees and commissions	dealing	dealing	fees and commissions		
Co-op	fees	fees	fees	fees	fees	fees	fees	fees
Coventry	fees	fees	fees	fees	fees	fees	fees	fees
Derby	fees	fees	fees	fees	fees			

G/Sachs	principal transactions trading	principal transactions trading	principal transactions trading	principal transactions trading	principal transactions trading			
Hinckley	other operating income	other operating income	other operating income	fees	fees			
LB	principal transactions trading	principal transactions trading	principal transactions trading	principal transactions trading	principal transactions trading			
Leeds	fees	fees	fees	fees	fees	fees	fees	fees
Leek	fees	fees	fees	fees	fees			
ML	asset management	asset management	asset management	asset management	commissions			
MS	principal transactions trading	principal transactions trading	other income	principal transactions trading	principal transactions trading			
N/Rock	fees	fees	fees	fees	fees	fees	fees	fees
Nationwide	commissions	commissions	commissions	commissions	commissions	commissions	commissions	commissions
Paragon	other operating income	other operating income	other operating income	other operating income	other operating income	other operating income	other operating income	

Portman	fees	fees	fees	fees	fees	fees	fees	fees
Progressive	fees	fees	fees	fees	fees			
Rathbone	fees	fees	fees	fees	fees	fees	fees	fees
Scarborough	fees	fees	fees	fees	fees	fees	fees	fees
Skipton	fees	fees	fees	fees	fees	fees	fees	fees
West Bromwich	fees	fees	fees	fees	fees	fees	fees	fees
Yorkshire	fees	commissions	commissions	commissions	commissions	commissions	commissions	commissions

There is no data for two organisations - consumer credit and private bank. Three others, one niche investment bank (Aberdeen), one mortgage provider (Paragon), have no specific detail, relying on other operating income. This also forms the majority three out of five years of B/Soc M & S (Hinckley).

As table 5.10 indicates, this is a fairly generic proxy with the majority of all groups except one, where there is data, relying on fee income. The one which does not is broad investment banking, where three organisations rely on principal transaction trading and one (Merrill Lynch) relies on asset management (four years) and commissions (one year). There is limited variation from one group of four out of the total of 29 organisations.

5.4.4.3 Largest Source of Gross Income

This proxy provides information on the largest income source and therefore the skills needed to manage it. See Table 5.11 below.

Table 5.12 Largest Source of Gross Income

Organisation	2004	2003	2002	2001	2000	1999	1998	1997
3i	%	%	%	%	%	%	%	%
A&L	%	%	%	%	%	%	%	%
Aberdeen	other operating income	other operating income	other operating income	other operating income	other operating income			
Barclays	%	%	%	%	%	%	%	%
Britannia	%	%	%	%	%	%	%	%
C Hoare	%	%	%	%	%	%		
Cattles								
Chelsea	%	%	%	%	%	%	%	%
Close Bros	%	%	%	dealing	%	%		
Co-op	%	%	%	%	%	%	%	%
Coventry	%	%	%	%	%	%	%	%
Derby	%	%	%	%	%			
G/Sachs								
Hinckley	%	%	%	%	%			

Lehman Brothers	principal transactions trading	principal transactions trading	principal transactions trading	principal transactions trading	principal transactions trading			
Leeds	%	%	%	%	%	%	%	%
Leek	%	%	%	%	%			
Merril Lynch	asset management	asset management	asset management	asset management	commissions			
Morgan Stanley								
N/Rock	%	%	%	%	%	%	%	%
Nationwide	%	%	%	%	%	%	%	%
Paragon								
Portman	%	%	%	%	%	%	%	%
Progressive	%	%	%	%	%			
Rathbone	fees	fees	fees	fees	fees	fees	fees	fees
Scarborough	%	%	%	%	%	%	%	%
Skipton	%	%	%	%	%	%	%	%
West Bromwich	%	%	%	%	%	%	%	%
Yorkshire	%	%	%	%	%	%	%	%

No data for two broad investment banks, consumer credit and one mortgage provider.

The results split into two groups - the predominant interest income: all building societies, two mortgage providers, private and retail banks, one niche investment bank (though this includes dividends), one combined bank and the second combined bank except for one year. The second group with other largest source of gross income are the niche investment banks, one with fees, one with four out of seven years of fees, and other operating income.

As set out in Table 5.11, this data shows the providers of retail banking services as a homogeneous group relying on interest income, and those involved in investment banking, where there is the data, relying on other forms of income, sometimes fees. The overall picture is that of a generic resource with very limited variation from one group of four out of the total of 29 organisations.

5.4.4.4 Gross Income from Top Source/Gross Income from Second Top Source

This proxy is another measure of the type of income which needs to be managed in providers of banking services, this time looking at gross income. The higher the figure the greater the concentration on one type of income. When combined with the descriptive proxy of the largest type of gross income, this gives a picture of the type of gross income being managed and their relative importance. The same arguments for the differences in the nature of the income stream from the net income apply. See Figure 5.8 and Table 5.12 below for a visual and tabular presentation of the data.

Industry range - The total range for gross income from top source/gross income from second top source is 42.51, from 1.67 niche investment bank to 44.18 B/Soc M & S.

Group ranges within each sector

B/Soc – The total sector range for gross income from top source/gross income from second top source is 2.54 to 44.18, a range of 41.64. Within this B/Soc, M, S, GI & FA have a range from 11.38 to 23.34, a range of 11.85, occupying 28% of the sector range. B/Soc M, S, GI, FA, CB and PB have a range from 13.56 to 19.77, a range of 6.22, occupying 15% of the sector range, B/Soc M, S, GI, FA and CB have range of 14.15 to 15.12, a range of 0.97, occupying 2% of the range. Multiple B/Soc has a mean of 2.54 (sector minimum), B/Soc M, S & GI 20.27, and B/Soc M & S 44.18 (sector maximum). The means are at different places on the range. There is a slanted mean – the B/Soc M, S, GI & FA mean of 16.33 is closer to the minimum of 11.38 than the maximum of 23.34.

Retail – The total sector range for gross income from top source/gross income from second top source is 3.28 to 10.53, a range of 7.25. Within this mortgage providers have a range from 4.14 to 10.53, a range of 6.39, occupying 88% of the sector range.

Combined is both a group and a sector - see sector ranges.

Investment – The total range for gross income from top source/gross income from second top source is 1.67 to 5.27, a range of 13.60. Within this, the whole range is occupied by niche investment banks. They range from 1.67 to 5.27, a range of 13.60, occupying 100% of the sector range - this is to be expected as there is no data for broad investment banks.

As investment banking is a one group sector, the discussion reviews the two multi-group sectors for this proxy, retail and B/Soc. They demonstrate variation, with no group occupying more than 62% of the sector range.

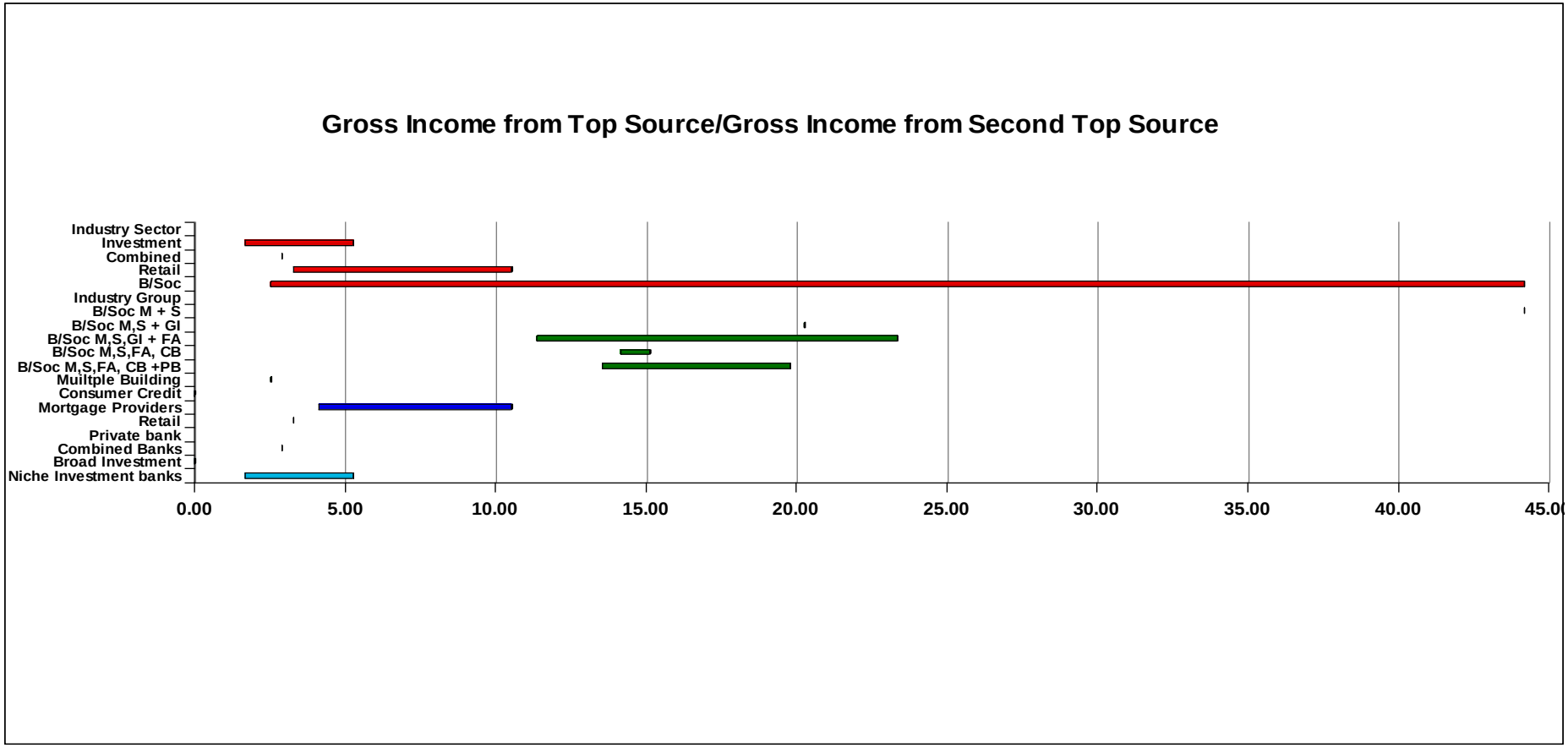
Sector ranges within the industry – The total industry range for gross income from top source/gross income from second top source
Is, 42.51 from 1.67 niche investment bank to 44.18 B/Soc M and S. Within this, *B/Soc* have a range from 2.54 to 44.18, a range of 41.65, occupying 98% of the total range; *retail* a range from 3.28 to 10.53, a range of 7.25,

occupying 17% of the total range. The c*ombined* mean is 2.89, towards the minimum of the industry range. *Investment* has a range from 1.67 to 5.27, a range of 13.60, 32% of the total range. The retail mean of 5.31, is slanted being closer to the minimum of 3.28 than the maximum of 10.53. There is a slant in B/Soc, with the mean of 19.10 being closer to the minimum of 2.54 than the maximum of 44.18.

With the exception of B/Soc, which without two outliers would have reduced range, the other groups show variation with the largest occupying 46% of the industry range and the smallest 3% of the industry range.

The slanted means are the same direction and have little impact on the overlaps.

Figure 5.8 5.8 Floating Bar Chart - Gross Income from Top Source/Gross Income from Second Top Source



There is no data for the broad investment banks, the consumer credit organisation, a niche investment bank, private bank, one combined and a mortgage provider.

Table 5.13 Gross Income from Top Source/Gross Income from Second Top Source

Industry Group	Min	Max	Range	Mean
Niche Investment Banks	1.67	5.27	3.60	3.47
Broad Investment Banks	0.00		0.00	
Combined Banks	2.89	2.89	0.00	2.89
Private Bank	0.00	0.00	0.00	0.00
Retail Bank	3.28	3.28	0.00	3.28
Mortgage Providers	4.14	10.53	6.39	7.34
Consumer Credit	0.00	0.00	0.00	
Multiple Building Society	2.54	2.54	0.00	2.54
B/Soc M, S,FA,CB & PB	13.56	19.77	6.22	16.66
B/Soc M, S,FA & CB	14.15	15.12	0.97	14.64
B/Soc M, S,GI & FA	11.38	23.34	11.96	16.33
B/Soc M, S & GI	20.27	20.27	0.00	20.27
B/Soc M & S	44.18	44.18	0.00	44.18
Industry Sector				
B/Soc	2.54	44.18	41.65	19.10
Retail	3.28	10.53	7.25	5.31
Combined	2.89	2.89	0.00	2.89
Investment	1.67	5.27	3.60	3.47

There is no data for the broad investment banks, the consumer credit organisation, one combined bank and a mortgage provider.

As shown in Figure 5.8 for gross income from top source/gross income from second top source, the lowest figures are for combined and retail and investment banking, which overlap with each other. B/Soc overlap with the other groups but this is only multiple, the others do not overlap. There is a pattern; the resource range is not random.

In short there is some heterogeneity supporting industry variation and also some aspects of homogeneity. Overall it is not random - there is a pattern.

Examining overall income, the building societies (except multiple diversification) have the least diversified income, predominantly relying on interest income with fee income as a secondary source. Retail is more diversified but still primarily relied on the same sources. The investment banks have a wider spread and rely on risky trading income, niche investment banks have the widest spread, but a lack of detail on income means level of risk cannot be evaluated.

5.4.5 Efficiency

There are two proxies for efficiency, the cost income ratio and asset per employee. There is no attempt to conclude whether one sector or group is more efficient, with the implication that one is better than the other. The purpose of the two proxies in this area is to identify and measure any differences between sectors and groups.

5.4.5.1 Cost Income

According to Bankscope, this is one of the ratios which receives the most attention. It 'measures the overheads or costs of running the bank, the major element of which is normally salaries, as percentage of income generated before provisions. It is a measure of efficiency' (Bankscope website 23.09.09). See Figure 5.9 and Table 5.13 below for a visual and tabular presentation of the data.

Total industry range - The total range for cost income is 51.96 from 33.11 mortgage provider to 85.07 niche investment bank.

Group ranges within each sector

B/Soc – The total sector range for cost income is 47.99 to 73.05, a range of 25.06. Within this, B/Soc M, S, GI & FA have range from 47.99 to 71.54, a range of 23.56, occupying 94% of the sector range, B/Soc M, S, GI, FA, CB and PB have a range from 61.71 to 62.57, a range of 0.64, occupying 2.5% of the sector range, B/Soc M, S, GI, FA and CB have range of 52.01 to 62.57, a range of 10.56, occupying 42% of the range. Multiple B/Soc has a mean of 73.05 (sector maximum), B/Soc M, S & GI 54.73, and B/Soc M & S 66.18. The means are at different places on the range, though towards the maximum. There is a slanted mean - B/Soc M, S,GI & FA mean of 58.24 is closer to the minimum of 47.99 than the maximum of 71.54.

Retail – The total sector range for cost income is 33.11 to 78.44, a range of 45.32. Within this, mortgage providers have a range from 33.11 to 58.66, a range of 25.54, occupying 56% of the sector range. The other groups have means towards the top end; the lowest is retail 64.58, then private 78.44 at the sector maximum. The mortgage providers mean is slanted, the mean of 44.01 is closer to the minimum of 33.11 than the maximum of 58.66.

Combined is both a group and a sector - see sector ranges.

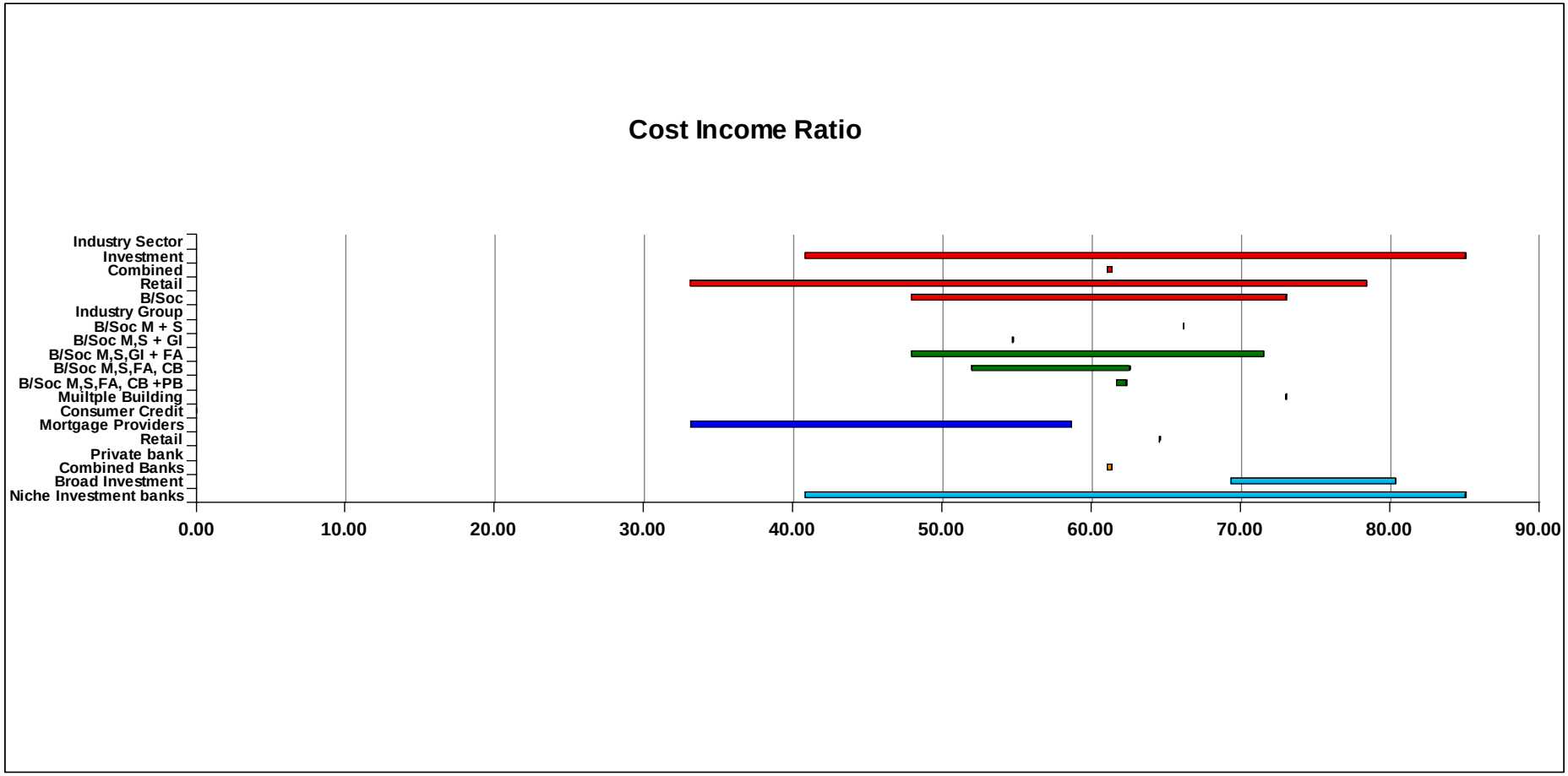
Investment – The total range for cost income is 40.85 to 85.07, a range of 44.23. Within this the whole range is occupied by niche investment banks 40.85 to 85.07, a range of 44.23. Broad investment banks have a range from 69.39 to 80.38, a range of 11.00 (rounding), occupying 25% of the sector range. The group mean of niche investment banks is slanted; the mean of 66.35 is further from the minimum of 40.85 than the maximum of 85.07, as is the group mean of broad investment - the mean of 73.65 is closer to the minimum of 69.39 than the maximum of 80.38.

With the exception of investment banks and the group niche investment banks, the other two multi-group sectors demonstrate group variation within the sectors, though B/Soc is 94% covered by B/Soc M, S GI and FA.

Sector ranges within the industry

Total industry range for cost income is from 33.11 mortgage provider to 85.07 niche investment bank, a range of 51.96. Within this, *B/Soc* have a range of 47.99 to 73.05, a range of 25.06, occupying 48% of the total range. The *retail* range is 33.11 to 78.44, a range of 45.32, occupying 87% of the total range. *Combined* have a range of 61.07 to 61.35, a range of 0.28, occupying 0.5% of the industry range. *Investment* have a range of 40.85 to 85.07, a range of 44.23, occupying 85% of the total range. The investment mean of 70.00 is slanted being further from the minimum of 40.85 than the maximum of 85.07. Retail is slightly slanted - the mean of 62.34 is slanted, being further from the minimum of 33.11 than the maximum of 78.44.

Figure 5.9 Floating Bar Chart - Cost Income Ratio



There are no figures for consumer credit.

Table 5.14 Cost Income Ratio

Industry Group	Min	Max	Range	Mean
Niche Investment Banks	40.85	85.07	44.23	66.35
Broad Investment Banks	69.39	80.38	11.00	73.65
Combined Banks	61.07	61.35	0.28	61.21
Private Bank	78.44	78.44	0.00	78.44
Retail Bank	64.58	64.58	0.00	64.58
Mortgage Providers	33.11	58.66	25.54	44.01
Consumer Credit				
Multiple Building Society	73.05	73.05	0.00	73.05
B/Soc M, S,FA,CB & PB	61.71	62.35	0.64	62.03
B/Soc M, S,FA & CB	52.01	62.57	10.56	57.29
B/Soc M, S,GI & FA	47.99	71.54	23.56	58.24
B/Soc M, S & GI	54.73	54.73	0.00	54.73
B/Soc M & S	66.18	66.18	0.00	66.18
Industry Sector				
B/Soc	47.99	73.05	25.06	61.29
Retail	33.11	78.44	45.32	62.34
Combined	61.07	61.35	0.28	61.21
Investment	40.85	85.07	44.23	70.00

There are no figures for consumer credit.

As shown in Figure 5.9, for the cost income ratio there is considerable overlap with all sectors overlapping. Retail is lower than B/Soc, followed by investment banking and combined. The variation inter sector is limited.

There is a pattern; the resource range is not random. With greater variation inter group than intra sector.

This is the most generic proxy at an industry level.

5.4.5.2 Assets per Employee

This proxy gives an indication of the level of staffing intensity. High assets to staff figures and could indicate large wholesale transactions or high volumes of retail transactions. Low figures could indicate a business which is more heavily reliant on non-asset or liability income, ie fees or trading income. This is another proxy affected by Bankscope not including funds under management in an organisation's assets; this affects investment banks and combined banks. See Figure 5.10 and Table 5.14 below for a visual and tabular presentation of the data.

Industry range - The industry range for assets per employee is £12.18m from £260k consumer credit to £12.44m broad investment bank.

Group ranges within each sector

B/Soc – The total sector range for assets per employee is £1.65m to £7.74m, a range of £6.09m. Within this B/Soc, M, S, GI & FA have a range from £3.32m to £7.74m, a range of £4.42m, occupying 87% of the sector range, B/Soc M, S, GI, FA, CB and PB have a range from £4.80m to £5.47m, a range of £670K, occupying 11% of the sector range. B/Soc M, S, GI, FA and CB have range of £5.12m to £5.93m, a range of £810k, occupying 13% of the range. Multiple B/Soc has a mean of £1.65m (sector minimum), B/Soc M, S & GI £6.23m, and B/Soc M & S £4.39m. The means are at different places on the range.

Retail – The total sector range for assets per employee is £260k to £6.31m, a range of £6.05m. Within this, mortgage providers have a range from £4.06m to £6.31m, a range of £2.25m, occupying 37% of the sector range. The other groups have means spread throughout the lower part of the range; the lowest is consumer credit £260k (sector minimum), then retail £1.73m and private £3.65m. The mortgage providers mean is slanted. The mean of £4.83m is further from the maximum of £6.31m than the minimum of £4.06m.

Combined is both a group and a sector - see sector ranges.

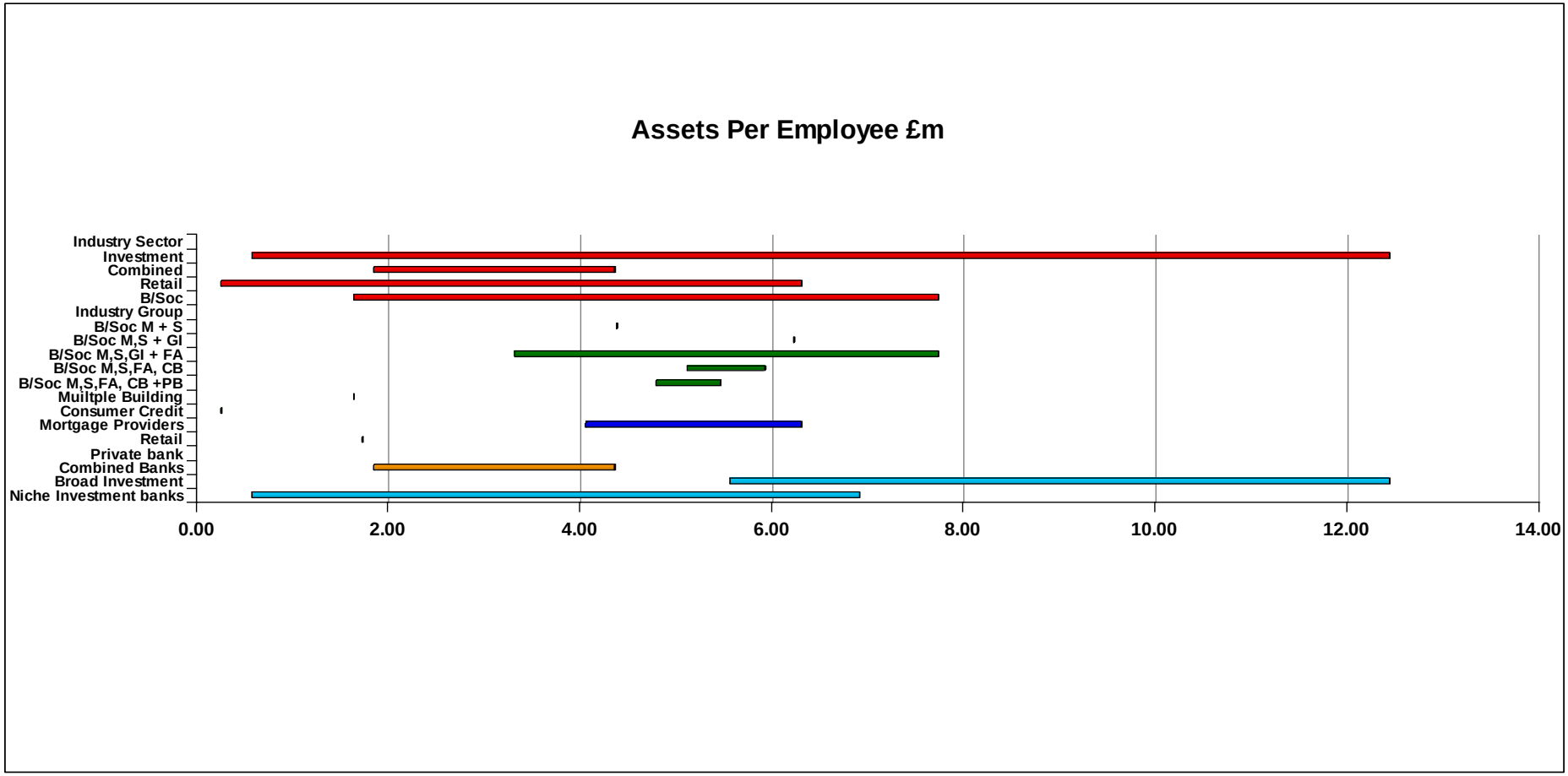
Investment – The total range for assets per employee is £580k to £12.44m, a range of £11.86m. Niche investment banks, have a range from £580k to £6.92m, a range of £6.33m, occupying 53% of the sector range. Broad investment banks have a range from £5.57m to £12.44m, a range of £6.87m, occupying 58% of the sector range. The group mean of niche investment banks is slanted; the mean of £2.76m is closer to the minimum of £580k than the maximum of £6.92m. The group mean of broad investment banks is slanted; the mean of £9.80m is further from the maximum of £5.57m than the minimum of £12.44m.

There is variation within the two multi-group sectors.

Sector ranges within the industry

Total range for assets per employee is from £260k consumer credit to £12.44m broad investment bank, a range of £12.18m. Within this, *B/Soc* have a range of £1.65m to £7.74m, a range of £6.09m, occupying 49% of the industry range, *retail* a range from £260K to £6.31m, a range of £6.05m, occupying 50% of the industry range. *Combined* have a range of £1.85m to £4.36m, a range of £2.51m, occupying 21% of the industry range. *Investment* have a range from £580K to £12.44m, a range of £11.86m, occupying 97% of the total range. The investment mean of £6.28m is slightly slanted, being closer to the minimum of £580k than the maximum of £12.44m. There is a slant in retail with the mean of £2.75m closer to the minimum of £260k than the maximum of £6.31m.

Figure 5.10 Floating Bar Chart - Assets Per Employee (£m)



Data is unavailable for one of the broad investment banks.

Table 5.15 Assets Per Employee £m

Industry Group	Min	Max	Range	Mean
Niche Investment Banks	0.58	6.92	6.33	2.76
Broad Investment Banks	5.57	12.44	6.87	9.80
Combined Banks	1.85	4.36	2.51	3.11
Private Bank	3.65	3.65	0.00	3.65
Retail Bank	1.73	1.73	0.00	1.73
Mortgage Providers	4.06	6.31	2.25	4.83
Consumer Credit	0.26	0.26	0.00	0.26
Multiple Building Society	1.65	1.65	0.00	1.65
B/Soc M, S,FA,CB & PB	4.80	5.47	0.67	5.13
B/Soc M, S,FA & CB	5.12	5.93	0.81	5.17?
B/Soc M, S,GI & FA	3.32	7.74	4.42	5.49
B/Soc M, S & GI	6.23	6.23	0.00	6.23
B/Soc M & S	4.39	4.39	0.00	4.39
Industry Sector				
B/Soc	1.65	7.74	6.09	4.74
Retail	0.26	6.31	6.05	2.62
Combined	1.85	4.36	2.51	3.11
Investment	0.58	12.44	11.86	6.28

Data is unavailable for one of the broad investment banks.

There is variation within the total industry with sectors occupying different parts of the industry range. The sectors all overlap each other. The pattern is not strong at industry level.

There is a pattern, see Figure 5.10 - the resource range is not random. This is the most generic proxy at an industry level.

The efficiency proxies present very similar pictures of a largely generic resource at industry level, which demonstrates some form of a pattern, but not a random picture at sector level.

5.4.6 Networks

Managing networks is an important aspect of service operations (Fitzsimmons and Fitzsimmons, 1998 and Lovelock, 1983 in Fitzsimmons and Fitzsimmons, 1998). Networking is assessed by the following two proxies: assets per branch or office and staff per branch or office. Unfortunately, due to a shortage of data, there was data for only twelve B/Soc, it was not possible to use a third proxy of customers per branch or office as part of the analysis of networks for RQ2.

5.4.6.1 Assets per Branch or Office

This proxy examines the relative importance of network management - the lower the asset per branch the greater the importance of managing the network. Organisations with lower assets per branch require more branches to obtain a certain amount of assets. The branches create organisational complexity with issues such as multiple property management and management control of separate locations. The data is presented in two forms - all data, see Figure 5.11 and Table 5.15, and with the investment bank industry sector and broad investment bank industry group removed to show more detail of the relationship between the other sectors, see Figure 5.11.

Total industry range

For assets per branch or office the range is £5,478.23m, from a minimum of £2.44m consumer credit to a maximum of £5,480.67m broad investment bank.

Group ranges within each sector

B/Soc – The total sector range for assets per branch or office is £43.67m to £177.01m, a range of £133.34m. Within this, B/Soc FA have a range from £46.69m to £177.01m, a range of £130.32m, occupying 98% of the sector range; B/Soc M, S, GI, FA, CB and PB have a range from £88.46m to £109.59m, a range of £21.13m, occupying 16% of the sector range, B/Soc M, S, GI, FA and CB have a range of £74.00m to £75.81m, a range of £1.81m,

occupying 1% of the range. Multiple B/Soc has a mean of £74.93m, B/Soc M, S & GI £83.71m, and B/Soc M & S £43.67m. The means are at different places on the range, though in the lower part. There is a partially slanted mean, the B/Soc M, S, GI & FA mean is slightly towards the lower end of its range, and the mean is £101.96m and the range £46.69m to £177.01m.

Retail – The total sector range for assets per branch or office is £2.44m to £383.46m, a range of £381.02m. Within this mortgage providers have a range from £123.36m to £383.46m, a range of £260.10m, occupying 68% of the sector range. There are group means throughout the range with consumer credit £2.44m (sector minimum) and retail at the lower end, there is no data for private bank.

Combined is both a group and a sector - see sector ranges.

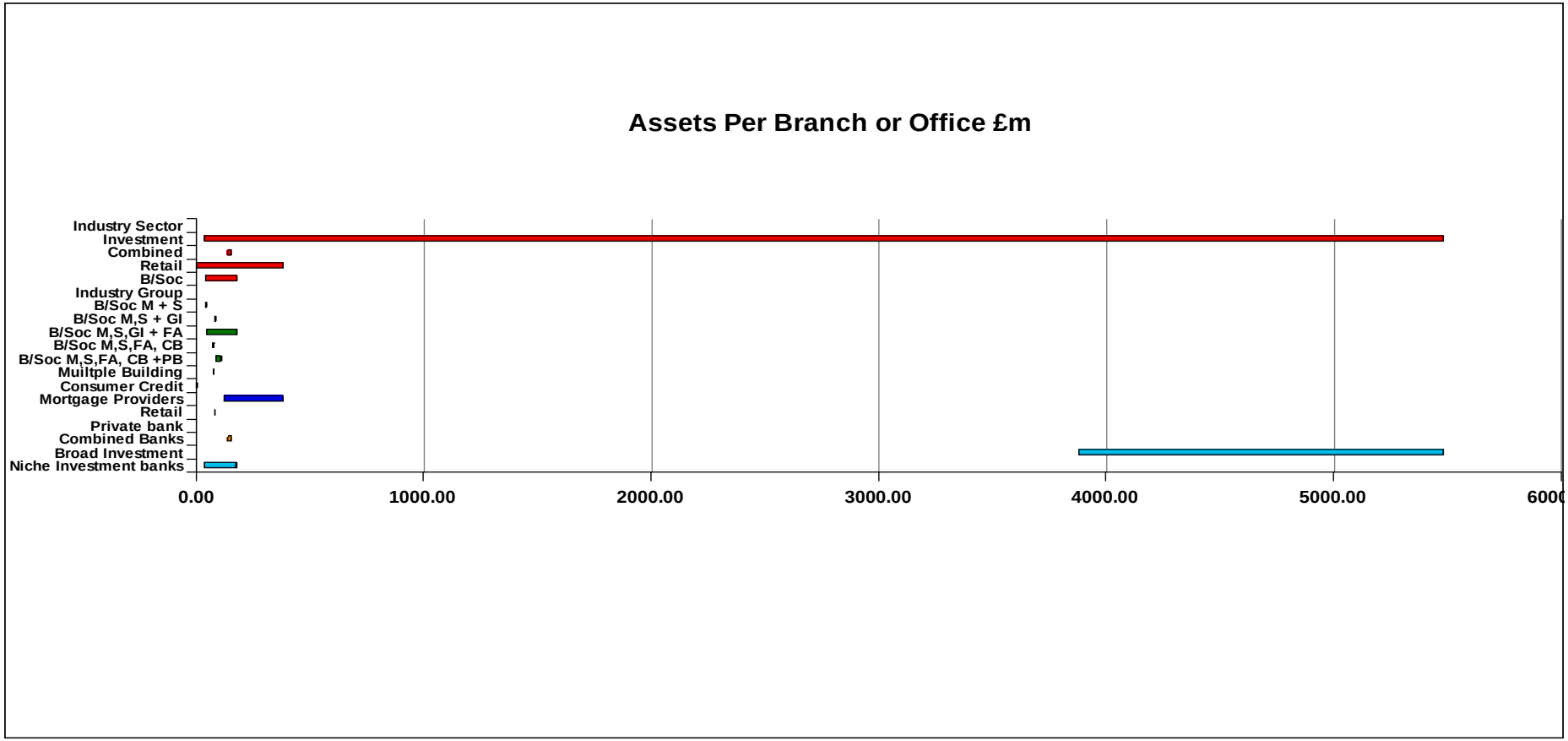
Investment – The total range for assets per branch or office is £5,445.56m from a minimum of £35.11m niche investment bank to a maximum of £5,480.67m a broad investment bank, a range of £5,445.56m. Broad investment banks have a range from £3,881.81m to £5,480.67m, a range of £1,598.86m, occupying 29% of the sector range. The niche investment banks have a range from £35.15m to £176.02m, a range of £82.30m, occupying 2% of the sector range. There is a large gap between the groups in this case from £177.07m to £3,881.81m. The group mean of niche investment banks is slanted; the mean of £82.58m is closer to the minimum of £35.11m than the maximum of £177.07m. The group mean of broad investment banks is slanted; the mean of £4,681.24m is closer to the minimum of £3,881.81m than the maximum of £5480.67m.

The investment bank group has major variation within it with a wide gap between the groups. There is also wide variation in the retail and building society sectors, the latter less so. B/Soc M, S,GI & FA occupy 98% of the sector range; the other multi-organisation groups occupy 16% and 5%.

Sector ranges

Industry minimum for assets per branch or office is £2.44k consumer credit and maximum broad investment bank £5,480.67m, a range of £5,478.23m. Within this *B/Soc,* have a range from £43.67m to £177.01m, a range of £133.34m, occupying 3% of the industry range; *retail* a range from £2.44k to £383.46m, a range of £381.02m, occupying 14% of the industry range. *Combined* has a range from £140.84m to £152.77m, a range of £11.93m, occupying 0.2% of the industry range. *Investment* range is from £35.11m to £5,480.67m, a range of £5,445.56m, occupying 99% of the industry range. The investment mean of £2,381.77m is slanted, being closer to the minimum of £35.11m than the maximum of £5,480.67m. There is a slant in B/Soc with the mean of £79.70m being closer to the minimum of £43.67m than the maximum of £177.01m. In retail the mean is slanted with £111.99m being closer to the minimum of £2.44m than the maximum of 383.46m.

Figure 5.11 Floating Bar Chart - Assets per Branch or Office (£m)



There is no data for private bank, mortgage provider and two broad investment banks. Broad investment and niche investment banks are distorted by assets which do not include funds under management.

Figure 5.12 Floating Bar Chart - Assets per Branch or Office (£m) Less Broad Investment Banks and Investment Banking Sector

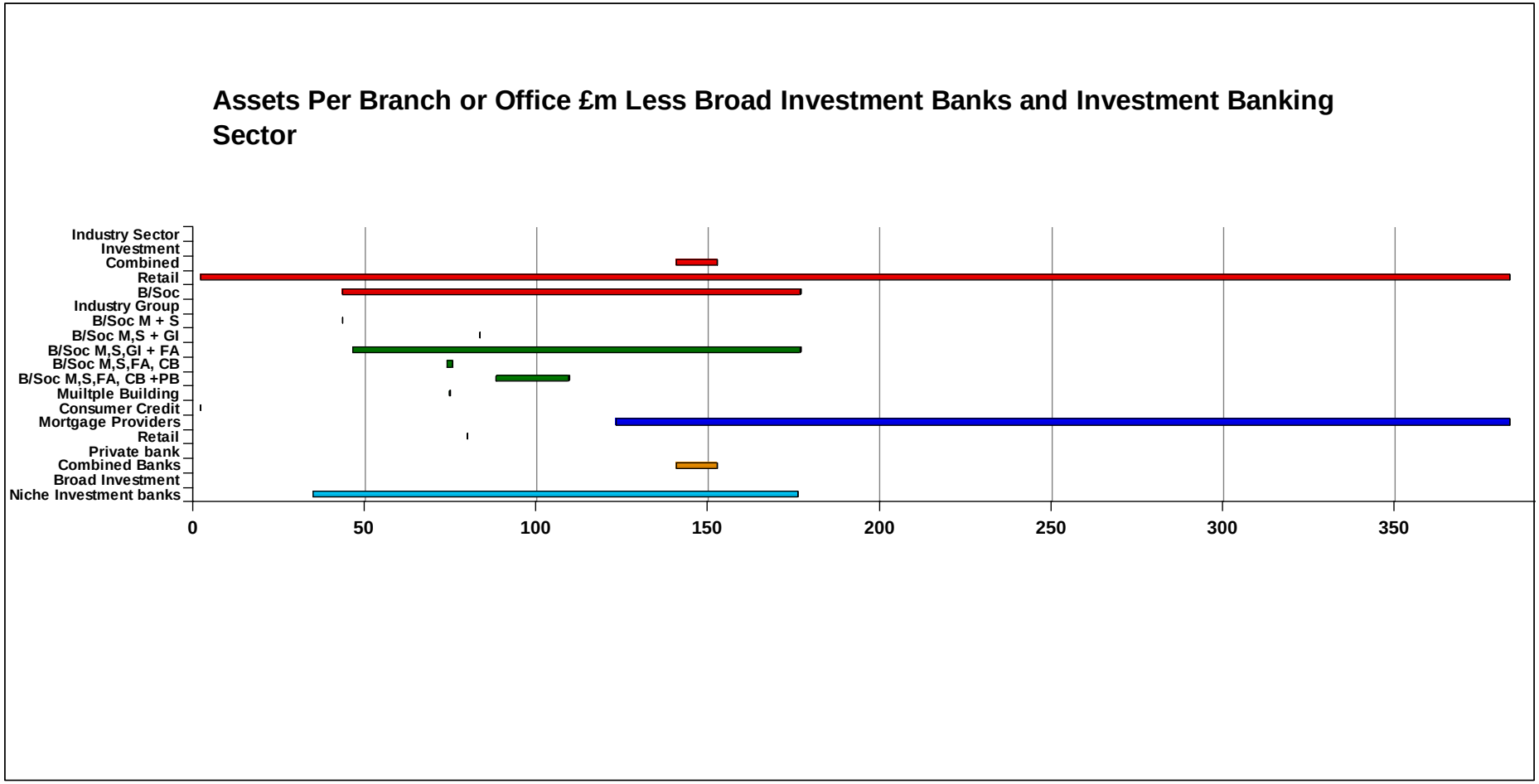


Table 5.16 Assets per Branch or Office £m

Industry Group	Min	Max	Range	Mean
Niche Investment Banks	35.15	176.02	141.05	82.30
Broad Investment Banks	3881.81	5480.67	1598.86	4681.24
Combined Banks	140.84	152.77	11.93	146.81
Private Bank				
Retail Bank	80.10	80.10	0.00	80.10
Mortgage Providers	123.36	383.46	260.10	253.41
Consumer Credit	2.44	2.44	0.00	2.44
Multiple Building Society	74.93	74.93	0.00	74.93
B/Soc M, S,FA,CB & PB	88.46	109.59	21.13	99.02
B/Soc M, S,FA & CB	74.00	75.81	1.81	74.90
B/Soc M, S,GI & FA	46.69	177.01	130.32	101.96
B/Soc M, S & GI	83.71	83.71	0.00	83.71
B/Soc M & S	43.67	43.67	0.00	43.67
Industry Sector				
B/Soc	43.67	177.01	133.34	79.70
Retail	2.44	383.46	381.02	111.99
Combined	140.84	152.77	11.93	146.81
Investment	35.11	5480.67	5445.56	2381.77

There is no data for private bank, mortgage provider and two broad investment banks. NB figures for all involved in fund management (combined, broad investment and niche investment banks are distorted) by assets which do not include funds under management.

There is limited variation within the total industry with sectors other than the broad investment banks occupying the same part of the industry range and combined being towards the top of the range (excluding broad investment banks). The slanted means have minimal impact on this picture as they slant in the same way.

The resource spread is fairly generic within the industry range other than for the separate group of broad investment banks.

The network management of Broad investment banks is different; the B/Soc have a large range - indicating wide strategic possibilities.

This is, with the exception of broad investment banks, at industry level a generic proxy.

It should be remembered that the asset figures are from Bankscope, which does not include funds under management. This would change the picture for the investment and combined banks.

5.4.6.2 Staff per Branch/Office

This proxy examines the number of staff per branch/office. In this respect the proxy addresses several questions. Is the organisation managing large offices where staff could be specialised and the office overseen by a senior manager, or is the office small in terms of staff where staff might have to be more multi-skilled and have a more junior member of staff in charge, possibly creating different control issues.

The data is presented in two forms - all data, see Figure 5.13 and Table 5.16, and with the investment bank industry sector and broad investment bank industry group removed to show more detail of the relationship between the other sectors, see Figure 5.14.

Total industry

For staff per branch/office the minimum is 9.96, consumer credit and the maximum 469.08, broad investment bank - a range of 459.12.

Group ranges within each sector

B/Soc – For staff per branch/office the total sector range is 10.01 to 48.19, a range of 38.18. Within this, B/Soc FA have a range from 13.20 to 27.97, a

range of 14.77, occupying 39% of the sector range. B/Soc M, S, GI, FA, CB and PB have a range from 18.29 to 19.72, a range of 1.44, occupying 4% of the sector range; B/Soc M, S, GI, FA and CB have range of 12.39 to 14.23, a range of 1.84, occupying 5% of the range. Multiple B/Soc has mean of 48.19 (sector maximum) B/Soc M, S & GI 12.63, and B/Soc M & S 10.01 (sector minimum). The means are spread throughout the range, with one at the maximum and the other two towards the minimum. There are slanted means. The B/Soc M, S,GI & FA mean is towards the bottom of its range, the mean is 17.93 and the range from 13.20 to 27.97 (the highest Scarborough, is 27.97 an a bit of an outlier from the next highest of Chelsea is 22.48).

Retail – For staff per branch/office the total sector range is 9.96 to 57.47, a range of 47.51. Within this mortgage providers have a range from 30.08 to 57.47, a range of 27.40, occupying 58% of the sector range, the means are spread out consumer credit 9.96 (sector minimum) and retail 43.08.

Combined is both a group and a sector - see sector ranges.

Investment – For staff per branch/office the total sector range is 25.86 to 469.08, a range of 443.23. Broad investment banks have range from 319.36 to 469.08, a range of 149.72, occupying 34% of the sector range; niche investment banks have a range from 25.86 to 61.04, a range of 35.18, occupying 8% of the sector range. With an uncovered gap in the middle from 61.04 to 319.36. The group mean of niche investment banks is slightly slanted; the mean of 40.70 is closer to the minimum of 25.86 than the maximum of 61.04.

The multi-group sectors demonstrate group variation within the sectors, with a low figure of no sector occupying more than 58% of the sector range.

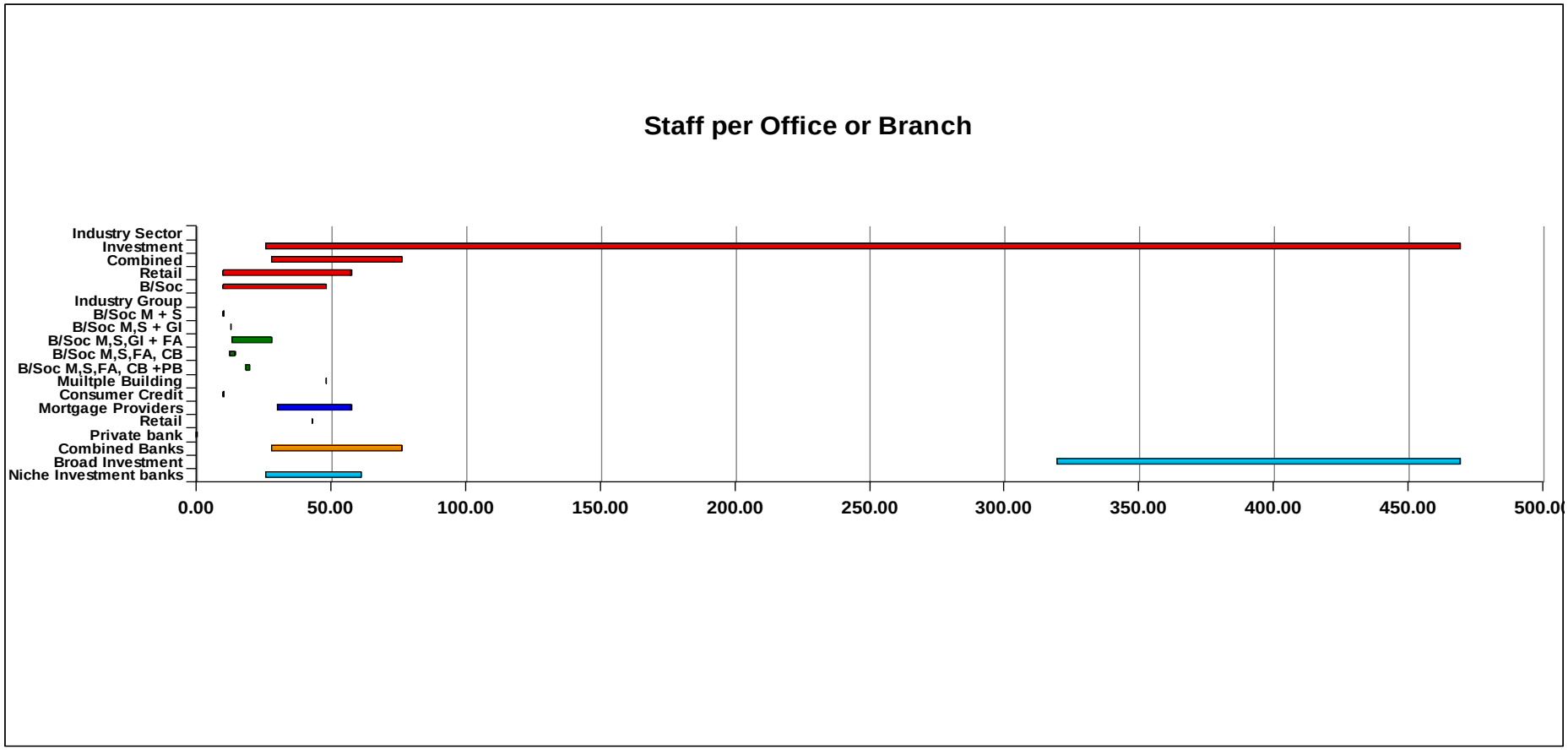
Sector ranges

Industry minimum, 9.96 - consumer credit, maximum - 496.08 broad investment bank, a range of 459.12. Within this, *B/Soc* have a range from 10.01 to 48.19, a range of 20.18, occupying 4% of the industry range; *retail* a

range from 9.96 to 57.47, a range of 47.51, occupying 10% of the industry range. *Combined* have a range from 27.77 to 76.15, a range of 48.38, occupying 11% of the industry range. *Investment* have a range from 25.86 to 469.08, a range of 443.23, 97% of the industry range. The retail mean of 32.80 is slanted being, slightly closer to the maximum of 57.47 than the minimum of 9.96. The B/Soc mean of 20.18 is also slanted, being closer to the minimum of 10.01 than the maximum of 48.19, as is the investment mean of 217.25, which is closer to the minimum of 25.86 than the maximum of 443.23.

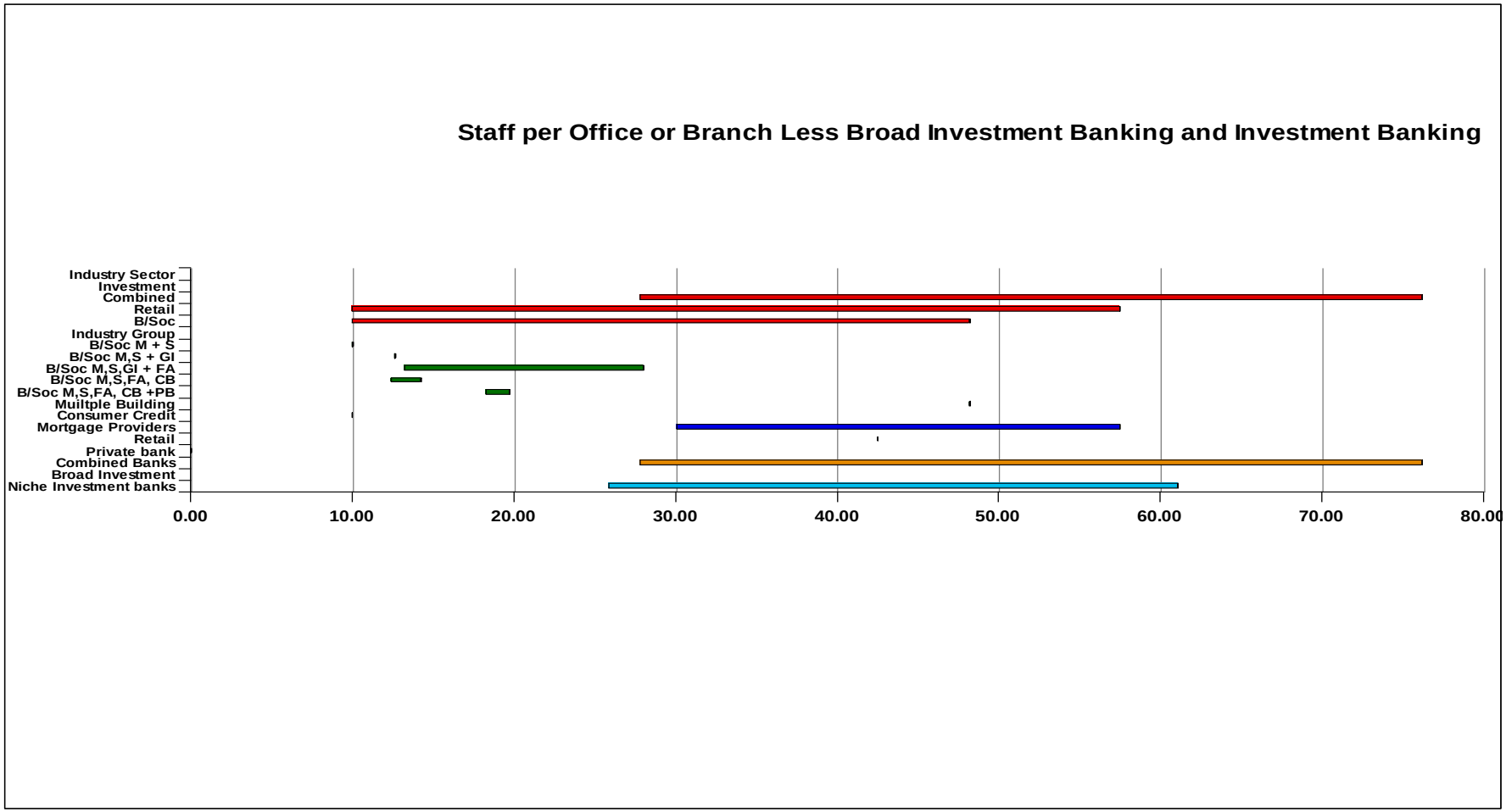
There is some variation within the total industry though the B/Soc and retail sectors overlap and these two sectors also overlap with the middle and lower end of the combined and investment sectors (niche only). There is then a sizeable gap to broad investment banks. The slanted means suggest an element of difference between B/Soc and retail as they are slanted towards different ends of their ranges.

Figure 5.13 Floating Bar Chart - Staff per Branch/Office



Data missing for private bank, mortgage provider and two broad investment banks.

Figure 5.14 Floating Bar Chart - Staff per Branch/Office Less Broad Investment Banks and Investment Banking Sector



The data set is not complete - Data missing for private bank, a mortgage provider and two broad investment banks.

Table 5.17 Staff per Office or Branch

Industry Group	Min	Max	Range	Mean
Niche Investment Banks	25.86	61.04	35.18	40.70
Broad Investment Banks	319.36	469.08	149.72	394.22
Combined Banks	27.77	76.15	48.38	51.96
Private Bank				
Retail Bank	43.08	43.08	0.00	43.08
Mortgage Providers	30.08	57.47	27.40	43.78
Consumer Credit	9.96	9.96	0.00	9.96
Multiple Building Society	48.19	48.19	0.00	48.19
B/Soc M, S,FA,CB & PB	18.29	19.72	1.44	19.00
B/Soc M, S,FA & CB	12.39	14.23	1.84	13.31
B/Soc M, S,GI & FA	13.20	27.97	14.77	17.93
B/Soc M, S & GI	12.63	12.63	0.00	12.63
B/Soc M & S	10.01	10.01	0.00	10.01
Industry Sector				
B/Soc	10.01	48.19	38.18	20.18
Retail	9.96	57.47	47.51	32.27
Combined	27.77	76.15	48.38	51.96
Investment	25.86	469.08	443.23	217.25

Data missing for private bank, a mortgage provider and two broad investment banks.

There is a pattern with overlap between the ranges; the resource range is not random. There is a large amount of sector heterogeneity and industry homogeneity.

This is, with the exception of broad investment banks, at industry level a generic proxy supporting.

5.4.7 Losses

This proxy examines one aspect of risk, financial losses. Four proxies were used to examine losses: loan losses to equity, loan losses to balance sheet size, loan losses to pre tax profit and type of largest element of losses – descriptive. Unfortunately, due to a shortage of data, there was no data for all B/Soc, other consumer credit, two mortgage providers, private bank, one broad investment bank and two niche investment banks it was not possible to use the proxy of loan losses to tier one capital as part of the analysis of losses for RQ2. Also, for the largest element of impairment losses to total impairment losses data was only available for the B/Soc so again, unfortunately, it was not possible to use this proxy as part of the assessment of losses for RQ2.

The proxies give an indication of the importance of the level of losses an organisation faces, which denotes how risky the organisation is and so the possible importance of risk management. The higher the figure the greater the level of losses the organisation needs to be capable of managing. The level of losses can be related to the net interest margin an organisation maintains. The higher the expected losses the higher the net profit margin. Higher losses are also likely to be reflected in higher capital levels. If the losses are too high as a percentage of equity the existence of the organisation could be in question, as capital acts as a buffer against losses and when it runs out an organisation is insolvent. The measures of impairments to balance sheet and pre tax profits will also give an indication of the importance of losses. The calculation of the largest element to total impairments will, with the identification of the largest loss, indicate the nature of the largest product based risk to be managed and its level of importance to the organisation.

Impairment losses relate to loans and do not represent all losses made by all providers of banking services. For example, they do not include market losses. There were no figures for other losses available. Market losses are likely to concentrated in organisations which have large financial market

operations, investment and combined banks. It is therefore likely that the proxies used in this thesis will underestimate the risks faced by these sectors.

5.4.7.1 Loan Losses to Equity

This proxy measures the impact of loan losses on equity and indicates the ability to take losses from equity. One of the functions of equity is to absorb losses.

The data is presented in two forms - all data, see Figure 5.15 and Table 5.17, and with the retail industry sector and consumer credit industry group removed to show more detail of the relationship between the other sectors, see Figure 5.16.

Industry range. For loan losses to equity, a range of 0.287, from a minimum of -0.003 B/Soc M, S,FA and CB, to a maximum of 0.284 consumer credit.

Group ranges within each sector

B/Soc – The total sector range for loan losses to equity is -0.003 to 0.020, a range of 0.023. Within this, B/Soc FA have a range from 0.000 to 0.020, a range of 0.020, occupying 87% of the sector range. B/Soc M, S, GI, FA, CB and PB have a range from 0.010 to 0.013, a range of 0.002, occupying 9% of the sector range. B/Soc M, S, GI, FA and CB have range of -0.003 to 0.008, a range of 0.011, occupying 48% of the range. Multiple B/Soc has a mean of 0.012, B/Soc M, S & GI -0.002, and B/Soc M & S -0.001. The means are at different places on the range, though towards the lower end. The B/Soc M, S, GI & FA mean is slanted 0.006 closer to the minimum of 0.000 than the maximum of 0.020.

Retail – The total sector range for loan losses to equity is 0.001 to 0.284, a range of 0.283. Within this mortgage providers have a range from 0.027 to 0.062, a range of 0.035, occupying 12% of the sector range. The other groups have means spread throughout the range; the highest is consumer credit

0.284 (sector maximum), then retail 0.128, then private 0.001 (sector minimum).

Combined is both a group and a sector - see sector ranges.

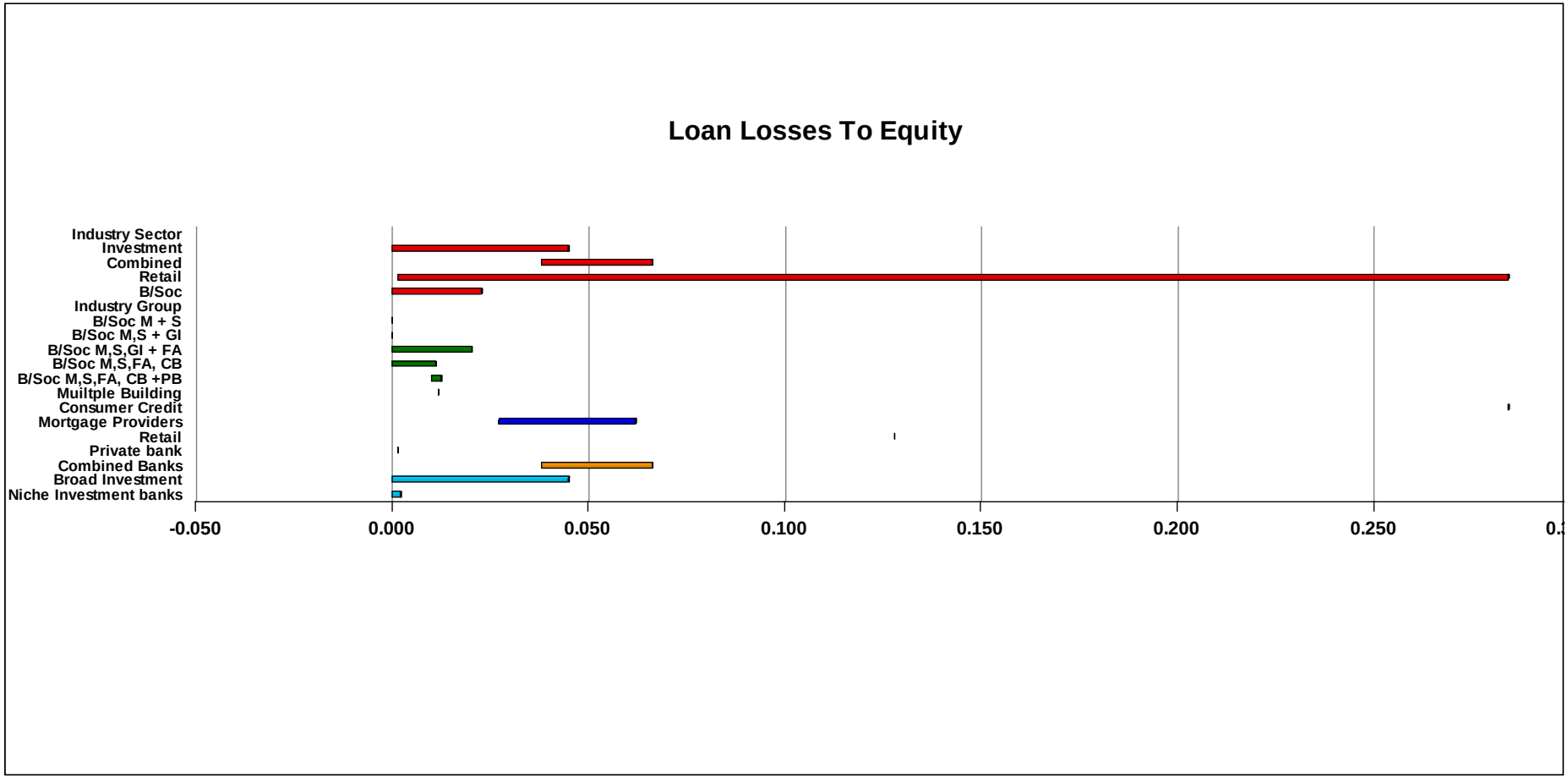
Investment – Total range for loan losses to equity is 0.000 to 0.045, a range of 0.045. Within this, the whole range is occupied by broad investment banks 0.000 to 0.045. Niche investment banks have a range from 0.000 to 0.002, a range of 0.002, occupying 4% of the sector range. The group mean of broad investment banks is slanted; the mean of 0.011 is closer to the minimum of 0.000 than the maximum of 0.045.

With the exception of investment banks and the group broad investment banks, the other two multi-group sectors demonstrate group variation within the sectors.

Sector ranges

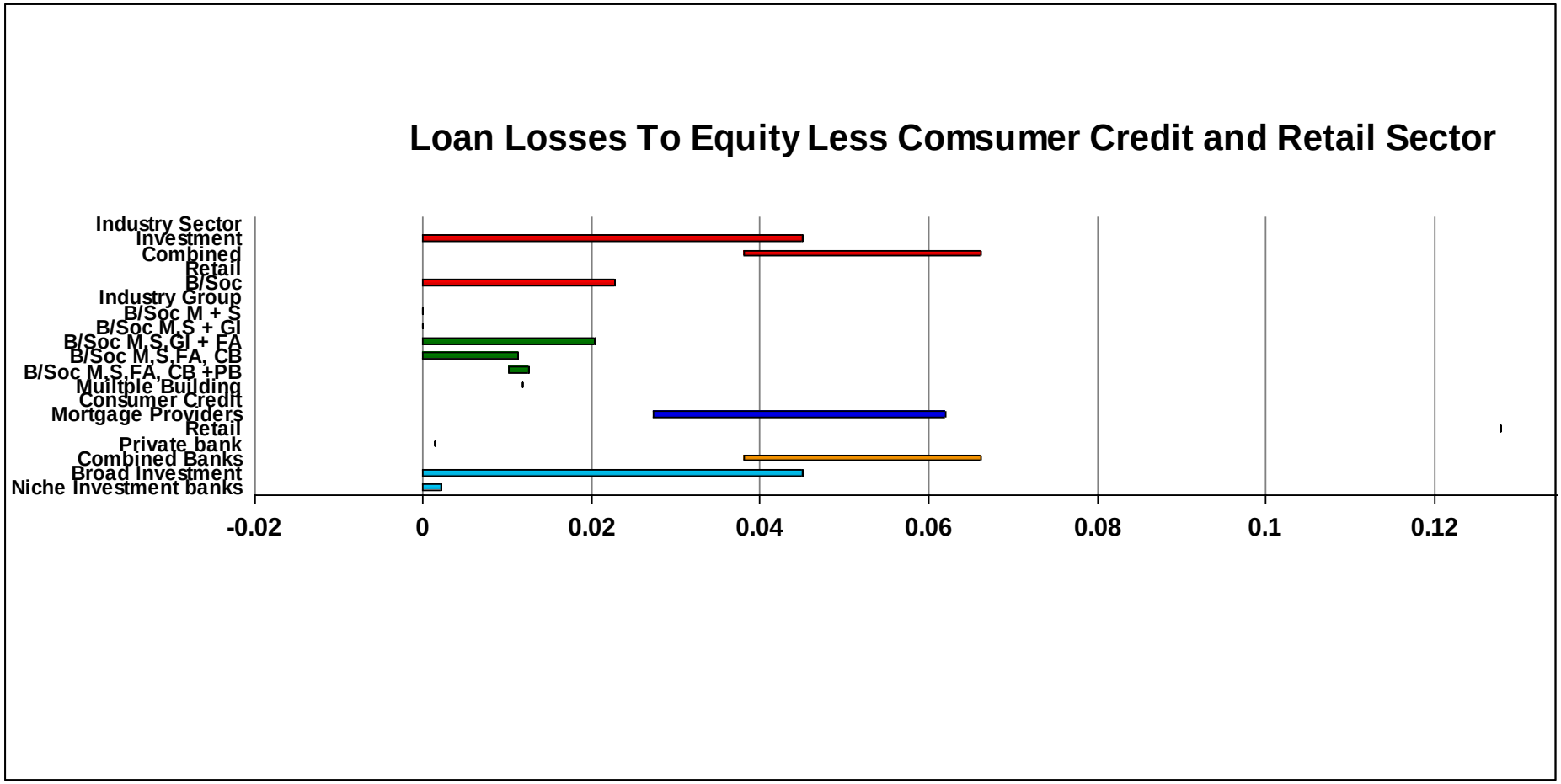
The total industry range is minimum -0.003 B/Soc M, S, FA and CB, maximum consumer credit 0.284, a range of 0.287. Within this, *B/Soc* have a range from -0.003 to 0.020, a range of 0.023, occupying 8.0% of the industry range; *retail* a range from 0.001 to 0.284, a range of 0.283, occupying 99% of the industry range. *Combined* have a range of 0.038 to 0.066, a range of 0.028, occupying 10% of the industry range. *Investment* have a range from 0.000 to 0.045, a range 0.045, occupying 16% of the total range. There are mean slants - in B/Soc the mean of 0.005 is closer to the minimum of -0.003 than the maximum of 0.020. The investment mean of 0.006 is closer to the minimum of 0.000 than the maximum of 0.045; the retail mean of 0.113 is slightly closer to the minimum of 0.001 than the maximum of 0.284.

Figure 5.15 Floating Bar Chart - Loan Losses to Equity



Negative figures represent write backs, where over provisioning against losses has been made in previous years.

Figure 5.16 Floating Bar Chart Loan Losses to Equity Less Consumer Credit and Retail Sector



Negative figures represent write backs, where over provisioning against losses has been made in previous years.

Table 5.18 Loan Losses to Equity

Industry Group	Min	Max	Range	Mean
Niche Investment Banks	0.000	0.002	0.002	0.001
Broad Investment Banks	0.000	0.045	0.045	0.011
Combined Banks	0.038	0.066	0.028	0.052
Private Bank	0.001	0.001	0.000	0.001
Retail Bank	0.128	0.128	0.000	0.128
Mortgage Providers	0.027	0.062	0.035	0.040
Consumer Credit	0.284	0.284	0.000	0.284
Multiple Building Society	0.012	0.012	0.000	0.012
B/Soc M, S,FA,CB & PB	0.010	0.013	0.002	0.011
B/Soc M, S,FA & CB	-0.003	0.008-	0.011	0.003
B/Soc M, S,GI & FA	0.000	0.020	0.020	0.006
B/Soc M, S & GI	-0.002	-0.002	0.000	-0.002
B/Soc M & S	-0.001	-0.001	0.000	-0.001
Industry Sector				
B/Soc	-0.003	0.020	0.023	0.005
Retail	0.001	0.284	0.283	0.113
Combined	0.038	0.066	0.028	0.052
Investment	0.000	0.045	0.045	0.006

Negative figures represent write backs, where over provisioning against losses has been made in previous years.

There are clear differences at group level, with the B/Soc having much lower levels of impairments to total capital than retail (except private bank), with combined overlapping with retail and investment overlapping all. The slanted means make combined less connected with retail and Building Societies.

There is a pattern at sector level with heterogeneity but less heterogeneity at industry level with the figures for retail covering nearly the whole range.

5.4.7.2 Loan Losses to Balance Sheet

This proxy measures the impact of loan losses on the overall balance sheet.

The data is presented in two forms - all data, see Figure 5.17 and Table 5.18, and with the retail sector and consumer credit industry group removed to show more detail of the relationship between the other sectors - see Figure 5.18.

Industry Range

The range for loan losses to balance sheet is 0.06749 from a maximum of 0.06735 - consumer credit to minimum of -0.00014 - B/Soc M, S, FA & CB.

Group ranges within each sector

B/Soc – The total sector range for loan losses to balance sheet is 0-0.0014 to 0.00107, a range of 0.00120. Within this, B/Soc FA have a range from -0.00003 to 0.00107, a range of 0.00110 occupying, 92% of the sector range. B/Soc M, S, GI, FA, CB and PB have a range from 0.0053 to 0.00066, a range of 0.00012, occupying 10% of the sector range, B/Soc M, S, GI, FA and CB have a range of -0.00014 to 0.00043, a range of 0.00057, occupying 48% of the range. Multiple B/Soc has a mean of 0.00058, B/Soc M, S & GI 0.-0.00008, and B/Soc M & S -0.00003. There are slanted means the B/Soc M, S, GI & FA mean is slanted towards the minimum with a mean of 0.0.0029 and a range from -0.00003 to 0.00107.

Retail – The total sector range for loan losses to balance sheet is 0.00011 to 0.06735, a range of 0.06724. Within this, mortgage providers have a range from 0.00107 to 0.00409, a range of 0.00302, occupying 45% of the sector range. The other groups have means spread throughout the range; the highest is consumer credit 0.06735 (sector maximum), then retail 0.00736, then private 0.0.00011(sector minimum). The mortgage providers' mean is slanted - the mean of 0.00218 is closer to the minimum of 0.00107 than the maximum of 0.00409.

Combined is both a group and a sector - see sector ranges.

Investment – The total sector range for loan losses to balance sheet is from 0.0000 to 0.00198, a range of 0.00198. Within this, the whole range is occupied by broad investment banks 0.0000 to 0.00198. Niche investment banks have a range from 0.0000 to 0.00044, a range of 0.00044, occupying 22% of the sector range. The group mean of niche investment banks is slanted; the mean of 0.00015 is closer to the minimum of 0.0000 than the maximum of 0.00044, as is the mean for the broad investment banks - the mean of 0.00049 is closer to the minimum of 0.0000 than the maximum of 0.00198.

The B/Soc FA occupy 92% of their sector range. The other B/Soc groups exhibit more variation and broad investment banks occupy all of their range. The other group retail show variation within their sector, the retail group's range is 45% of the retail sector range.

Sector ranges

The industry range for loan losses to balance sheet is a maximum of 0.06735 consumer credit to minimum -0.00014 B/Soc M, S,FA, CB, a range of 0.06749. Within this, *B/Soc* have a range from -0.00014 to 0.00107, a range of 0.00120, occupying 18% of the industry range; *retail* a range from 0.00011 to 0.06735, a range of 0.06724, occupying 99.6% of the industry range. *Combined* have a range of 0.00259 to 0.00552, a range of 0.00292, occupying 43% of the industry range. *Investment* have a range from 0.0000 to 0.00198, a range of 0.00198, occupying 29% of the industry range. The investment mean of 0.00032 is slanted, being closer to the minimum of 0.0000 than the maximum of 0.00198. There is also a slant in B/Soc, with the mean of 0.00025 being closer to the minimum of -0.00014 than the maximum of 0.00107. Moreover retail is slanted with the mean of 0.01925 being closer to the minimum of 0.00011 than the maximum of 0.06746.

Retail covers 99.6% of the industry range - there is greater variation in the other sectors.

Figure 5.17 Floating Bar Chart - Loan Losses to Balance Sheet

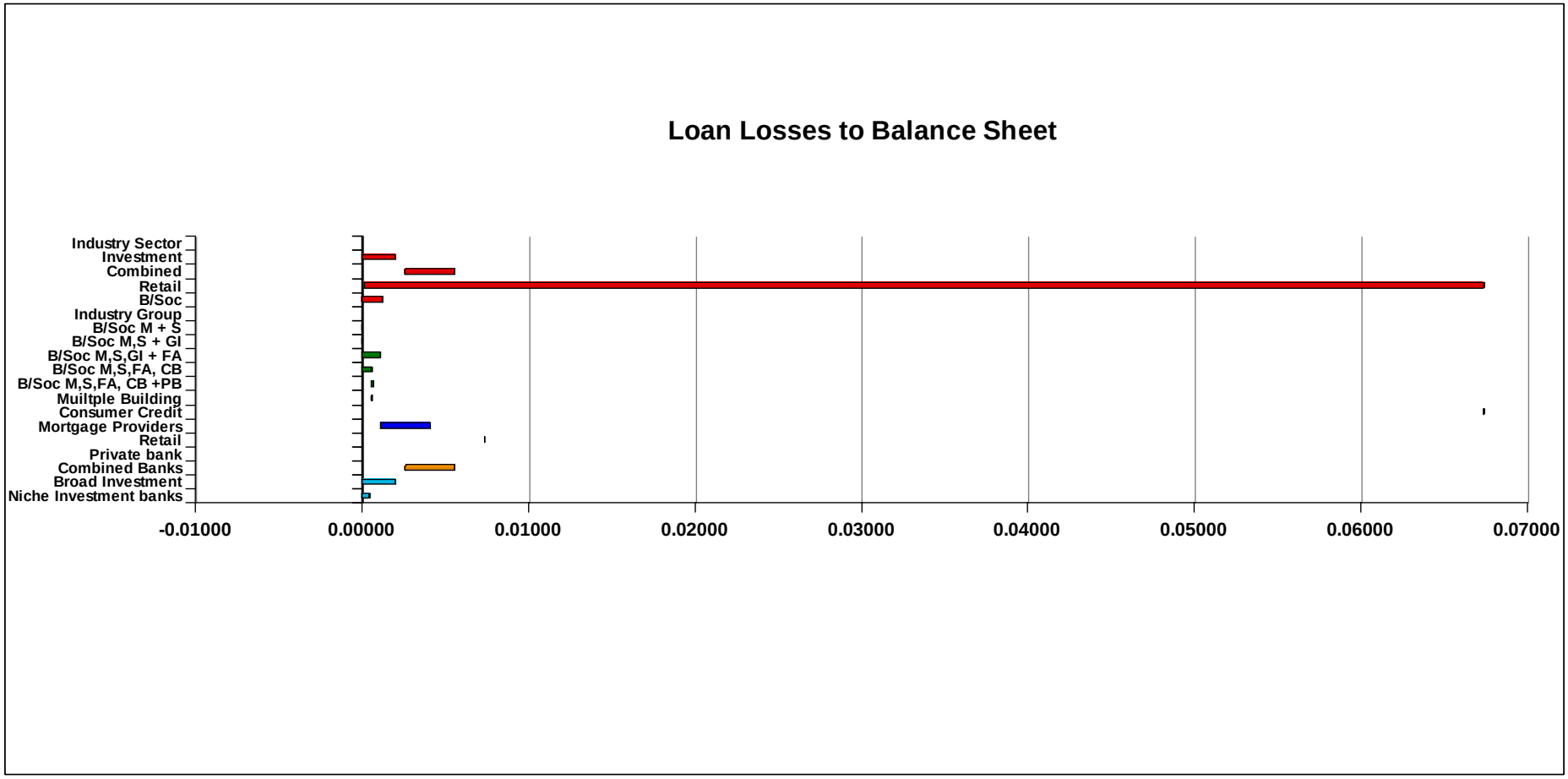


Figure 5.18 Floating Bar Chart - Loan Losses to Balance Sheet Less Consumer Credit and Retail Sector

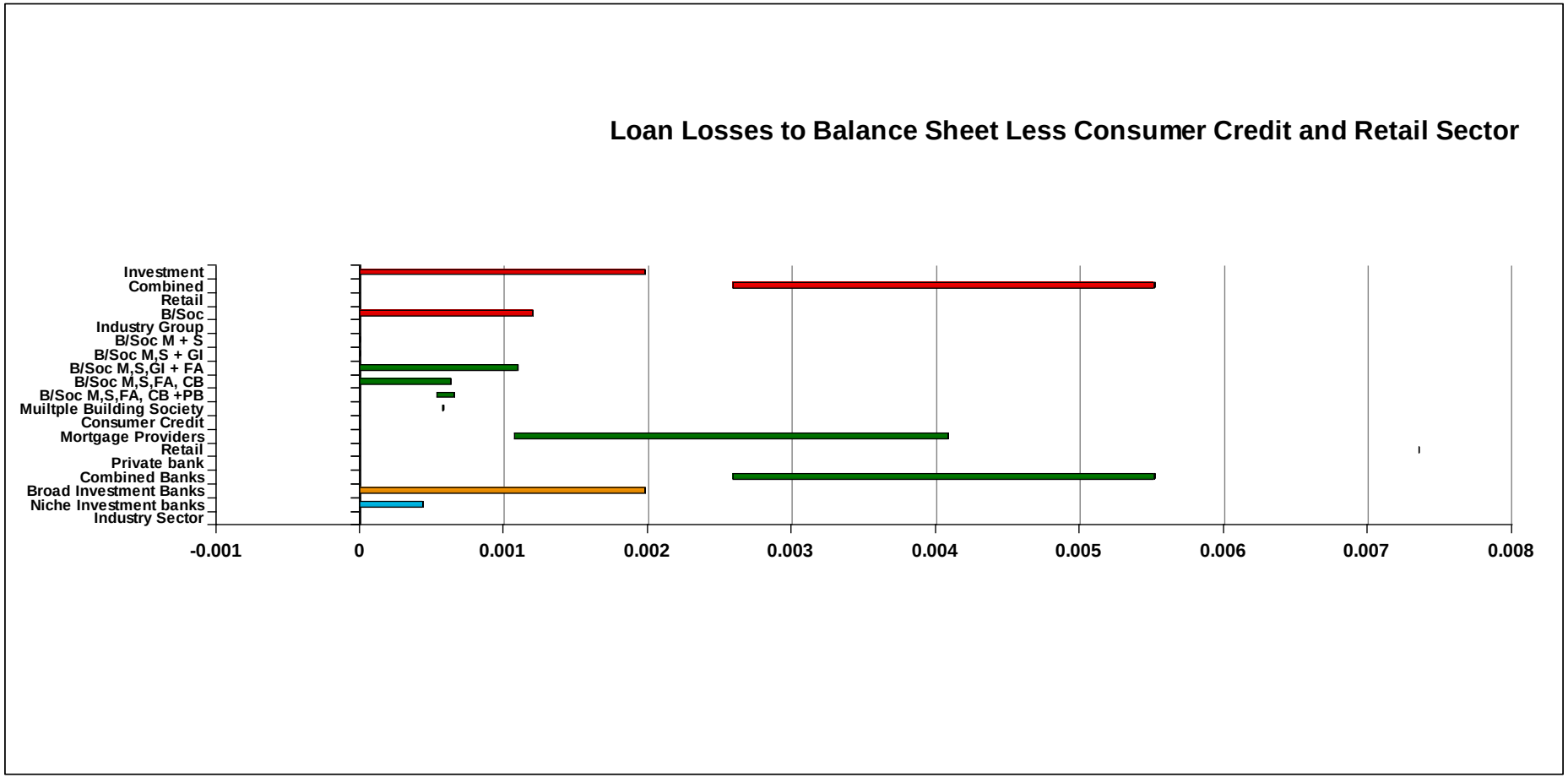


Table 5.19 Loan Losses to Balance Sheet

Industry Group	Min	Max	Range	Mean
Niche Investment Banks	0.00000	0.00044	0.00044	0.00015
Broad Investment Banks	0.00000	0.00198	0.00198	0.00049
Combined Banks	0.00259	0.00552	0.00292	0.00406
Private Bank	0.00011	0.00011	0.00000	0.00011
Retail Bank	0.00736	0.00736	0.00000	0.00736
Mortgage Providers	0.00107	0.00409	0.00302	0.00218
Consumer Credit	0.06735	0.06735	0.00000	0.06735
Multiple Building Society	0.00058	0.00058	0.00000	0.00058
B/Soc M, S,FA,CB & PB	0.00053	0.00066	0.00012	0.00059
B/Soc M, S,FA & CB	-0.00014	0.00043	0.00057	0.00015
B/Soc M, S,GI & FA	-0.00003	0.00107	0.00110	0.00029
B/Soc M, S & GI	-0.00008	-0.00008	0.00000	-0.00008
B/Soc M & S	-0.00003	-0.00003	0.00000	-0.00003
Industry Sector				
B/Soc	-0.00014	0.00107	0.00120	0.00025
Retail	0.00011	0.06735	0.06724	0.01925
Combined	0.00259	0.00552	0.00292	0.00406
Investment	0.00000	0.00198	0.00198	0.00032

This presents a similar picture to impairment losses to equity with, Investment and B/Soc at the lower end, and retail occupying 99.6% of the whole range. Combined overlaps with retail at the higher end. Other consumer credit is the highest and separate as an outlier. The slanted means are all the same direction so have little impact.

There is a pattern at sector level with heterogeneity but less heterogeneity at industry level, with the figures for retail covering nearly the whole range.

5.4.7.3 Loan Losses to Pre Tax Profit

This proxy measures the impact of loan losses on returns rather than on capital or the balance sheet and indicates the ability to take the loss from current profits rather than reducing the capital base. See Figure 5.19 and Table 5.19 below for a visual and tabular presentation of the data.

Industry range

For loan losses to pre tax profit the minimum is -0.014 B/Soc M, S & GI, the maximum is 0.790 consumer credit, a range of 0.804.

Group ranges within each sector

B/Soc – The total sector range for loan losses to pre tax profit is -0.014 to 0.152, a range of 0.166. Within this, B/Soc M, S, GI and FA have a range from -0.003 to 0.152, a range of 0.155, occupying 93% of the sector range. B/Soc M, S, GI, FA, CB and PB have a range from 0.094 to 0.111, a range of 0.018, occupying 11% of the sector range. B/Soc M, S, GI, FA and CB have a range from -0.002 to 0.052, a range of 0.054, occupying 33% of the range. Multiple B/Soc has mean of 0.064, B/Soc M, S & GI -0.014 (sector minimum), and B/Soc M & S -0.007. The means are at different places on the range, though in the lower half. There are slanted means, the B/Soc M, S,GI & FA mean of 0.047 is closer to the minimum of -0.003 than the maximum of 0.152.

Retail – The total sector range for loan losses to pre tax profit is 0.021 to 0.790, a range of 0.769. Within this, mortgage providers have a range from 0.103 to 0.243, a range of 0.139, occupying 18% of the sector range. The other groups have means spread throughout the range; the highest is consumer credit 0.790 (sector maximum), then retail 0.379, followed by private 0.021 (sector minimum). The mortgage providers mean is slanted - the mean of 0.151 is closer to the minimum of 0.103 than the maximum of 0.243.

Combined is both a group and a sector - see sector ranges.

Investment – The total range for loan losses to pre tax profit is from 0.000 to 0.189, a range of 0.189. Within this, the whole range is occupied by broad investment banks 0.000 to 0.189. Niche investment banks have a range from 0.000 to 0.007, a range of 0.007, occupying 4% of the sector range. The group mean of niche investment banks is slanted; the mean of 0.047 is closer to the minimum of 0.000 than the maximum of 0.189; likewise for niche investment banks where the mean of 0.002 is closer to the minimum of 0.000 than the maximum of 0.007.

With the exception of broad investment banks (100% occupation of the sector range), and to a high degree B/Soc M, S,GI & FA (occupying 93% of the sector range) there is variation within the multi group sectors, demonstrating group variation within the sectors.

Sector ranges within the industry

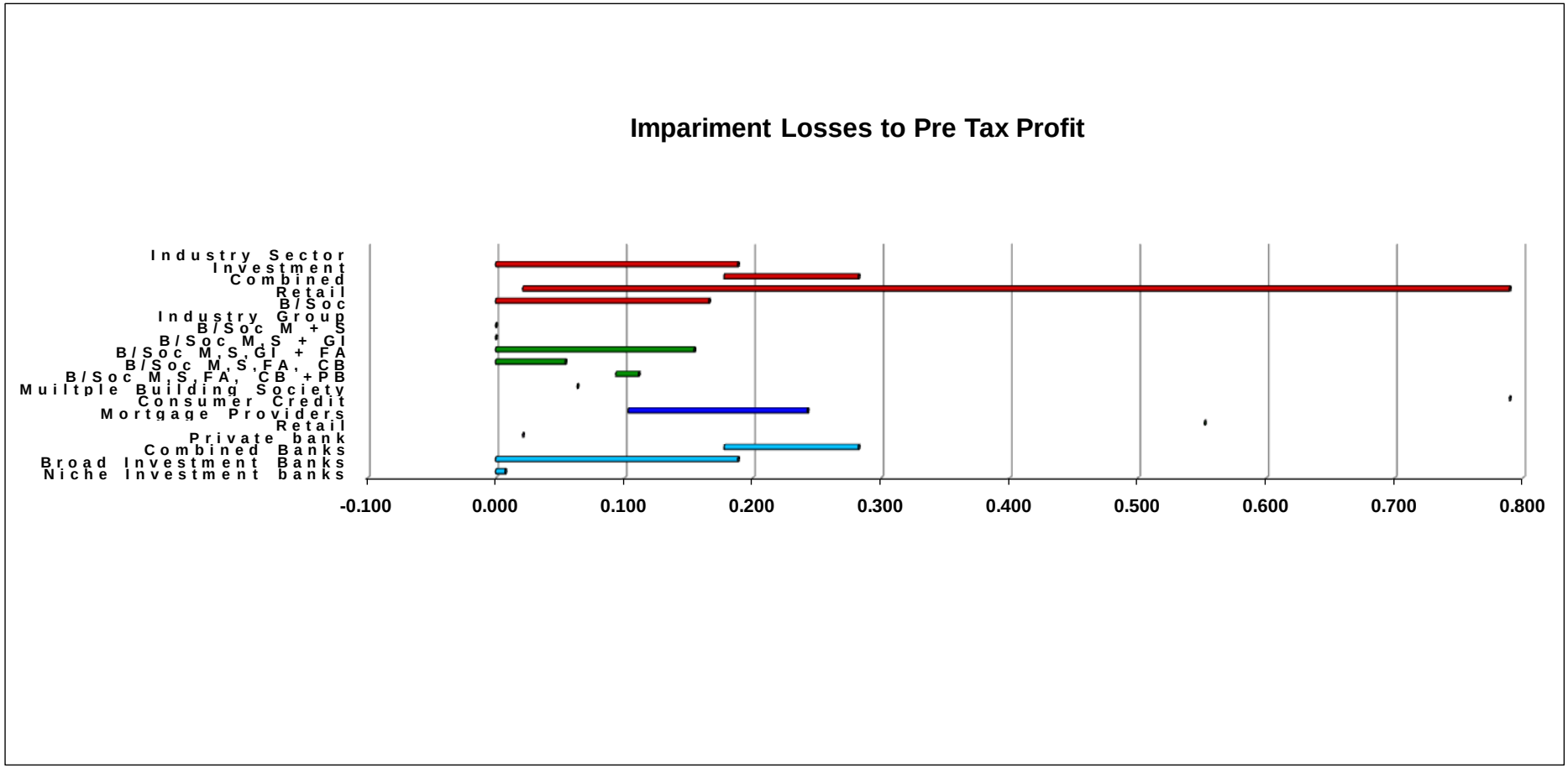
Total range for loan losses to pre tax profit is from a of minimum -0.014 B/Soc M, S & GI, to a maximum of 0.790 consumer credit, a range of 0.804. Within this, *B/Soc* have a range from -0.014 to 0.152, a range of 0.166, occupying 21% of the industry range. R*etail* have a range from 0.021 to 0.790, a range of 0.769, occupying 96% of the industry range. *Combined* have a range of 0.178 to 0.283, a range of 0.105, occupying 13% of the industry range. *Investment* a range from 0.000 to 0.189, a range 0.189, occupying 24% of the industry range. The investment mean of 0.025 is slanted, being closer to the minimum of 0.000 than the maximum of 0.189, as is the B/Soc mean of 0.036, which is closer to the minimum of -0.014 than the maximum of 0.152. The retail mean of 0.379 is slightly slanted, being closer to the minimum of 0.021 than the maximum of 0.790.

The industry has some variation. Retail does occupy 96% of the total range, but the other sectors are significantly lower, at 24%, 21% and 13%.

This presents a very similar picture to impairment losses to equity and to balance sheet with investment and B/Soc at the lower end, and retail

occupying 96% of the whole range. The slanted means are all the same direction so have little impact.

Figure 5.19 Floating Bar Chart - Loan Losses to Pre Tax Profit



5.19 Table Mean Loan Losses to Pre Tax Profit

Industry Group	**Min**	**Max**	**Range**	**Mean**
Niche Investment Banks	0.000	0.007	0.007	0.002
Broad Investment Banks	0.000	0.189	0.189	0.047
Combined Banks	0.178	0.283	0.105	0.230
Private Bank	0.021	0.021	0.000	0.021
Retail Bank	0.552	0.552	0.000	0.552
Mortgage Providers	0.103	0.243	0.139	0.151
Consumer Credit	0.790	0.790	0.000	0.790
Multiple Building Society	0.064	0.064	0.000	0.064
B/Soc M, S,FA,CB & PB	0.094	0.111	0.018	0.102
B/Soc M, S,FA & CB	-0.002	0.052	0.054	0.025
B/Soc M, S,GI & FA	-0.003	0.152	0.155	0.047
B/Soc M, S & GI	-0.014	-0.014	0.000	-0.014
B/Soc M & S	-0.007	-0.007	0.000	-0.007
Industry Sector				
B/Soc	-0.014	0.152	0.166	0.036
Retail	0.021	0.790	0.769	0.379
Combined	0.178	0.283	0.105	0.230
Investment	0.000	0.189	0.189	0.025

Investment and B/Soc are at the lower end, retail occupying nearly all and combined at the higher end, overlapping totally with retail and partially with investment.

There is a pattern at sector level with heterogeneity but less heterogeneity at industry level, with the figures for retail covering nearly the whole range.

5.4.7.4 Type of Largest Element of Impairment Losses

This proxy gives greater detail of where the losses are coming from. This shows where the main focus of provisions is and therefore gives an indication of the skills needed in this area. See Table 5.20 below for details of the type of largest element of impairment losses for each organisation for each year.

Table 5.20 Type of Largest Element of Impairment Losses

Organisation/ Year	1997	1998	1999	2000	2001	2002	2003	2004
Derby	other loans	other loans			residential mortgages			
West Bromwich	other loans	other loans	other mortgage loans	residential mortgage loans	other mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans
Cattles	consumer credit	consumer credit	consumer credit	consumer credit	consumer credit	consumer credit		
A & L	unsecured loans, current accounts and credit cards	unsecured loans, current accounts and credit cards	unsecured loans, current accounts and credit cards	unsecured loans, current accounts and credit cards	unsecured loans and credit cards	unsecured loans and credit cards		
Northern Rock	unsecured loans	unsecured loans	unsecured loans	residential property	residential property	residential property	residential property	residential property
Paragon	loans	loans	loans	loans	Loans	loans	loans	

Co-op	personal sector	personal lending	personal lending	personal sector		loans and advances to customers	loans and advances to customers	loans and advances to customers
C. Hoare	loans and advances to customers	loans and advances to customers	loans and advances to customers	loans and advances to customers	loans and advances to customers	loans and advances to customers	loans and advances to customers	loans and advances to customers
LB								
ML								
MS								
Aberdeen								
3i	investments	investments	investments			investments	investments	
Rathbone	trust and pension services	trust and pension services	trust and pension services					
Close Bros	loans	loans	loans	loans	loans	loans		
G/Sachs								
Barclays	credit card and consumer credit	credit card and consumer credit	credit card and consumer credit	loans - personal and home	loans - personal and home	loans - personal and home	loans - personal and home	loans - personal and home

Skipton	other loans	residential mortgage loans	residential mortgage loans	residential mortgage loans	other loans	residential mortgage loans	residential mortgage loans	other loans
Nationwide	other loans	other loans	other loans	other loans	other loans	other loans	residential mortgage loans	residential mortgage loans
Yorkshire	other loans	other loans	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans	other loans
Scarborough	residential properties	residential mortgages	residential mortgages	residential mortgages	residential mortgages	residential mortgages	residential mortgages	residential mortgages
Britannia	other loans	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans
Leeds	residential mortgages	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans
Hinckley	residential mortgages	residential mortgages	residential mortgages	residential mortgages	residential mortgages			
Leek	residential mortgage	residential mortgage	residential mortgage	residential mortgage	residential mortgage			

	loans	loans	loans	loans	loans			
Chelsea	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans
Coventry	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans
Progressive	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans	other mortgage loans			
Portman	residential mortgages	residential mortgages	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans	

There is no data for all broad investment banks and one niche investment bank.

As table 5.20 indicates, for many organisations the largest element of impairment losses is from their indicated by their industry sector, other consumer credit- consumer credit, the retail personal lending or loans and advances to customers and the B/Soc are dominated by residential mortgage loans. The mortgage providers have forms of unsecured lending, some secured lending and some unspecified loans, though in this case it is fair to assume they are secured (Paragon).

Other organisations follow a less predictable pattern. The combined both have loans as their largest element of impairment losses. The niche investment banks have a range of largest losses depending on their niche one has investment as its largest element of impairment losses, it is a venture capital organisation, the other trust and pension services, it is a fund manager

There is little variation within the sectors, but clearer distinction between the sectors.

For loses the three quantitative loss proxies, impairments to pre-tax profits, to total capital and to balance sheet, have a very similar pattern. The highest risk is other consumer credit, then retail, which is clear of mortgage, and combined banks, which overlap. There are three low risk groups, all the building societies, private banking and all the investment banks. As these figures only look at lending losses they do not represent the complete picture of losses, particularly for investment and less so for combined banking.

Overall there is some support for RBV with the discernible groups and variation within them, this is greater than the sector variation, giving some generic elements for this resource.

5.4.8 Capital

The level of capital held by providers of banking services is a combination of regulatory requirements and managerial assessment of risk and return. The heterogeneity of capital is measured by two proxies, equity to assets and capital to assets. Unfortunately, there was insufficient data for two other proxies, capital adequacy ratio and tier one capital to be used as part of the analysis of capital for RQ2. The data for these two proxies was available for 15 organisations - the combined banks, retail bank, two mortgage providers and the ten largest B/Soc.

5.4.8.1 Equity to Assets

This leverage ratio is broad based and measures the level of leverage which the organisation managed. This may be another indication of risk. The lower the leverage the lower the risk the organisation is expecting and can manage. See Figure 5.20 and Table 5.21 below for a visual and tabular presentation of the data.

Industry range

For equity to assets the range is 61.13 with a minimum of 3.73 B/Soc M, S, GI & FA and a maximum of 64.86 niche investment bank.

Group ranges within each sector

B/Soc – For equity to assets the total sector range is 3.73 to 6.35, a range of 2.62. Within this B/Soc, M, S, GI & FA have a range from 3.73 to 6.35, a range of 2.62 occupying 100% of the sector range. B/Soc M, S, GI, FA, CB and PB have a range from 5.15 to 5.21, a range of 0.06, occupying 2% of the sector range, B/Soc M, S, GI, FA and CB have a range of 4.77 to 5.37, a range of 0.60, occupying 23% of the range. Multiple B/Soc a has mean of 5.04, B/Soc M, S & GI 5.35, and B/Soc M & S 6.24. The means are at different places on the range, though towards the maximum.

Retail – For equity to assets the total sector range is 4.01 to 24.19, a range of 20.18. Within this, mortgage providers have a range from 4.01 to 6.50, a range of 2.49, occupying 12% of the sector range. The other groups have means spread throughout the range; the highest is consumer credit 24.19 (sector maximum), retail 5.80, and private 8.48.

Combined is both a group and a sector - see sector ranges.

Investment – For equity to assets the total range is 60.84, from 4.02 to 64.86. Within this niche investment banks have range of 18.42 to 64.66, giving a range of 46.44, occupying 76% of the sector range. Broad investment banks have a range from 4.02 to 5.52, a range of 1.51, occupying 2.5% of the sector range. The group mean of niche investment banks is slanted; the mean of 37.14 is closer to the minimum of 18.42 than the maximum of 64.66.

The multi-group sectors demonstrate group variation within the sectors. This is limited in B/Soc as B/Soc M, S GI and FA occupy 100% of the sector range. The other multi organisation B/Soc groups occupy 19% and 2% of the sector range. The variation is greater in investment with niche investment banks occupying 76% of the coverage, and significantly greater again in retail with the multi-organisation group occupying 12% of the sector range.

Sector ranges within the industry

For equity to assets the total range is 61.13, with a minimum of 3.73 B/Soc M, S, GI & FA and maximum of 64.86 niche investment bank. Within this, *B/Soc* have a range from 3.73 to 6.35, a range of 2.62, occupying 4.3% of the industry range. R*etail* have a range from 4.01 to 24.19 (outlier consumer credit), a range of 20.18, occupying 33% of the industry range. *Combined* have a range of 3.90 to 14.50, a range of 10.60, occupying 17% of the industry range. *Investment* have a range from 4.02 to 64.86 a range 60.84, 99.5% of the total range though there is a gap from 5.52 (broad investment banks) to 18.42 (niche investment banks). The Investment mean of 22.99 is slanted, being closer to the minimum of 4.02 than the maximum of 64.86 (the outlier is 3i). There is a slant in retail, with the mean of 10.91 closer to the

minimum of 4.01 than the maximum of 24.19 (outlier consumer credit). There is a marginal slant in B/Soc, with the mean of 5.34 slightly closer to the maximum of 6.35 than the minimum of 3.73.

Figure 5.20 Floating Bar Chart - Equity to Assets

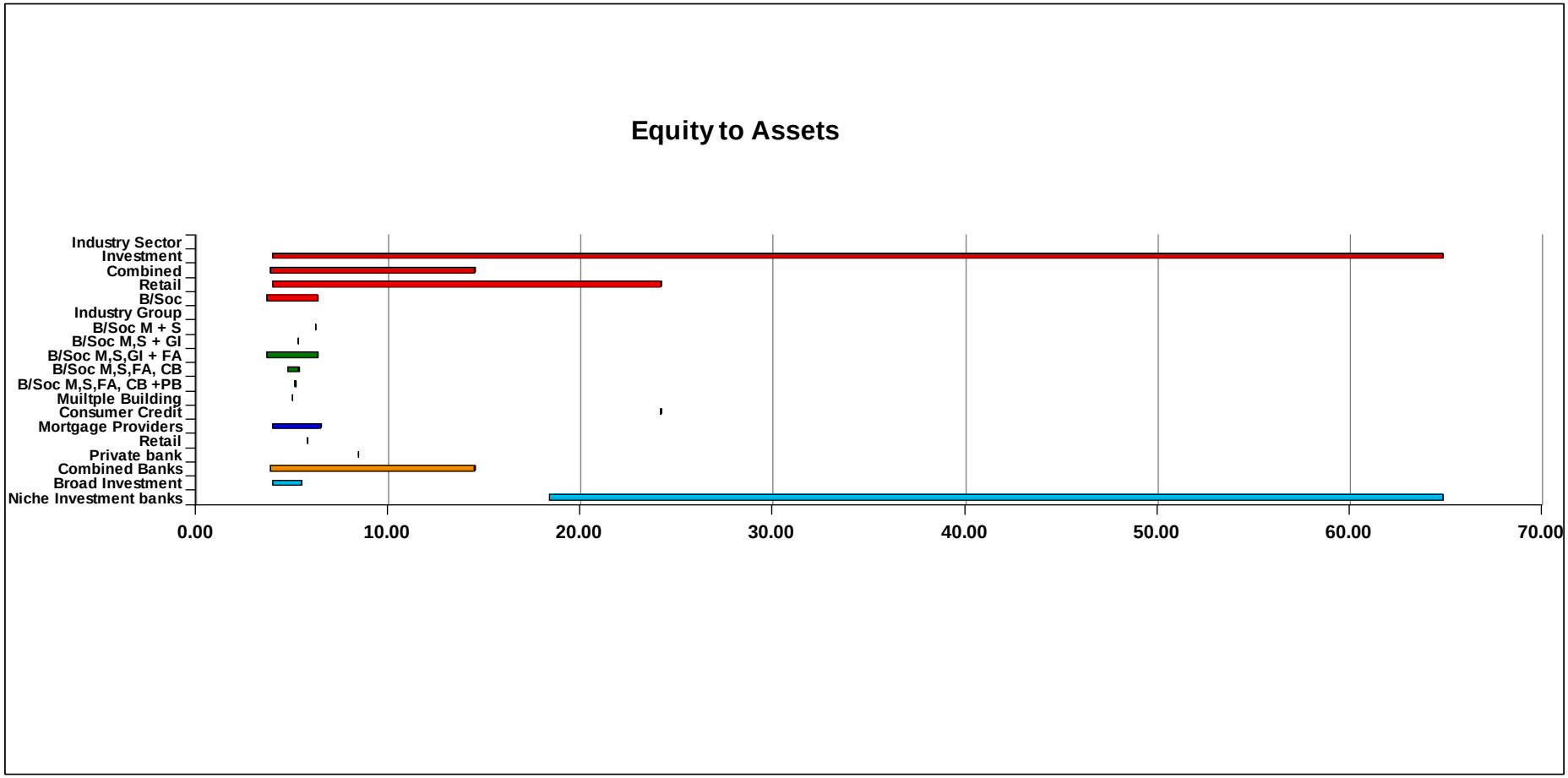


Table 5.21 Table Equity to Assets

Industry Group	Min	Max	Range	Mean
Niche Investment Banks	18.42	64.86	46.44	37.14
Broad Investment Banks	4.02	5.52	1.51	4.84
Combined Banks	3.90	14.50	10.60	9.20
Private Bank	8.48	8.48	0.00	8.48
Retail Bank	5.80	5.80	0.00	5.80
Mortgage Providers	4.01	6.50	2.49	5.16
Consumer Credit	24.19	24.19	0.00	24.19
Multiple Building Society	5.04	5.04	0.00	5.04
B/Soc M, S,FA,CB & PB	5.15	5.21	0.06	5.18
B/Soc M, S,FA & CB	4.77	5.37	0.60	5.07
B/Soc M, S,GI & FA	3.73	6.35	2.62	5.17
B/Soc M, S & GI	5.35	5.35	0.00	5.35
B/Soc M & S	6.24	6.24	0.00	6.24
Industry Sector				
B/Soc	3.73	6.35	2.62	5.34
Retail	4.01	24.19	20.18	10.91
Combined	3.90	14.50	10.60	9.20
Investment	4.02	64.86	60.84	20.99

All sectors are represented at the lower end. The tightest grouping is B/Soc, then combined, then retail, and the widest spread is investment. The slanted means have no major impact. There is considerable homogeneity in large parts of the industry, with B/Soc, retail (excluding consumer credit), combined (excluding Close Brothers), private and niche investment having a range of 3.73 to 6.35 ie 23 out of 29 organisations, compared to an industry range of 61.13.

But there is inter-group homogeneity, with nearly as much intra-group as inter-group variation. This is the weakest proxy for RBV heterogeneity.

5.4.8.2 Capital to Assets

This is a broader measure of capital than equity and includes retained profits and revenue reserves?

See Figure 5.21 and Table 5.23 below for a visual and tabular presentation of the data.

Industry range

For capital to assets the range is 60.96, with a minimum of broad investment bank 4.59 and maximum of maximum 65.55 niche investment bank.

Group ranges within each sector

B/Soc – For capital to assets the total sector range is 4.96 to 6.76, a range of 1.79. Within this, B/Soc M, S, GI & FA have a range from 5.09 to 6.35, a range of 1.27 occupying, 70% of the sector range. B/Soc M, S, GI, FA, CB and PB have a range from 5.74 to 6.76, a range of 1.02, occupying 57% of the sector range; B/Soc M, S, GI, FA and CB have range of 5.52 to 6.42, a range of 0.90, occupying 50% of the range. Multiple B/Soc has a mean of 5.99, B/Soc M, S & GI 5.35, and B/Soc M & S 6.41. The means are at different places on the range.

Retail – For capital to assets the total sector range is 6.50 to 24.19, a range of 17.69. Within this, mortgage providers have a range from 6.50 to 7.37, a range of 0.87, occupying 3.6% of the sector range. The other groups have means spread throughout the range; the highest is consumer credit 24.19 (sector maximum), retail 8.59, and private 8.48. The mortgage providers' mean is slanted - the mean of 6.81 is closer to the minimum 6.50 than to the maximum of 7.37.

Combined is both a group and a sector - see sector ranges.

Investment – For capital to assets the total range is 4.59 to 65.55, a range of 60.96. Within this niche investment banks have range of 18.42 to 65.55,

giving a range of 47.13, occupying 77% of the sector. Broad investment banks have a range from 4.59 to 5.63, a range of 1.04, occupying 2% of the sector range. There is a gap in the middle from the maximum of broad investment banks 5.63 to the minimum of niche investment banks 18.42. The group mean of broad investment banks is marginally slanted; the mean of 5.19 is further from the minimum of 4.59 than the maximum of 5.63.

Though limited by B/Soc M, S, GI & FA, and to a lesser, extent niche investment banks, the multi-group sectors demonstrate group variation within the sectors.

Sector ranges within the industry

For capital to assets the range is 60.96, with a minimum of 4.59 - broad investment bank and a maximum of 65.55 - niche investment bank. Within this, *B/Soc* have a range from 5.09 to 6.76, a range of 1.67, occupying 3% of the total range; *retail* a range from 6.50 to 24.19 (outlier consumer credit), a range of 17.69, occupying 29% of the total range. *Combined* has a range of 6.15 to 16.83, a range of 10.68, occupying 18% of the industry range. *Investment* has a range from 4.59 to 65.55 a range 60.96, 100% of the total range though there is a gap from 5.63 (broad investment banks) to 18.42 (niche investment banks). The investment mean of 21.28 is slanted being closer to the minimum of 4.59 than the maximum of 6.55 (the outlier is 3i). There is a slant in retail, with the mean of 12.02 closer to the minimum of 6.50 than the maximum of 24.19 (outlier consumer credit). There is a marginal slant in B/Soc, with the mean of 5.96 slightly closer to the maximum of 6.76 than the minimum of 5.09.

Figure 5.21 Floating Bar Chart - Capital to Assets

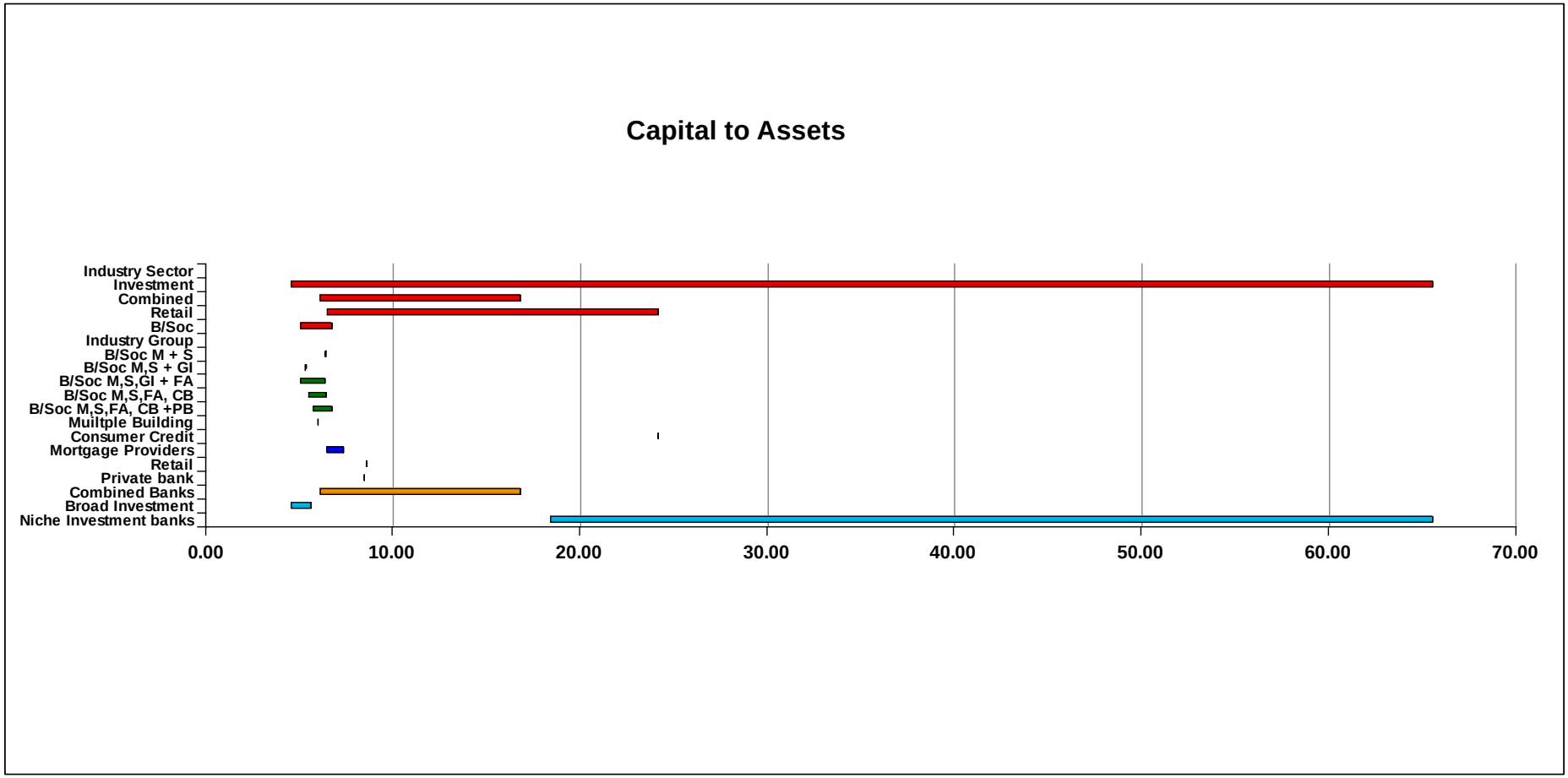


Table 5.22 Capital to Assets

Industry Group	Min	Max	Range	Mean
Niche Investment Banks	18.42	65.55	47.13	37.37
Broad Investment Banks	4.59	5.63	1.04	5.19
Combined Banks	6.15	16.83	10.68	11.49
Private Bank	8.48	8.48	0.00	8.48
Retail Bank	8.59	8.59	0.00	8.59
Mortgage Providers	6.50	7.37	0.87	6.81
Consumer Credit	24.19	24.19	0.00	24.19
Multiple Building Society	5.99	5.99	0.00	5.99
B/Soc M, S,FA,CB & PB	5.74	6.76	1.02	6.25
B/Soc M, S,FA & CB	5.52-	6.42	0.90	5.97
B/Soc M, S,GI & FA	5.09-	6.35	1.27	5.81
B/Soc M, S & GI	5.35	5.35	0.00	5.35
B/Soc M & S	6.41	6.41	0.00	6.41
Industry Sector				
B/Soc	5.09	6.76	1.67	5.96
Retail	6.50	24.19	17.69	12.02
Combined	6.15	16.83	10.68	11.49
Investment	4.59	65.55	60.96	21.28

There is some variation. The tightest grouping is B/Soc, then combined, then retail, and the widest spread is investment. There is considerable homogeneity in large parts of the industry, with B/Soc, retail (excluding consumer credit) combined (excluding Close Brothers), private, retail and niche investment having a range of 4.59 to 6.73 ie 22 out of 29 organisations, compared to a total industry range of 60.96. The slants increase the overlap.

It is not random - there is a pattern. The results are very similar to equity to assets, marginally less homogeneous with the same conclusions being drawn.

5.4.9 Liquidity

These proxies were used to measure the level of heterogeneity in liquidity issues faced by the providers of banking services in the UK. In general terms, too high liquidity results in reduced income as liquid assets tend to be lower earning than illiquid assets, whereas too low liquidity can jeopardise the survival of the organisation through a bank run. The level of heterogeneity of liquidity is measured by two proxies: liquid asset to short-term funding and net loans to total assets. Unfortunately, there was insufficient data for one other proxy, interbank ratio to be used as part of the analysis of liquidity for RQ2. The data for this proxy was available for two mortgage providers, one retail, one niche investment bank and the combined banks

5.4.9.1 Liquid Assets to Deposits and Short-term Funding

This ratio is defined by Bankscope as 'a deposit run off ratio and looks at what percentage of customer and short-term funds could be met if they were withdrawn suddenly, the higher this percentage the more liquid the bank is and less vulnerable to a classic run on the bank'. (Bankscope website 23.90.09). In essence, it examines the short-term liquidity of providers of banking services by comparing short-term liabilities to short-term assets available to fund them. The data is presented in two forms - all data, see Figure 5.22 and Table 5.24, and with the investment bank industry sector and broad investment bank industry group removed to show more detail of the relationship between the other sectors, see Figure 5.23.

Industry range

For liquid assets to short-term funding the range is 683.83, from a minimum of 2.67 consumer credit to a maximum of 686.50 broad investment.

Group ranges within each sector

B/Soc – For liquid assets to short-term funding the sector range is 19.79 to 28.59, a range of 8.80. Within this, B/Soc M, S, GI & FA have a range from

19.79 to 24.21, a range of 4.43, occupying 50% of the sector range. B/Soc M, S, GI, FA, CB and PB have a range from 20.84 to 28.59, a range of 7.75, occupying 88% of the sector range. B/Soc M, S, GI, FA and CB have a range of 20.92 to 23.27, a range of 2.35, occupying 27% of the range. Multiple B/Soc has a mean of 23.00, B/Soc M, S & GI 20.61, and B/Soc M & S 21.55. The means are at different places on the range, though towards the minimum.

Retail – For liquid assets to short-term funding the sector range is 2.67 to 50.67, a range of 48.01. Within this mortgage providers have a range from 11.72 to 44.99, a range of 33.27, occupying 69% of the sector range. The other groups have means spread throughout the range; the lowest is consumer credit 2.67 (minimum sector), then retail 37.77, then private 50.67 (sector maximum).

Combined is both a group and a sector - see sector ranges.

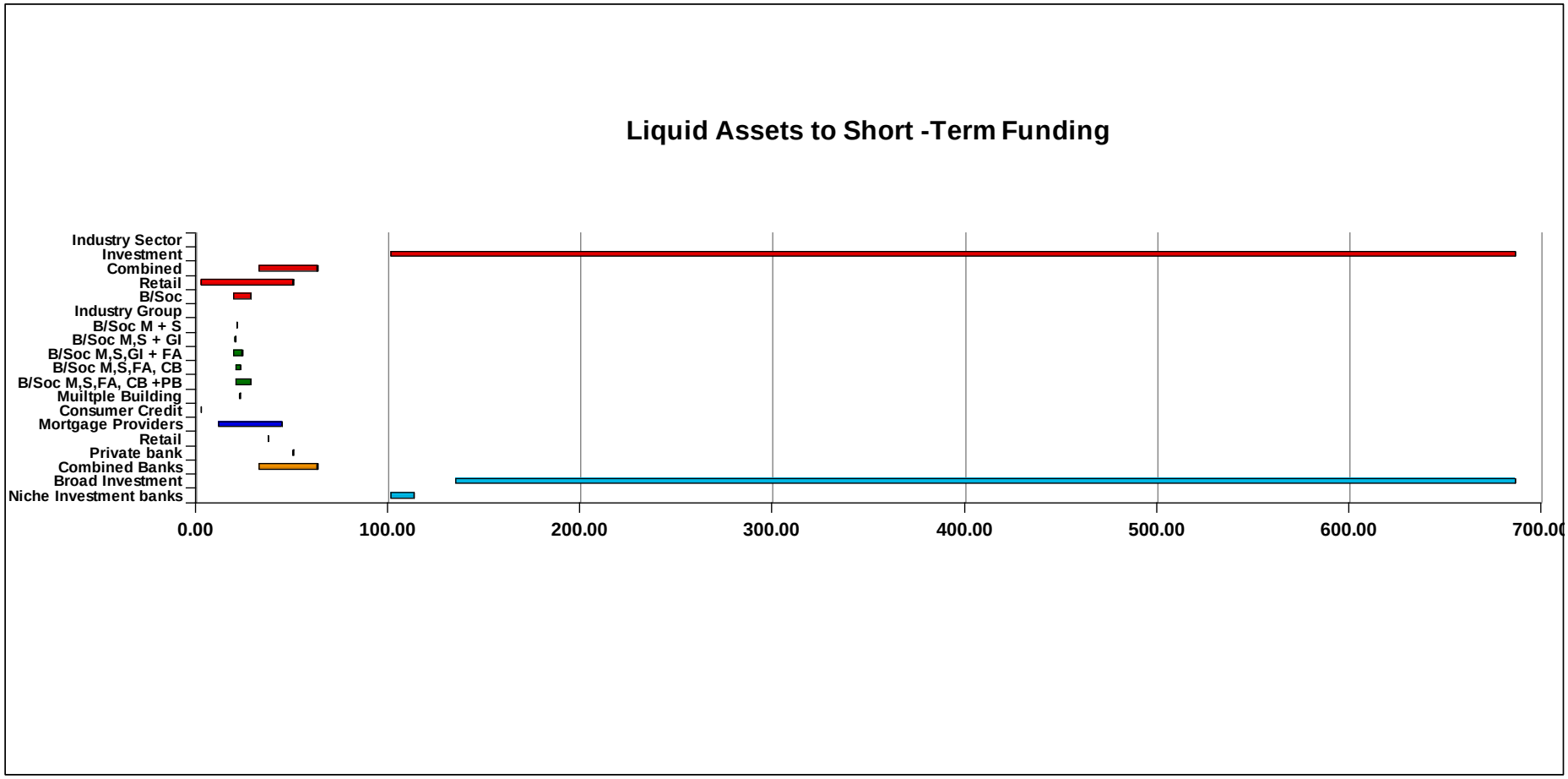
Investment – for liquid assets to short-term funding the sector range is 585.18 from a minimum of 101.32 to a maximum of 686.50. Within this niche investment banks have a range from 101.32 to 113.45, a range of 12.14 occupying 2% of the sector mean. Broad investment banks have a range from 135.20 to 686.50, a range of 551.30, occupying 94% of the sector range. There is a gap from 113.45 (niche investment bank maximum) to 135.20 (broad investment bank minimum). The group mean of broad investment bank is slanted; the mean of 364.21 is closer to the minimum of 135.20 than the maximum of 686.50.

With the partial exception of broad investment banks (94% of sector range), and to a slightly lesser extent B/Soc M, S, GI, FA, CB and PB (88% of sector range), there is multi group variation within the sectors. The other multi-organisation groups occupy 50% and 24% for B/Soc, retail 69% and investment 2%.

Sector ranges within the industry

For liquid assets to short-term funding the range is 683.8 from a minimum of 2.67 consumer credit, to a maximum of 686.50 broad investment. Within this, *B/Soc* has a range from 19.79 to 28.59, a range of 8.80, occupying 1% of the industry range: *retail* a range from 2.67 to 50.67, a range of 48.01, occupying 7% of the industry range. *Combined* has a range of 32.85 to 63.28, a range of 30.43, occupying 4% of the industry range. *Investment* has a range from 101.32 to 686.50, a range of 585.18, occupying 86% of the industry range. The investment mean of 235.80 is slanted being, closer to the minimum of 101.32 than the maximum of 686.50. There is a slant in B/Soc, with the mean of 22.34 being closer to the minimum of 19.79 than the maximum of 28.59. There is also a slant in retail, where the mean of 28.64 is slightly closer to maximum of 50.67 than the minimum of 2.67.

Figure 5.22 Floating Bar Chart - Liquid Assets to Short-term Funding



There is no data for one niche investment bank.

Figure 5.23 Floating Bar Chart Liquid Assets to Short-Term Funding less Broad Investment Banks and Investment Banking Sector

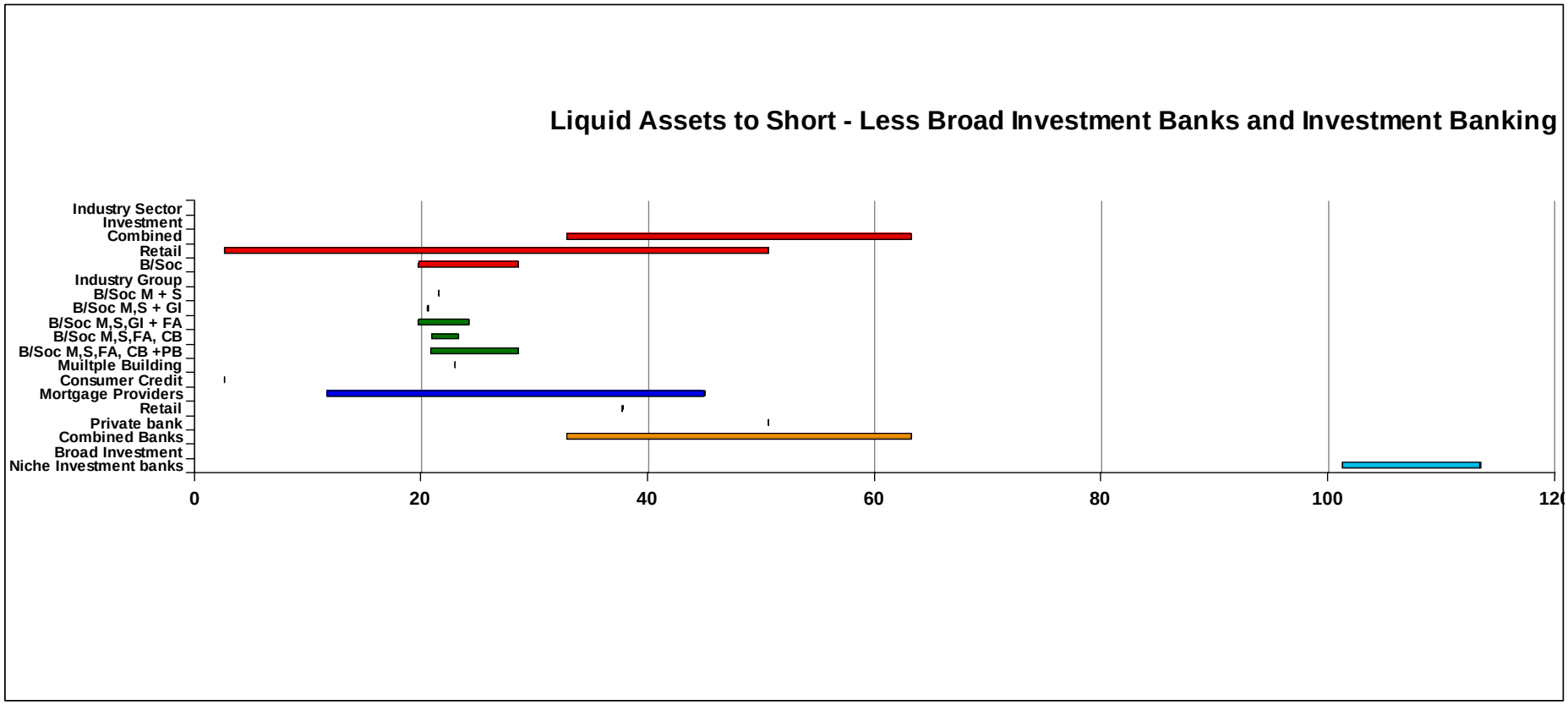


Table 5.23 Liquid Assets to Short-term Funding

Industry Group	Min	Max	Range	Mean
Niche Investment Banks	101.32	113.45	12.14	107.39
Broad Investment Banks	135.20	686.50	551.30	364.21
Combined Banks	32.85	63.28	30.43	48.06
Private Bank	50.67	50.67	0.00	50.67
Retail Bank	37.77	37.77	0.00	37.77
Mortgage Providers	11.72	44.99	33.27	23.45
Consumer Credit	2.67	2.67	0.00	2.67
Multiple Building Society	23.00	23.00	0.00	23.00
B/Soc M, S,FA,CB & PB	20.84	28.59	7.75	24.71
B/Soc M, S,FA & CB	20.92	23.27	2.35	22.10
B/Soc M, S,GI & FA	19.79	24.21	4.43	22.04
B/Soc M, S & GI	20.61	20.61	0.00	20.61
B/Soc M & S	21.55	21.55	0.00	21.55
Industry Sector				
B/Soc	19.79	28.59	8.80	22.34
Retail	2.67	50.67	48.01	28.64
Combined	32.85	63.28	30.43	48.06
Investment	101.32	686.50	585.18	235.80

There is no data for one niche investment bank

The floating bar charts (see Figures 5.22 and 5.23) show several groups. Very high liquidity is maintained by the investment banks which do not overlap with any other group, possibly to allow active trading in the market. The second group is the niche investment banks who may still have a high need to trade in the market, and have fund management activities with the need to be able to redeem funds. Central in the chart but still overlapping at the lower end are combined banks, which overlap with retail, which have the industry minimum. Retail overlaps with a tight B/Soc sector. The slanted means have minimal impact on this picture.

There is significant inter and intra group variation accordingly there is a pattern; the resource range is not random.

5.4.9.2 Net Loans to Total Assets

'This liquidity ratio indicates what percentage of the assets of the bank are tied up in loans. The higher this ratio the less liquid the bank will be.' (Bankscope website 23.09.09). The data is presented in two forms, see Figure 5.24 and Table 5.25.

Total industry range

For net loans to total assets the range is 88.95, from a minimum of 0.00 - broad investment banks to a maximum of 88.95 - mortgage provider.

Group ranges within each sector

B/Soc – For net loans to total assets the range the total sector range is 72.41 to 80.61, a range of 8.21. Within this, B/Soc M, S, GI & FA have range from 76.47 to 80.61, a range of 4.14, occupying 50% of the sector range. B/Soc M, S, GI, FA, CB and PB have a range from 72.41 to 79.09, a range of 6.68, occupying 81% of the sector range, B/Soc M, S, GI, FA and CB have range of 77.36 to 78.37, a range of 1.01, occupying 12% of the range. Multiple B/Soc has a mean of 75.84, B/Soc M, S & GI 79.31, and B/Soc M & S 79.43. The means are at different places on the range, though towards the maximum.

Retail – For net loans to total assets the total sector range is 41.88 to 88.95, a range of 47.07. Within this mortgage providers have a range from 72.81 to 88.95, a range of 16.13, occupying 34% of the sector range. The other groups have means spread throughout the range; the highest is consumer credit 87.53, then retail 53.71, then private 41.88 (sector minimum).

Combined is both a group and a sector - see sector ranges.

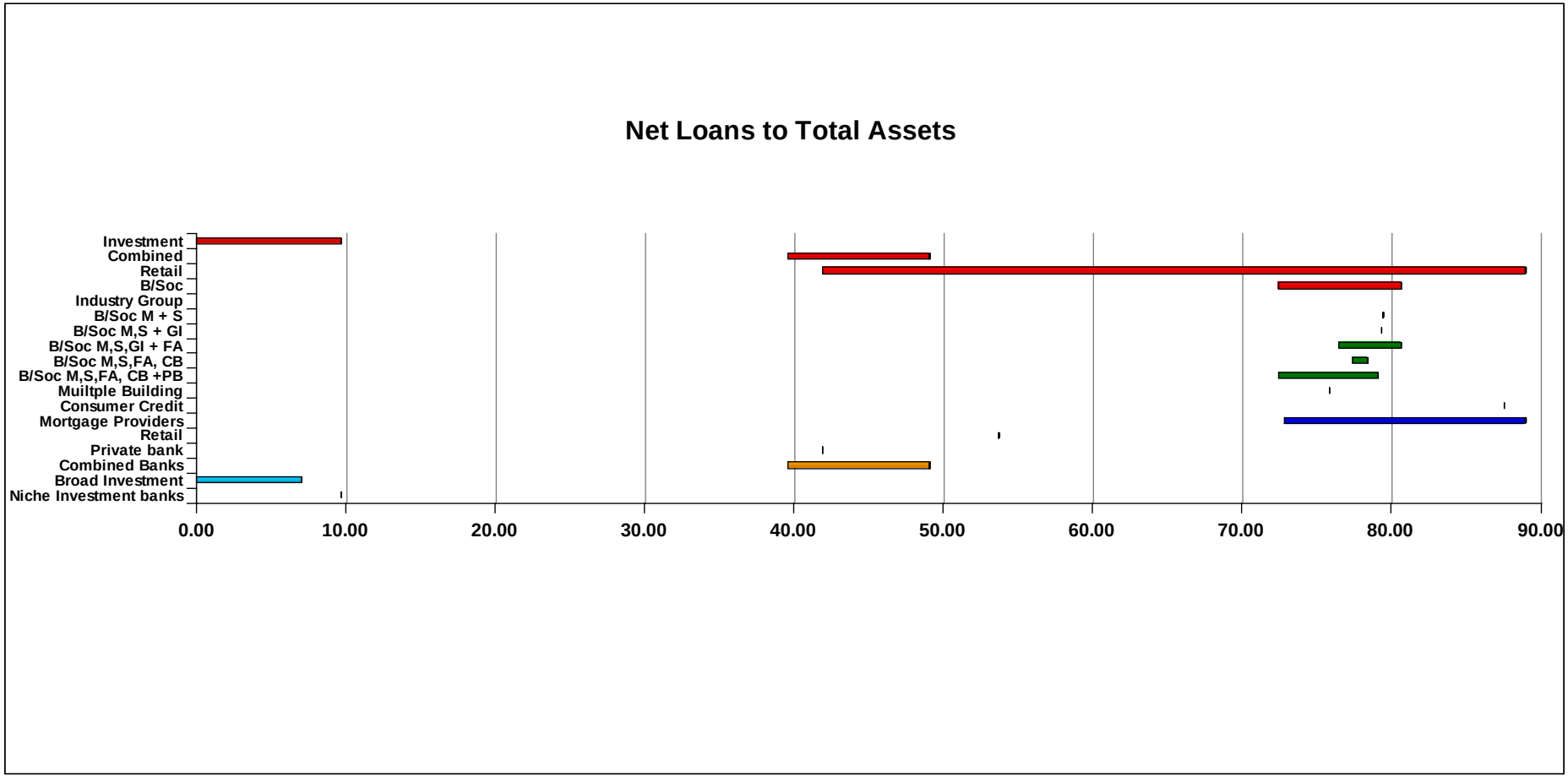
Investment – For net loans to total assets the total range is from 0.00 to 9.67, a range of 9.67, broad investment banks have a range from 0.00 to 7.07, a range of 7.07, occupying 73% of the sector range. There is one niche investment bank is 9.67 (sector maximum). The group mean of broad investment banks is slanted; the mean of 2.74 is further from the maximum of 7.07 than the minimum of 0.00.

The multi-group sectors demonstrate group variation within the sectors, though 73% of investment banks is broad investment, for the remaining no group covers more than 50% of its sector range.

Sector ranges within the industry

For net loans to total assets the range is 88.95, from a minimum of 0.00 - broad investment banks to a maximum of 88.95 - retail. Within this, B/Soc have a range from 72.41 to 80.61, a range of 8.21, occupying 9% of the industry range; retail a range from 41.88 to 88.95, a range of 47.07, occupying 53% of the industry range. Combined has a range of 39.57 to 49.07, a range of 9.50, occupying 11% of the industry range. Investment has a range from 0.00 to 9.67 a range 9.67, 11% of the total range. The investment mean of 5.19 is slanted being further from the maximum 9.67 than the minimum of 0.00. There is a slant in B/Soc with the mean of 77.75 being closer to the maximum of 80.61 than the minimum of 72.41.

Figure 5.24 Floating Bar Chart - Net Loans to Total Assets



There is no data for two niche investment banks.

Table 5.24 Net Loans to Total Assets

Industry Group	Min	Max	Range	Mean
Niche Investment Banks	9.67	9.67	0.00	9.67
Broad Investment Banks	0.00	7.07	7.07	2.74
Combined Banks	39.57	49.07	9.50	44.32
Private Bank	41.88	41.88	0.00	41.88
Retail Bank	53.71	53.71	0.00	53.71
Mortgage Providers	72.81	88.95	16.13	80.05
Consumer Credit	87.53	87.53	0.00	87.53
Multiple Building Society	75.84	75.84	0.00	75.84
B/Soc M, S,FA,CB & PB	72.41	79.09	6.68	75.75
B/Soc M, S,FA & CB	77.36	78.37	1.01	77.86
B/Soc M, S,GI & FA	76.47	80.61	4.14	78.34
B/Soc M, S & GI	79.31	79.31	0.00	79.31
B/Soc M & S	79.43	79.43	0.00	79.43
Industry Sector				
B/Soc	72.41	80.61	8.21	77.75
Retail	41.88	88.95	47.07	65.79
Combined	39.57	49.07	9.50	44.32
Investment	0.00	9.67	9.67	6.20

There is no data for two niche investment banks.

There are three distinct segments. The lowest (most liquid) is investment banks, then a clear gap with no overlap to combined, which is separate again with no overlap from B/Soc (the least liquid). Retail totally overlaps B/Soc and most of combined. The gaps are that the slanted means have no impact. There is heterogeneity, which is greater inter-sector than intra-sector, in essence there is a pattern; the resource range is not random.

The two liquidity proxies, liquid assets to short-term funding and net loans to total assets, present the same pattern. Clearly with no overlap the most liquid sector is investment banking, then combined with some retail overlap. Retail

has the least liquidity, with B/Soc towards the lower end of the retail sector and completely overlapped by it. Liquidity has a clear pattern, which is heterogeneous.

5.4.10 Discussion of Research Question Two

There is some variation in the results. The resources can be placed in three groups, i) two resources, liquidity and balance sheet, largely demonstrate a strong pattern and can be considered to show resource heterogeneity, ii) two resources, efficiency and networks, are largely generic, demonstrating homogeneity with more of random scatter than any other pattern, and iii) four resources, staff, capital, losses and income, are a mixture, demonstrating levels of heterogeneity and homogeneity, they exhibit a pattern but not strongly as liquidity and balance sheet.

Table 5.25 Overview of Resource Patterns for RQ2

Largely Strong Pattern	Mixture	Largely Generic
Liquidity	Employees	Efficiency
Balance Sheet	Capital	Networks
	Losses	
	Income	

In short, with only two out of the eight resources being largely generic and having little pattern, there is sufficient resource heterogeneity revealed to argue that there is a pattern rather than a random scatter, with groups typically occupying part and not all of the sector range and sectors occupying part and not all of the industry range. This gives a sound basis from which to examine diversification using resources as resources are not randomly distributed throughout providers of banking services in the UK.

The results provide a degree of support to the resource heterogeneity expected in RBV (eg Wernerfelt, 1984; Rumelt and Lippman; 1982, and Amit and Shoemaker, 1993). This is not surprising since the literature highlights eighteen different causes for resource heterogeneity; including, imperfect resource mobility and barriers to entry (Barney, 1991), routine theory (Ethiraj et al, 2005), irreversible investments creating idiosyncratic resources (Direickx and Cool, 1989) and learning from past experience (Collis, 1996; and Zollo and Winter 2002), For details of all eighteen reasons see 2.11.2, including Table 2.2.

It is not unexpected that if this substantial range of factors can cause heterogeneity in the same type of resource it could also have a different level of impact on different resources giving rise to differing levels of heterogeneity within a range of resources. As the data is largely quantitative there is no data as to why the different levels of heterogeneity exist.

The resource heterogeneity literature is not in total accord on the level of heterogeneity. Most of it supports within industry variation (Barney, 1991, Amit and Shoemaker, 1993, Collis and Montgomery, 1995, Collis, 1994, Grant, 1991, Ethiraj, 2005). However there is also evidence of homogeneity in resources, Barney's (1991) cited by Capron et al (1998) part generic management resources and St. John and Harrison's (1999) general skills of co-ordination and implementation can be set alongside more industry specific skills. Another aspect of within industry homogeneity argues that products are linked to resources (Wernerfelt, 1984) conversely there is also evidence of a weaker link between products and resources (Markides and Williamson, 1994).

The results from RQ2 provide support for within industry variation (eg Barney, 1991; Amit and Shoemaker, 1993 and Ethiraj, 2005) particularly from liquidity and balance sheet services. There is also support for homogeneity in resources (eg Barney, 1991 and St. John and Harrison, 1999), in this case from efficiency and networks. The resources with heterogeneity, as it is

typically represented by greater differences between groups and sectors, also provides some substantiation to Wernerfelt's (1984) contention that resources and products are linked. Nevertheless the more homogenous resources of efficiency and network support Markides and Williamson (1994) contention that resources have a weaker link. The other resources of employees, losses capital and income provide a mixed picture as they are neither strongly heterogeneous nor strongly homogeneous.

In essence this research suggests the picture is complex with varying levels of resource heterogeneity. The results show varying degrees of variation within and between industry groups, with some instances of groups occupying sector ranges and sectors occupying industry ranges, but more instances where they do not.

This is the first time knowledge has been created on levels of heterogeneity within an industry aspart of adiversfication study; this multi-resource study is the first of its kind and presents a complex picture with no consistent pattern across all resources and proxies.

5.5 Research Question Three

As resource identification is hindered by issues including intangibility, social complexity and causal ambiguity does this mean that additional analysis using Chairman's and CEOs comments from Annual Reports will provide a richer picture of resources and lead to the identification of resource bundles?

Six organisational studies were used to address this question. The organisations were chosen to be both representative of the organisations studied, and to give the opportunity to look at those which have produced interesting data in the research to this stage.
The six organisations choosen were, Cattles, Progressive, Close Brothers, Skipton Building Society, Alliance and Leicester and Morgans Stanley. See 4.11.3 for more details.

The Chairmens' and CEOs' Annual Report comments were analysed from 1997-2004. They were coded using Barney (1995) resource definition that firm resources and capital include 'all of the financial, physical, human, and organisational assets used by the firm to develop, manufacture, and deliver products or services to its customers. The financial resources include debt, equity, retained earnings, and so forth. Physical resources include machines, manufacturing facilities, and buildings firms use in their operations. Human resources include all the experience, knowledge, judgment, risk-taking propensity, and wisdom of individuals associated with a firm. Organisational resources include the history, relationships, trust, and organisational culture that are attributes of groups of individuals associated with the firm, along with the firm's formal reporting structure, explicit management control systems, and compensation policies' (p. 50). To give an understanding of the direction of the organisation comments on its strategy were included. This use of strategy is grounded in the literature; Peteraf and Bergen (2003) link applicability and functionality of resources to an organisation's strategy, some resources may clearly suit a particular strategy (Barney 1997), Grant (1991) links resources to the external environment when deciding strategy, furthermore Wernerfelt (1994) advocates 'basing strategy on the difference between firms'.

Data was collected on an annual basis report by report with the list of resources constantly under review. During the data collection for the first organisation, additional resources to be used emerged. These were tested during the second organisation and kept under review though not changed throughout the remaining four organisations. The data collected was then coded by year and resource.

This provided the following list:

From resource proxies

- Risk

- Liquidity
- Balance Sheet Services
- Income
- Efficiency
- Networks
- Staff
- Marketing

New

- Customers
- IT
- Operations
- Strategy

Information on balance sheet products, such as new launches for savings or lending services, could have been placed in either balance sheet services or marketing. As there was also the same information on non-balance sheet services, it was decided to place this information in one place under marketing enabling all information on that aspect of marketing resource to be examined together.

The amount of data collected varied depending on the level of detail in the relevant Annual Report comments. There was major difference in the volume of data for Skipton, A & L and Morgan Stanley compared to the other three organisations (c. five times the data per organisation for Skipton, A & L and Morgan Stanley compared to the other three). To keep the level of data to be discussed and analysed manageable, the data presented is a representative sample of the total data available.

During data collection it became apparent that a key resource which enabled Skipton B/Soc to pursue its multiple diversification strategy (including those based on IT) was the CEO with his IT back ground, therefore extra detail was gathered.

The data collected included resources which are clearly linked to another resource. Such resources were initially placed under one or more resource headings and then extracted to produce a list of bundles.

As there is a subjective element in cognitive maps (Eden at al, 1983), the researcher produced initial cognitive maps and reviewed the data twelve months later. There was some amendment of the maps following this review.

As for external factors, there is the issue of perception and credibility when using Annual Report comments. It is arguably a 'sales pitch' it but also has to have credibility with its audience. Nevertheless there is the possibility of an overstating the strength of resources unless there is a new management who might be stressing the paucity of the resources they have inherited. However, it is unlikely that there would be resources cited which are not of use to the organisation.

The RQ is broken down into three parts: is new evidence added to the resources where there is existing proxy data? Is data available for new resources? And can resource bundles be created from the evidence?

The results for RQ3 are presented by organisation. Firstly there is a discussion of the new data split into new information where resource proxy information is available. This is followed by a discussion on information on new resources.

Subsequently there is a table showing the results in the same order as the discussion, starting with those resources where there is also data from RQ1 and RQ2: risk, liquidity, products, income, staff, networks and efficiency, this is followed by marketing and customers, and then totally new resources where there is only data from RQ3: IT, operations, and strategy. For each proxy where there is data from RQ1 and/or RQ2 and RQ3, the data from the resource proxies used in RQ1 and/or RQ2 is shown first (either numerical or qualitative). This is followed by the new data from the Annual Report

comments (with the year of the comment in brackets). At the end of each resource the new information from the Annual Reports is identified. Please note that % is used in this section to denote interest.

The section on each organisation is finished with a brief discussion of the resource links identified and a cognitive resource map showing resource bundling. As this part of the research question is a polar question 'does this mean that additional analysis using Chairman's and CEOs comments from Annual Reports will lead to the identification of resource bundles?' Accordingly the alternatives are either a yes or no and the discussion is somewhat succinct.

The evidence for the map is either shown in boxes by each resource link, or if the map became too complex the linkages are numbered and evidence is shown in an accompanying table.

5.5.1 Cattles

Extent to which new information has or has not been added to the resource proxies used in RQ1 and RQ2

<u>In resources where proxies exist</u>

The data from the resource proxies will be compared with that available from the textual analysis of the organisation's annual report. The risk proxy data gives information on capital strength through equity and capital to assets ratios. Data on losses is present with ratios to equity, balance sheet size, and pre-tax profit, and finally there is also a descriptive proxy of the largest element of losses. There is new information on the risks managed, mainly credit but also interest rate and maturity. There is also information on its implementation with detail on debt collection and credit approval.

Liquidity proxy data comes in two forms: liquid assets to short-term funding and net loans to total assets. On liquidity the extra data is on how it is managed through certain transactions.

For balance sheet services there is descriptive proxy data identifying the largest asset and liability and ratios of largest asset and liability to total balance sheet size. There is no new information from the text.

Income proxy data is present in the descriptive proxies of type of largest source of gross income and largest type of other operating income. There are two ratios: net other operating income to interest income and gross income from top source to second top source. However, there is no data for any income proxies for Cattles. Income has extra information on sources of income by division.

There are three employee proxies: average cost per employee, staff cost to operating income and staff costs to income. The text gives new employee detail on training and development.

Network proxy information has two sources: assets per branch/office and staff per branch/office. For network the extra detail is on expansion, opening hours, and overall management delivery channels including the use of introducers and intermediaries.

Efficiency has two proxies: assets per employee and cost income ratio, though none for the latter for Cattles. The text adds detail on the focus of cost savings - insurance, operating cost and funding.

Overall more detail is added in all areas except balance sheet services.

<u>In resources where proxies do not exist</u>

The Annual Report comments provide data on policy and detail, in marketing there is some detail on branding and products. In IT there is detail of software and hardware acquired. For customers the importance of face-to-face

relationships and the use of customer surveys. In marketing there is data on branding. For operations it is information on issues including integration and working practices and on strategy details such as service differentiation, expansion policies and overall mission. There is data for each of the new resources.

The extra detail from the qualitative Annual Report text is unsurprising given the widely accepted richness of the data from qualitative sources (eg Hitt et al, 1998) and its ability to give practical insights (Shrivastava, 1987). Qualitative data can also place empirical evidence in a context, in this case of organisational policy and activities in the resource, thereby increasing the usability of the resource proxy data, supporting Hopkins and Hopkins (1997) as data in context gives more understading and use.

See 5.27 below for details.

Table 5.26 Cattles' Resource Proxy and Annual Report Comments

Risk

Proxies

- Equity to Assets 24.19
- Capital to Assets 24.19
- Loan Losses to Equity 0.28
- Loan Losses to Balance Sheet Size 0.067
- Loan Losses to Pre-tax Profit 0.79
- Type of Largest Element of Losses

2004	2003	2002	2001	2000	1999
consumer credit	consumer credit	consumer credit	consumer credit	consumer credit	consumer credit

<u>Textual Analysis</u> - ‘credit quality, responsible lending and bad debt control will remain fundamental’ (2002) - Nature of credit approval and management - close contact, rigorous pre-lending verification and underwriting, final decision branch manager or senior underwriter, local knowledge (2002-2004) - Staff training and development for credit management (2002) - Risks other than credit - credit interest and maturity (2001), forex risk, interest rate risk and relationship with other banks (2002), interest rate risk, maturity and relationship with banks (2003), maturity interest rate risk and relationship with banks (2004) - Importance of relationship with banks (1998 & 2001, 2002, 2003 and 2004) - Amount of risk - bad debts within target of 8% (2001), customer arrears falling from 12.9 to 11.1% (2002), other figures (2003) and (2004) - Branches then local collection unit for those with issues repaying (2001, 2002, 2003 and 2004) - Purchase portfolios (2000, 2001, 2002, 2003, 2004)
New - Details of risks and how they are managed
<u>Liquidity</u>
<u>Proxies</u> o Liquid assets to short-term funding 2.67 o Net loans to total assets 87.53
<u>Text</u> - see risks above - detail of new syndicated loans (2004) Euro and US (2001)
New Detail of transactions

Balance Sheet Services

Proxies

Largest Asset

2004	2003	2002	2001	2000	1999	1998	1997
loans and advances to customers	loans	HP/ Installment lending	HP/ Installment lending	HP/ Installment lending	HP/ Installment lending	HP/ Installment lending	HP/ Installment lending

Largest Liability

2004	2003	2002	2001	2000	1999	1998	1997
wholesale funding	wholesale 1 yr +	wholesale 1 yr +	wholesale 1 yr +	wholesale 1 yr +	wholesale 1 yr +	wholesale 1 yr +	wholesale 1 yr +

Percentage of total balance sheet of:

- Largest asset 88%
- Largest liability 56%

Text

New

Nothing

Income

Proxies

Type of largest source of gross income N/A

Net other operating income to interest income N/A

Gross income from top source to second top source N/A

Type of other operating income N/A

Text

- Details of sources of income including details by division (2004)

New

Some details by division

Employees
Proxies o Average cost per member £20K o Cost of staff\operating expenses 0.22 o Staff cost to total income 0.15
Text - 'major commitment to training and developing' staff on credit (2002)
New Some detail in training and development
Networks – branches/offices only
Proxies o Assets per branch /office £2.444m o Staff per branch/office 9.96
Text - Where network expanded (1997, 1999, 200, 2001, 2002, 2003), ever expanding (2000), numbers and opening hours (2000), some closure of smaller branches (2002 & 2004) - Strategic alliances (1999) - Integration of weekly and monthly branches (2002) - General integration mentioned from 1997 - Acquisition broadens distribution channels (2002) - Unsuccessful attempt for Barclays to become introducers (2003) - Use shops and others as intermediaries (1997, 1998, 2002, 2003, 2004)
New Detail and policies
Efficiency
Proxies o Cost income N/A o Assets per employee 0.26

Text - Increase in restructuring costs (1999) - Cost sharing in consumer division (2000) - Reduced insurance administration costs (2001) - Efficiencies from combining weekly and monthly (2001) - Aim to improve branch cost ratios (2002) - Insurance cost savings (2002) - Operating costs control (2003) - Overall cost income ratio (2003) - Cost effectiveness of branches (2004) - Control over funding costs (2004)
New Areas of efficiency management
Additional Resources
Marketing
Text - Range of repayment methods (1997-2004) - One rebranding with Cattles name (2001) (invoice finance) - Product range (1997-2004) - New products buy debt recovery and commercial factoring (1997) - The variety of payment methods (1997-2004)
New Limited detail on branding and overview of products
Customers
Text - Nature of relationship, face- to-face and weekly (1997, 1998, 1999, 2000, 2001,2002) - Retailers are customers improve service to (1997) and alliances with (1998) - Variety of payment methods, weekly and monthly collection, also branch automated payment (2001, 2002), using IT (2002) - Response time (2001)

- Customer surveys (1998, 2002 & 2003) - Retail customer numbers (1997,1998, 1999, 2000, 2001, 2002, 2003 and 2004)
New All numbers, policies and data
<u>IT</u>
<u>Text</u> - All - comment on a focus on IT expenditure and its role as an enabler - Volumes(1998) and cust service (1998) (2001) (2002) (2003) credit quality (2001) (2002) (2003) - New computer system (1999) (2001) substantial investment (2002) (2003) - Hand held terminal weekly collection agents (1997) - Bespoke software next generation (2004)
New - Role of IT, detail of new IT
<u>Operations</u>
<u>Text</u> – Develop links monthly and weekly business (1998) – Administration efficiencies (1998) – Cost sharing efficiencies and working practices (2002) – Integration of 2 businesses (1998)
New Some detail on operations

Strategy
Text – Mission 1997 “Cattles plc aims to be the first choice provider of financial services to consumer and corporate customers who do not choose mainstream facilities” – through service (differentiation) speed access face to face (1998, 2000 check for more) personal (1997, 1998, 2001) – integration of new acquisitions (1997, 2000 & 2003) – opportunistic one to widen distribution network (2000) – surrender banking license (1998) tried to sell off corporate business but failed (1998) – policy of expansion (2000, 2004), for example more branches (1997, 1998, 1999, 2001, 2002, 2003)
New All direction, details and implementation

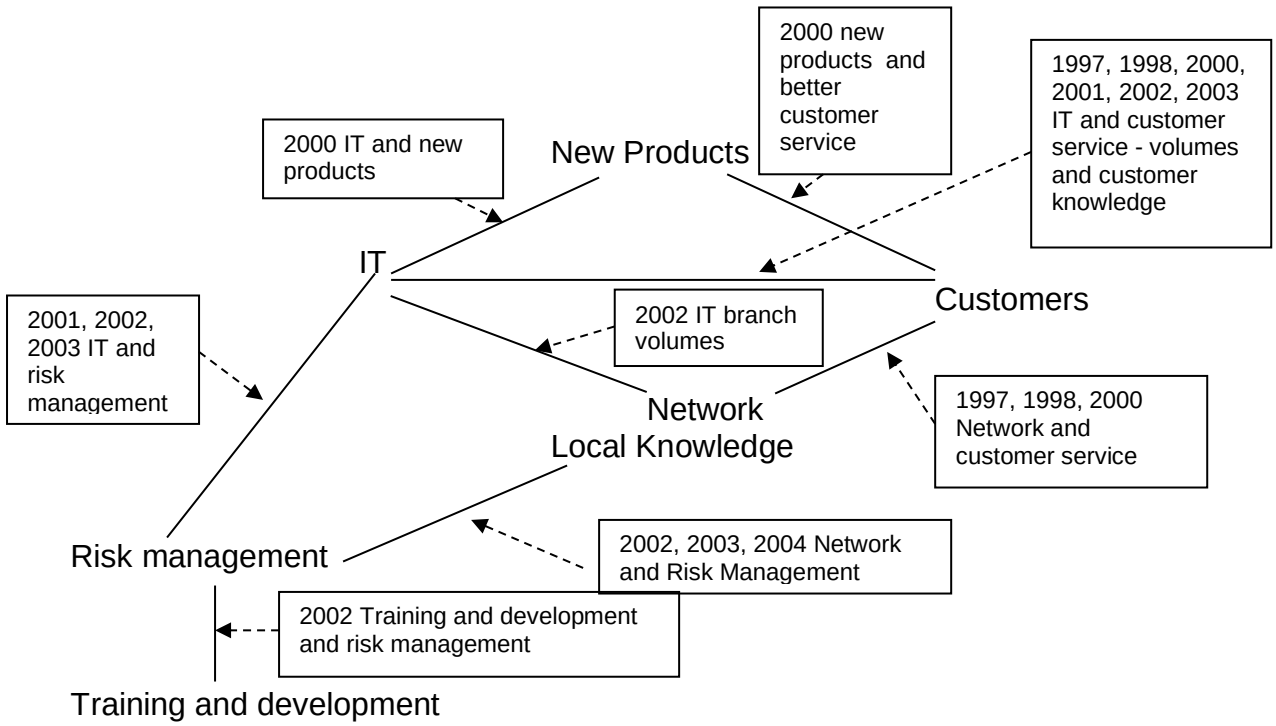
Does the use of Chairmans’ and CEOs’ comments and lead to the Identification of resource bundles?

The Annual Report comments for Cattles Plc show a range of resource bundles which link new products, IT, risk management, training and development and local network/knowledge and customers. Also IT, new products and network are linked with risk management and training. Specifically including the year of the comment, the new products to IT link (2000) is to provide better service, the IT and risk management link is investment resulting in improved credit quality (2001, 2002 and 2003). The training and development and risk management link is evidenced by training on risk management (2002). Also the risk management and local network connection is evidenced by the assertion that local knowledge derived from a local interwork helps improve risk management. IT is linked to local network in 2002 through IT increasing the volume of customers each branch can serve; network is linked to customer (1997, 1998, and 2000) as local knowledge is felt to improve customer service. Additionally IT is linked to

customers through increasing volumes and customer knowledge. Finally, new products and customers are connected as new products were believed to improve customer service (2000). For a cognitive map of the bundles see Figure 5.25 below. Consequently it can be seen that resource bundles can be identified For Cattles by using Annual Report comments.

This bundling provides evidence to support existing empirical work. Firstly Starbucks (1992 and 1993) that human resources combine with other resources, and less specifically gives backing to Helfat (1997) and Powell and Dent-Micallef (1997) on the existence of resource bundles. It also increases knowledge on the resource combinations that exist, expanding the work of Helfat (1997) and Powell and Dent-Micallef (1997).

Figure 5.25 Cattles's Resource Conceptual Map



5.5.2 Progressive

Extent to which new information has or has not been added to the resource proxies used in RQ1 and RQ2

<u>In resources where proxies exist</u>

The data from the resource proxies will be compared with that available from the textual analysis of the organisation's annual report. The risk proxy data gives information on capital strength through equity and capital to assets ratios. Data on losses is present with ratios to equity, balance sheet size, and pre tax profit, and finally there is also a descriptive proxy of the largest element of losses. The risk text adds data on the use of Treasury, lending, provisions, interest rate risk, capital ratios and arrears policy.

Liquidity proxy data comes in two forms: liquid assets to short-term funding and net loans to total assets. The text provides additional detail on liquidity policy where funds for new lending come from the savings of the local community.

For balance sheet services there is descriptive proxy data identifying the largest asset and liability and ratios of largest asset and liability to total balance sheet size. There is no new data on balance sheet services.

Income proxy data is present in the descriptive proxies of type of largest source of gross income and largest type of other operating income. There are two ratios: net other operating income to interest income and gross income from top source to second top source. For income there is new information on the changes in income from previous years.

There are three employees proxies: average cost per employee, staff cost to operating income and staff costs to income. For this resource there is new data covering training and development.

Network proxy information has two sources: assets per branch/office and staff per branch/office. The text gives new network information on branches agencies, websites and Head Office.

Efficiency has two proxies' assets per employee and cost income ratio. New textual data on efficiency includes benchmarking, new systems and focus on interest costs.

Overall more detail is added in all areas except balance sheet services.

<u>In resources where proxies do not exist</u>

Marketing and customer gives detail of new product launches, promotional activity, sponsorship, website information, customer surveys, pricing policy and how new information is distributed to customers. IT reveals where new investment has been made and details on the website, operations efficiency, volumes procedure changes and overall focus. Strategy gives new information, revealing the focus on members, mortgages and savings, the role of capital and the need to manage growth and margins. There is data for each of the new resources.

The extra detail from the qualitative Annual Report text is unsurprising given the widely accepted richness of the data from qualitative sources (eg Hitt et al, 1998) and its ability to give practical insights (Shrivastava, 1987). Qualitative data can also place empirical evidence in a context, in this case organisational policy and activities in the resource, thereby increasing the usability of the resource proxy data, supporting Hopkins and Hopkins (1997).

See Table 5.27

Table 5.27 Progressive Resource Proxy and Annual Report Comments

Risk

From Proxies

- Equity To Assets 5.35
- Capital To Assets 5.35
- Loan Losses to Equity -0.0015
- Loan Losses to Balance Sheet Size -0.0001
- Loan Losses to Pre-tax Profit -0.014
- Type of Largest Element of Losses

2004	2003	2002	2001	2000
residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans	other loans

From Text

- Larger share of new lending for house purchase funded by savings drawn from the local community (1997)
- Treasury for liquidity and funding (1998, 1999, 2000, 2001, 2002)
- Prudent lending (1997), prudent provisioning (1998, 1999 and 2001)
- Interest rate risks (1998 and 1999) managed by interest rate swaps (1998-2004)
- Healthy capital ratios (1997, 1998, 2000, 2001 & 2004)
- Sympathetic arrears (2004)

New

- Policy
- Role of Treasury

Liquidity

From Proxies

- Liquid assets to short-term funding 20.61
- Net loans to total assets 79.31

From Text

Larger share of new lending for house purchase funded by savings drawn from local community (1997) (2001)

New

Policy

Balance Sheet Services

From Proxies

- Type of Largest Asset

2004	2003	2002	2001	2000
residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans

- Type of Largest Liability

2004	2003	2002	2001	2000
retail deposits	retail deposits	retail deposits	retail deposits	retail deposits

- Largest Asset / Balance Sheet size 0.78
- Largest Liability / Balance Sheet size 0.85

From Text

Nothing

New

- Nothing

Income-

From Proxies

- Type of largest source of income (top source of gross income)

2004	2003	2002	2001	2000
%	%	%	%	%

- Net other operating income to net interest income 0.15
- Gross income from top source to second top source 20.27
- Type of other operating income

2004	2003	2002	2001	2000
fees	fees	fees	fees	fees

From Text

Details of changes from previous year(s) (1997-2004)

New Details of changes from previous years
<u>Employees</u>
<u>From Proxies</u> o Average cost per employee £23,700 o Staff costs to operating costs 0.50 o Staff cost to total income 0.27
<u>From Text</u> - Dedicated and enthusiastic (1999) - Complete Cemap much study in own time (2002) - Dedication and commitment (1997, 1998, 1999), dedication (2000, 2001), adapt to change 2002, 2003, 2004
New Detail on staff motivation, efforts and training
<u>Networks – branches/offices</u> o Assets per branch or office 83.71 o Staff per branch or office 12.63
<u>Text</u> o Types of branch (1997, 1998, 2001 &2003), agency (1997, 2001, 2002) H.O (1999) website (1999 and (2004) o New branch (1997 &1998) o Fold branch into agency (1997 & 2001) o Refurbish head office (1999 & 2000) o Branch renovation (2003) o More PCs in agencies (2002) o New website (1999) o Develop website information on products (2004) o New head office (1999)
New Policies and implementation

Efficiency
From Proxies o Cost income 54.73 o Assets per employee 6.23 (£m)
Text - Management expenses 'amongst the lowest in the industry' (1999) reduced further (2000) - Reduced management expenses ratio - an important part of new systems (2001) (2002) - Tight control of non-interest costs 'one of the best efficiency ratio (management expenses/mean assets) in Building Societies' (2003) even with strong mortgage growth and regulations (2004)
New Policy
Additional Resources
Marketing
From Text - Introduced financial advice products (2002). - Advertising, new window displays, brochures and stationary (1999) - New advertising campaign, New leaflets and posters (2002), - Promote mortgages on radio and explore other opportunities (2003) - Other promotional activity, continued sponsoring of TV weather - high exposure with reasonable cost (1998, 1999 & 2003), - Sponsor Ulster in Bloom 9th year (1998) - Develop website information on products (1999) and (2004) - Changes in products and 5 rates (1998) - New travel policy (1999) - Work with L & G(2002) - Improve buildings and contents (1999), flexible mortgages (2002) - Re mortgage product (2003), on L & G bonds most commission back to customers (2003) - Daily interest mortgage (2004)

- New savings account for children (2004)
New Details of marketing initiatives and new products
<u>Customers</u>
<u>From Text</u> - Customer service through fair pricing (1997), value low cost (1997-2004) - 'Continuing commitment to improve quality of service and value to members' (1998) - New user friendly website (2004) - Customer surveys (2001-), members very satisfied (2001 & 2003), much new mortgage business comes from via recommendations (2004) - Information on improved products and services (2001-03) - New information on interest certificates (2002) - New branch opening (1997 & 1998) - Terminals in agencies (2001 & 2002)
New Changes in customer service Customer feedback
<u>IT</u>
<u>From Text</u> - Major investment in head office and branches (1997) - New system for branches savings and mortgages (1998) - Reduce administration (2002) - New telephone and email (1999) - More investment in branch operating systems, branch accounting system, account database for improved information to members (2001) - Terminal in largest agencies (2002) Improved products and services (2001) - Systems to assist work flows offer new products flexible mortgages and other products and new information to customers (2002) - New website (1999) developed (2003 & 2004)
New

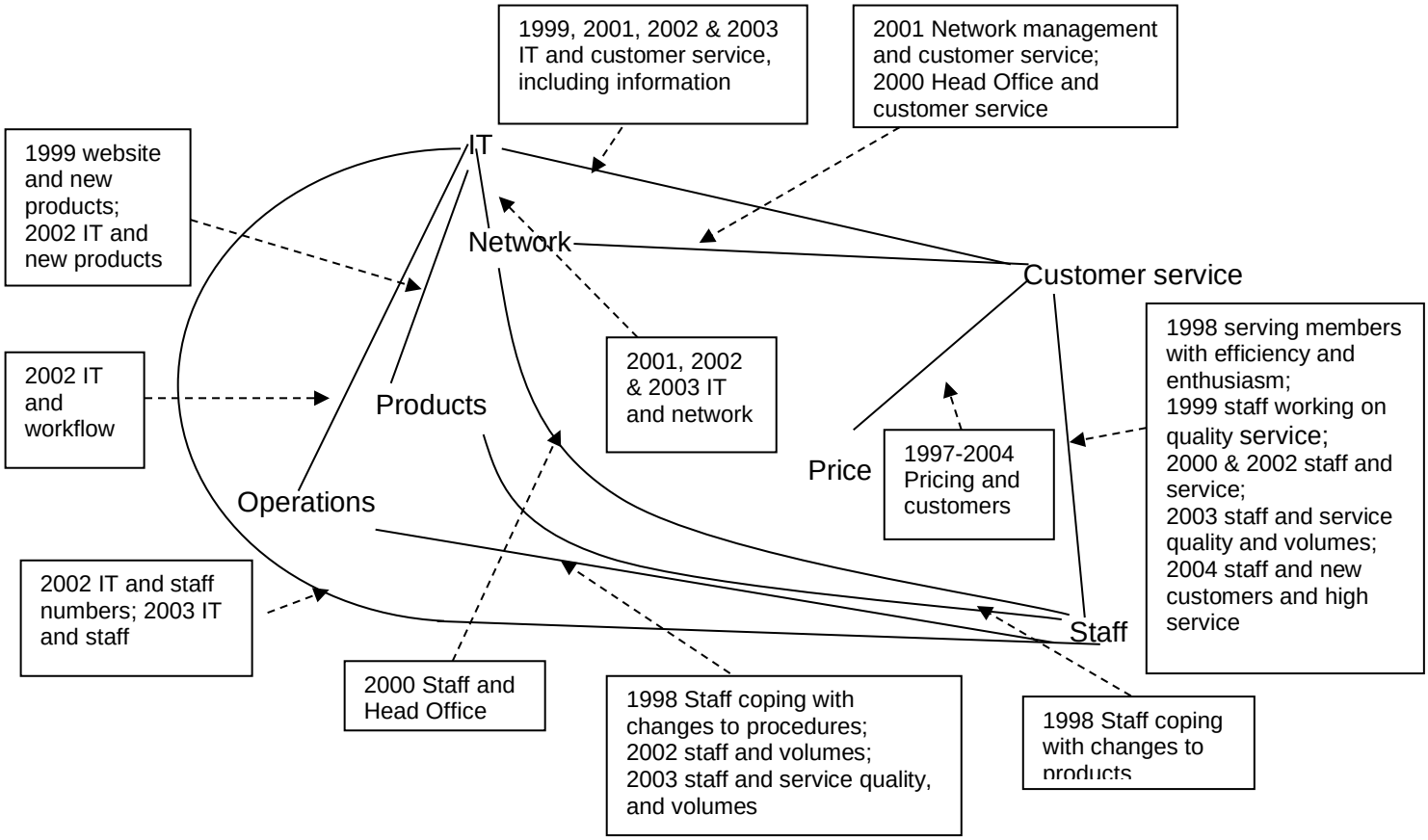
Where money spent and why for processing, which products affected, new products, IT in agencies and customer information
<u>Operations</u>
<u>From Text</u> - Volumes record (2002) - Efficiency (1997) – administration down in branches (2003) - Procedures changing (1998) - New procedures due to regulation changes (2000) - Time (2001) - Workflow (2001) - Volume (2002)
New Efficiency Changes in procedures New improvement in customer service workflow, reduced processing time
<u>Strategy</u>
<u>From Text</u>
- Strong capital base (2004 & 3) - Efficiency (1997) - Refine products (2001) - Fund lending mainly from retail deposits (1997 & 2001) - Lower mortgage rates than 'generally applied by other lenders' (1998) - Residential mortgage rate 0.24% less than banks resulting in savings of £1.4m to customers (2000) - 'Organic growth built on highly competitive mortgage and savings products to increasing numbers of satisfied members' (2003) or very similar (1997-2004) - balance of growth and margins (1999)
New Focus on members, mortgages and savings, the role of capital and the need to manage growth and margins.

Identification of resource bundles?

The Annual Report comments for Progressive show a range of resource bundles which link customer service, IT, networks, products, price, operations and staff. The direct links to customers are staff, IT, networks and price, which are supported by products and operations and products and operations by staff. Specifically, IT and customer service are linked with new systems to improve customer service (1999, 2001, 2001 and 2003), with network linked to customer service through Head Office providing customer service (2000) and with improved service through agencies (2001). Other links are evidenced by continual references to the impact of price on customers (1997-2004) and the impact of staff serving customers (1998-2004). A further link is staff to products (1998) in this case coping with changing products, moreover staff are linked to IT (2002 and 2003) through the impact of IT on staff numbers. Furthermore staff are linked to networks in 2000 through the staffing of Head Office, which provides customer service and additionally staff are linked to operations (1998, 2002 and 2003) through procedures, volume and quality. Finally the IT links are with operations (2002) through workflow, to products (1999) through the website and new products and (2002) IT and new products. IT is also linked with the network (2001, 2002 and 2003) through improved databases and systems in branches and agencies. Consequently it can be seen that resource bundles for Progressive can be identified by using Annual Report comments. For a cognitive map of the bundles see Figure 5.26 below.

This bundling provides evidence to support existing empirical work. Firstly Starbucks (1992 and 1993) that human resources combine with other resources, and less specifically gives backing to Helfat (1997) and Powell and Dent-Micallef (1997) on the existence of resource bundles. It also increases knowledge on the resource combinations that exist, expanding the work of Helfat (1997) and Powell and Dent-Micallef (1997).

Figure 5.26 Progressive Building Society Resource Conceptual Map



5.5.3 Close Brothers

Extent to which new information has or has not been added to the resource proxies used in RQ1 and RQ2

<u>In resources where proxies exist</u>

The data from the resource proxies is be compared with that available from the textual analysis of the organisation's annual report. The risk proxy data gives information on capital strength through equity and capital to assets ratios. Data on losses is present with ratios to equity, balance sheet size, and pre-tax profit, and finally there is also a descriptive proxy of the largest element of losses, this is not available for Close Brothers. For risk the text identifies types of risk, market, credit, forex, interest rate, reputation, operational, compliance and underwriting. It also reveals policies such as no

proprietary derivative trading, and the holding of instruments to maturity, hedging currency but not interest rate and credit risk policies.

Liquidity proxy data comes in two forms: liquid assets to short-term funding and net loans to total assets. For liquidity there is extra information on undrawn facilities and the overall conservative approach to liquidity.

For balance sheet services there is descriptive proxy data identifying the largest asset and liability and ratios of largest asset and liability to total balance sheet size. There is no extra detail on balance sheet services.

Income proxy data is present in the descriptive proxies of type of largest source of gross income and largest type of other operating income. There are two ratios: net other operating income to interest income and gross income from top source to second top source, there is no data for the latter. The text provides information on types of income: fees, net interest and dealing and the balance of that income.

There are three employee proxies: average cost per employee, staff cost to operating income and staff costs to income. On employees there are details of contraction and expansion of staff numbers, mention of team working and reorganisation.

Network proxy information has two sources: assets per branch/office and staff per branch/office and staff. Network gives new information in the areas of UK branches, use of brokers, overseas network, the internet and head office.

Efficiency has two proxies: assets per employee and cost income ratio.
For this resource there more detail on relevant financial figures, policy and cost trends.

Overall more detail is added in all areas except balance sheet services.

In resources where proxies do not exist

For marketing there is detail on branding and new products from acquisitions. For customers the new information is on customer service policies, including speed of response and sales force. For IT there is extra data on where money is invested. The text for operations identified back office, focus on customers and capacity and demand management. For strategy there is new information on overall mission and its implementation, covering the strategy, target market and the largely separate operating subsidiaries. There is data for each of the new resources.

The extra detail from the qualitative Annual Report text is unsurprising given the widely accepted richness of the data from qualitative sources (eg Hitt et al, 1998) and its ability to give practical insights (Shrivastava, 1987). Qualitative data can also place empirical evidence in a context, in this case of organisational policy and activities in the resource, thereby increasing the usability of the resource proxy data, supporting Hopkins and Hopkins (1997).

See table 5.29 below.

Table 5.28 Close Brothers Resource Proxy and Annual Report Comments

Risk
Proxies ○ Equity to Assets 14.50 ○ Capital to Assets 16.83 ○ Loan Losses to Equity 0.038 ○ Loan Losses to Balance Sheet Size 0.0055 ○ Loan Losses to Pre-tax Profit 0.18 ○ Type of Largest Element of Losses N/A

<u>Text</u> - Types of risk (1997-2004), market, credit, forex, interest rate, reputation, operational, compliance, underwriting - Avoid multiple exposure, no proprietary derivative trading (1998, 1999, 2000, 2001, 2002, 2003, 2004), usually hold instruments to maturity (1998, 1999, 2002, 2003 and 2004) - Match interest rate and currency risk (1997, 1998, 1999, 2000), hedge currency (2002, 2003 and 2004) not hedge interest rate (2002, 2003), hedge (2004) - Well spread loan book (1999, 2000, 2001, 2002 & 2004) - Rigorous bad debt control (1997), tight control (2001) - Knowledge of secondhand market (2002) - Cashflow and security (1999) - No volume at the expense of underwriting and criteria (1997)
New Types of risk and policies on management
<u>Liquidity</u>
<u>Proxies</u> o Liquid assets to short-term funding 63.28 o Net loans to total assets 39.57
<u>Text</u> - Level of undrawn facilities years check paper (2001, 2002, 2003 and 2004) - Conservative approach (2000, 2002)
New Policy and details of facilities

Balance Sheet Services

Largest asset

2004	2003	2002	2001	2000	1999
bank deposit deposits and placings	bank deposit deposits and placings	bank deposit deposits and placings	bank deposit deposits and placings	bank deposit deposits and placings	bank deposit deposits and placings

and largest liability

2004	2003	2002	2001	2000	1999
customer time deposits	customer time deposits	customer time deposits	customer time deposits	customer time deposits	customer time deposits

- Percentage of total balance sheet of:
- Largest asset 36%
- Largest liability 28%

Text

- Nothing

New

Nothing

Income

Proxies

Type of largest source of gross income

2004	2004	2002	2001	2000	1999	1998	1997
%	%	%	dealing	%	%	%	%

- Net other operating income to interest income 2.19
- Gross income from top source to second top source N/A

Type of other operating income

2004	2003	2002	2001	2000	1999
fees and commissions	fees and commissions	fees and commissions	dealing	dealing	fees and commissions

<u>Text</u> - Three types of income fee, net interest and dealing strategy on the balance of different types of income either by type or division (1997, 2001 ,2002, 2003, 2004)
New Detail on balance of income
<u>Employee</u>
<u>Proxies</u> o Average cost per member £77k o Staff costs to operating expenses 0.64 o Staff costs to income 0.39
<u>Text</u> - Redundancies (2002), expansion, acquire new teams (1998, 2002) + acquisitions (1997, 1999, 2000, 2001, 2004) - Team work banking division sales and operations (1998) - Management Board to assist the CEO (2003) - One other reorganisation (2004)
New - acquisition of new staff by formal acquisition of a company and of teams - reorganised top management
<u>Networks – branches/offices only</u>
<u>Proxies</u> o Assets per branch/office £140.84m o Staff per branch or office 76.15
<u>Text</u> - Multiple, 4,000+ insurance brokers (1997), - Overseas network of associates and branches/offices (1999, 2001, 2002, 2004) - UK branches (1997, 2001, 2002) - IT distribution - internet for brokers (2000), others (2000). - Head office space (1999)

New - multiple networks
<u>Efficiency</u>
<u>Proxies</u> o Cost income ratio 61.07 o Assets per employee £1.854m
<u>Text</u> - Cost control (1997) - Operating efficiency admin costs to operating income fell (1998) - Administration expenses increased slightly but still favourable to peers (1999 and 2000) - Operating income down 23.6% and administration expenses down 20.2% (2001) - Review corporate finance cost structure (2002) - Higher cost in some asset management areas (2003) - Expense to income ratio improved, positive signs from investment infrastructure in management systems in investment management (2004)
New - Policy and divisions affected
Additional Resources
<u>Marketing</u>
<u>Text</u> - Re- brand acquisitions and some associates with Close name (1997, 1999, 2000) - Re brand subsidiary (2002)
New Re-branding
<u>Customers</u>
<u>Text</u>
- Asset finance, credit management & speed of response (1997) - Banking sales force ‘successful in attracting new business’ (1998) - Banking invoice discounting customer focused operating procedures (2000)

- Excellent customer service and relationships in general (2000)
New Everything gives details of policies
<u>IT</u>
<u>Text</u> - Trading (1997, 1998, 2001, 2004) - Underwriting/credit control (2002), - Internet (2000) [invoice financing and brokers] (2002) (2004) - Equities, general divisional upgrades (1999) (2003)
New Everything
<u>Operations</u>
<u>Text</u> - Back office (1998) - Customer focused (2000) - Step change in activity (1997, 2000).
New - Everything

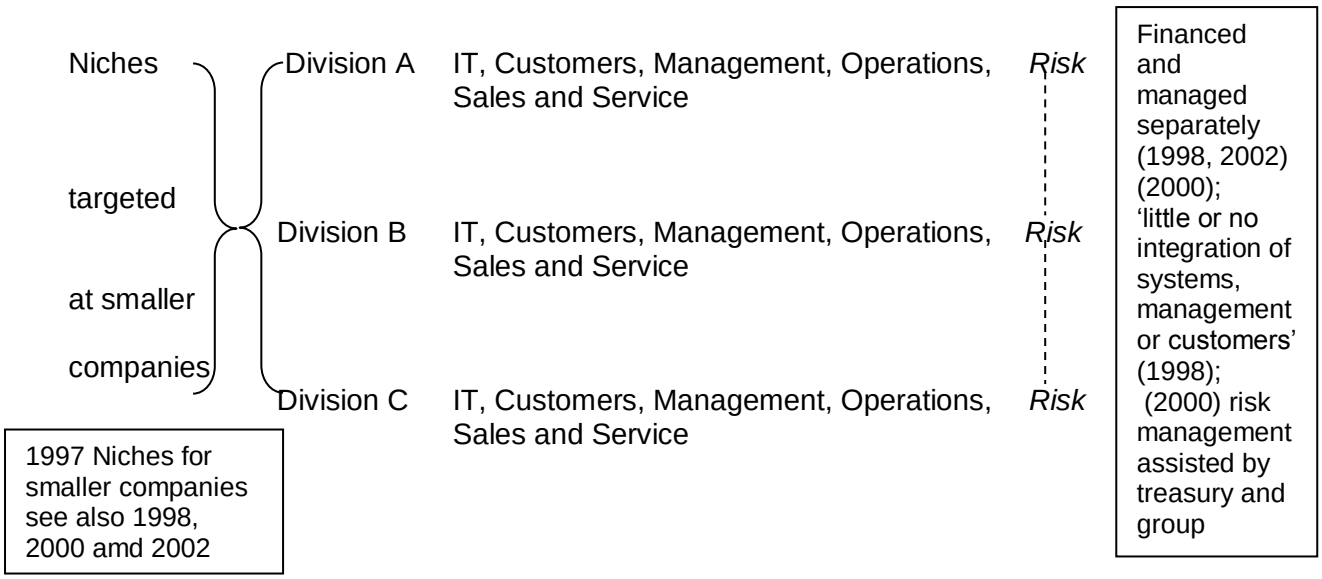
Strategy
Text - ‘Diversification and specialisation’ (2003) - Range (2000) - Balance of the mixture of activities (2000) - ‘Well balanced diverse’ (2001) - Tribute to Rod Kent ‘A plan was conceived to develop a merchant bank aimed at serving up-and-coming smaller companies with growth potential. Rod’s strategy, to build a range of distinct and diverse specialist activities, has enabled us to spread and balance our risk whilst developing strongly both organically and by acquisition. His philosophy of setting careful annual plans and budgets, delegating the running of each subsidiary to its management and strongly encouraging and supporting new ideas whilst constantly monitoring costs and margins, has enabled us to develop, retain and motivate a highly entrepreneurial team of operating directors and managers and has produced a compound annual growth rate of 20 per cent. over more than 20 years.’ (2002) - Niche not integrated house just advice (1997) - One of the largest mortgage brokers (2000) - Leading independent insurance premium financer (2001) - Largest retail broker coverage on LSE (2002) - Avoid multiple exposures to the same customer (2004) - Acquisitions (1997, 1999, 2000, 2001, 2004) - Acquire new teams (1998, 2002) - Alliances/joint ventures (1997, 2000, 2001, 2002, 2004) - Higher volumes but lower margins (2003) - Each main operation ‘financed and managed separately’ (1998, 2002) (2000)
New - The detail of universal banking, the logic/mission, choice of methods (acquisition, organic), implementation and control.

Identification of resource bundles?

The Annual Report comments for Close Brothers show a range of resource bundles. Whilst the resources are of a common type: customer service, IT and risk, they are managed separately in each of the Strategic Business Units (SBUs). This reflects a focus which on the development of the different divisions and their markets, with 'little or no integration' (Close Brothers Annual Report, 1998). Specifically each division is aiming to occupy a niche which is targeted at smaller companies (1997) see also 1998, 2000 and 2002 and operates with no integration other than risk management assisted by a central treasury (2000) see also 1998, 2000 and 2002. There is very little detail on bundles within SBUs, what there is links operations, IT, customers (2000) and sales and operations (1998) in the banking SBU. The one link between the bundles is risk management assisted by treasury. Consequently it can be seen that resource bundles for Close Brothers can be identified from Annual Report comments.

For a cognitive map of the bundles see Figure 5.27 below.

Figure 5.27 Close Brothers Resource Conceptual Map



This bundling provides evidence to support the empirical work of Helfat (1997) and Powell and Dent-Micallef (1997) on the existence of resource bundles. It also increases knowledge on the resource combinations that exist, expanding the work of Helfat (1997) and Powell and Dent-Micallef (1997).

5.5.4 Skipton Building Society

Extent to which new information has or has not been added to the resource proxies used in RQ1 and RQ2

<u>In resources where proxies exist</u>

The data from the resource proxies will be compared with that available from the textual analysis of the organisation's annual report. The risk proxy data gives information on capital strength through equity and capital to assets ratios. Data on losses is present with ratios to equity, balance sheet size, and pre-tax profit, and finally there is also a descriptive proxy of the largest element of losses. Detail from the text is added for risk. There is a policy of quality assets as measured in loan arrears, implemented through prudent lending and the strengthening of capital base through debt capital issues.

Liquidity proxy data comes in two forms: liquid assets to short-term funding and net loans to total assets. The text on liquidity has limited extra detail - a new source of funding.

For balance sheet services there is descriptive proxy data identifying the largest asset and liability and ratios of largest asset and liability to total balance sheet size. There is nothing new on balance sheet services.

Income proxy data is present in the descriptive proxies of type of largest source of gross income and largest type of other operating income. There are two ratios: net other operating income to interest income and gross income

from top source to second top source. For income there is new data on divisional income.

There are three employee proxies: average cost per employee, staff cost to operating income and staff costs to income. For employees there is new information covering training, awards, recruitment, promotion and culture.

Network proxy information has two sources: assets per branch/office and staff per branch/office. For network the new information is on multi channel policy, staff deployment in branches, and the focus on sales in branches.

Efficiency has two proxies: assets per employee and cost income ratio.
The text gives new efficiency data on management expenses, a focus on interest margin and a cut in IT.

Overall more detail is added in all areas except balance sheet services.

<u>In resources where proxies do not exist</u>

Marketing gave detail of new product launches, a policy of fast product development and detail on product changes, such as daily interest calculations, rebranding and marketing strategy. For customers, method of feedback, details of the feedback and customer initiatives such as passing some commissions back to customers. For IT there are details of investments and the use of Skipton's IT outside the organisation. Operations text revealed a policy of streamlining, speed and importance of processing. Strategy gives details on overall strategy, returns from subsidiaries enable reduction in interest margins, subsidiaries also directly contribute to profits and capital strength and new ones improve overall management strength. And has a Skipton specific resource, the CEO whose IT expertise underpinned the expansion through IT based subsidiary companies. There is data for each of the new resources.

The extra detail from the qualitative Annual Report text is unsurprising given the widely accepted richness of the data from qualitative sources (eg Hitt et al, 1998) and its ability to give practical insights (Shrivastava, 1987). Qualitative data can also place empirical evidence in a context, in this case organisational policy and activities in the resource, thereby increasing the usability of the resource proxy data, supporting Hopkins and Hopkins (1997).

See table 5.29 below.

Table 5.29 Skipton Building Society Resource Proxy and Annual Report Comments

<u>Risk</u>

<u>Proxies</u>

- Equity to Assets 5.04
- Capital to Assets 5.99
- Loan Losses to Equity 0.012
- Loan Losses to Balance Sheet Size 0.0006
- Loan Losses to Pre-tax Profit 0.06
- Type of Largest Element of Losses

2004	2003	2002	2001	2000	1999	1998	1997
other loans	residential mortgage loans	residential mortgage loans	residential mortgage loans	other loans	residential mortgage loans	residential mortgage loans	other loans

<u>Text</u>

- Policy, quality assets (1997) - measured in loan arrears (1998, 2000, 2002, 2004)
- Through ‘prudent lending and underwriting processes’ (1998)
- Prudent (1998)
- Strengthen capital base through FRN issue (1999) 2 Euro medium term notes (2001)

New

Types of risk and policies

<u>Liquidity</u>

Proxies

- Liquid assets to short-term funding 23.00
- Net loans to total assets 75.84

Text

Source of funding Guernsey (2001)

New

Source of funding

Products

Proxies

Largest asset

2004	2003	2002	2001	2000	1999	1998	1997
residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans	residential mortgage loans

Largest liability

2004	2003	2002	2001	2000	1999	1998	1997
customer deposits	customer deposits	customer deposits	customer deposits	customer deposits	customer deposits	customer deposits	customer deposits

- Percentage of total balance sheet of:
- Largest asset 73%
- Largest liability 78%

Text

Nothing

Income

Proxies

Type of largest source of gross income

2004	2003	2002	2001	2000	1999	1998	1997
%	%	%	%	%	%	%	%

- Net other operating income to interest income 1.84
- Gross income from top source to second top source 2.51

Type of other operating income

2004	2003	2002	2001	2000	1999	1998	1997
fees	fees	fees	fees	fees	fees	fees	fees

Text

Details of income per division (eg Connels 1997)

New

Details of income per division

Employee

Proxies

- Average cost per employee £21K
- Percentage of staff costs to operating expenses 0.52
- Staff costs to income 0.38

Text

- Training CeMap (1999) training & development (2001) – apprenticeships grad placement programmes (2000), external exams and accreditation –
- 60% of manager appointments internal (1999)
- Investor in People (1999), Leadership & Management Model National Standard (2003)
- Deployment – branch manager focus on customers (2003)
- Structure - restructure for subsidiaries (2002)
- ‘Culture of enterprise, superior quality and efficiency’ (2002)
- Training mortgage specialist (1997)

New

Awards, policies, details of training, recruitment and culture

Network

<u>Proxies</u> ○ Networks – branches/offices only ○ Assets per branch\office £74.933m ○ Staff per branch 48.19
<u>Text</u> - Policy multi-channel - branches (1997), internet (1998) (2001), telesales (1997) (2001) brokers (2000, 2003) - Role of each channel – branches largely sales (2001), more sales via branches (2003), cashless and counter less (2000) importance of face to face (1997, 1998). Choice (1999) Range (1997 and 2000) - Staff deployment – financial planning consultant (FPC) in each branch (1999) - New branches (1998), investment and relocation (1998 & 2001)
New
Multi channel, channel policies and role, staff in branch
<u>Efficiency</u>
<u>Proxies</u> ○ Assets per employee £1.65m ○ Cost income 73.05
<u>Text</u> - Narrower interest margin (1998) - Reduced admin expenses from 88p/£100 assets to 87p (1998) - Margin down from1.41% to 1.31% (1999) - Admin ratio to 84p (1999) - Management expenses ratio down to 78p (2000) - Management expenses down to 74p (2001) - Maintained at 75p (2002) - 74p management expenses ratio (2003) - £3m cut in IT costs (2003) - IT investment and cost control now 63p - management expenses ratio
New
Detail especially on specific financial ratios

Extra Resources
Marketing
Texts - Details of product range - payment protection (1997) onshore and offshore savings (1997), innovative US LIBOR mortgage (2001 & 2003), TESSA (1997), ISAs (2002 & 2003), buy-to-let commercial property, mortgages (1997), accident, capital guaranteed bonds (2001), commercial lending (2004), financial advice partnership with CGU life (1999), and personal loans (1999). Also offered mortgages, savings, general insurance and financial advice. (1997 -2004) - Innovative and attractive products (1998) - Awards (2000, 2002, 2001) - Quick development and marketing - 54 new borrower mortgage products (1999), 50 new savings accounts including affinity and internet only (1999), 26 new savings accounts one by post (2000). - First daily interest calculations (1999 for 2000), no extended redemption lock insurance (1999), and overpayment and payment holidays (2002) - Rebrand some mortgage businesses (2001) - 'Focus on five main areas: direct mortgage lending, retail investments, creating leads for Skipton Financial Services, selling life assurance via our subsidiary Direct Life & Pension Services, and selling general insurance' (2003)
New New products and features
Customers
Text - 87% of mortgage customers recommend Skipton based on processing (1997) - 92% of telesales customers very satisfied. (1997) - Best Service Provider Mortgage Industry by 2,500 IFAs (1998) - Multi channel (1999) - FS partnership CGU life, part of commissions passed back to investors in bonuses to a linked account (1999) - Branches - local points of sale (2001) - New 'introducer sales manager' target needs of intermediaries (2001)

- ‘Customer service will become a stronger factor in borrowers’ decisions to move lenders’ (2002) - Intermediary website and designated team. (2003) - ‘We have also taken a more formal approach to customer feedback through a series of member (and non-member) focus groups. As a direct result, a number of changes have been made to our investment products’ (2003) - Abolished minimum limits on cheques (2003), removal of administration fee (2004)
New
Details of customer feedback
Detail on customer service proposition
<u>IT</u>
- <u>Text</u> - Integrate customer sales and marketing information (1997) - Website launched (1998) - Investment (1997, 2000) - Internet in all subsides, eg Connels share trading (1999), extending web based operations (2000) - Considerable advantage in operations due to Home Loan Management Ltd (1997) - ‘around 65% of all UK mortgages are administered using a platform originally designed by the society’ (2001) - IT helped with new mortgage regulations (1999) - Move to Windows (2003)
New
Multi channel, impact on different products, different parts of the business, software used.
<u>Operations</u>
<u>Text</u> - Streamline mortgage process (1997) - 87% of mortgage customers recommend Skipton based on processing (1997). - Faster offers (1998) - From January 2000 mortgages all daily interest calculated first bank or B/soc to do so (2000) - Take holidays or additional payments (1999)

New Policies and impact on policies
Strategy
Text - Overall strategy: mutual subsidy to benefit members through finer margins and new products (2000, 2003, 2004), eg 'The profitability of our subsidiaries has allowed the Society to reduce its margin further, which now stands at just 0.83%, one of the lowest in the industry' (2003) - 'The best at what we do' (2001) - Lower rates/finer margins (1997, 1998, 1999) - 27% group profits in 1999 from subsidiaries - FS partnership with CGU life substantial part of commissions passed back to investors in bonuses to a linked account (1999) - Returned £50m sale of Dealwise to members (2000) - Wide and varied range (2001) - Actual interest margins (1999, 2000, 2001, 2002, 2003 and 2004) - Details on subsidiaries (1997, 1998, 2000, 2001, 2002, 2003, 2004) - Contribution of subsidiaries to capital strength and profits (2003) - Aim to smooth peaks and troughs (2002) - Subsidiaries - new management expertise complements other organisations (2001)
New Strategy direction and results
Skipton Specific Extra Resource
Chief Executive - 'John Goodfellow joined the Skipton in 1984, after 20 years in the industry, to lead the IT development strategy. He was appointed Chief Executive in 1991 and since then has driven the expansion of subsidiary companies to support the Society's core objective'. (Skipton Annual Report, 2005) - 'John Goodfellow, Chief Executive of Skipton Building Society, has taken over as Deputy Chairman from Iain Cornish. John became Chief Executive and Director of Skipton Building Society in 1991. He was educated in Scotland and has spent all his career working in building societies, specialising in data processing and the use of

technology to improve efficiency.'

- 'John was educated in Scotland and has spent all his career working in the building society industry, specialising in data processing and the use of technology to improve efficiency. He has been President of the Unisys Users Association (UUA) and has spoken at numerous seminars on the use of technology and fourth generation languages'. (BSA website, 19.8.09) http://www.bsa.org.uk/mediacentre/press/new_chairman.htm

Identification of resource bundles?

Skipton's cognitive map contains staff, IT, network, risk management, and products. Operations, products, IT, networks and staff are directly linked to customers, with risk management, capital, and cost supporting products and IT and extra detail on staff being provided by culture, recruitment and development.

Examining each link in turn, starting with staff links, there is evidence of relationship between staff to recruitment and development, through general staff recruitment and development (1997) and in particular training - CeMap (1999) and training to provide new service (2001). In turn staff and culture are linked; in 2000 there is mention of culture and creating value for members (2000). Staff are connected to networks, in this case an FPC in every branch (1999) and customer service, with a sales manager in branches (2001). Also, networks are linked to customer service thorough network relocation and layout style (1998) with branches as a focal point in sales strategy (2001). Additionally networks are bundled IT via the internet (1998, 1999 & 2001). IT is also connected with customer service enhancing it (1997, 2001, 2002 and 2003), furthermore IT is associated with products via an internet account (1999) and providing mortgages with daily interest calculations (1999) and IT is related to operations, with IT improving efficiency (2001). Additionally IT is related to costs (1997, 2002, 2003 & 2004) in this case driving them down. Moreover products are also related to customer service, specifically they are tied by a partnership with CGU Life in this case part of commissions passed back to investors in bonuses to a linked account (1999). Risk management

has links with products for example mortgages linked to US LIBOR (2001 & 2003), and also with capital, specifically through interest margin, interest rates and capital (1997). Operations is related to customer service, with customers recommending Skipton due to processing (1997). And finally costs and capital are linked (1997) in this case through interest rates and capital (1997).

Consequently it can be seen that resource bundles for Skipton B/Soc can be identified from using Annual Report comments. See Figure 5.28 below. Given the greater complexity of this map, the evidence for the links is shown in table 5.31 below rather than on each link. The remaining conceptual maps for A&L (Figure 5.29) and for Morgan Stanley (Figure 5.30) are also presented in this format.

This bundling provides evidence to support Starbucks (1992 and 1993) that human resources combine with other resources, though in this case only two. It also less specifically gives backing to Helfat (1997) and Powell and Dent-Micallef (1997) on the existence of resource bundles. It also increases knowledge of the resource combinations that exist, expanding the work of Helfat (1997) and Powell and Dent-Micallef (1997).

Figure 5.28 Skipton Building Society Resource Cognitive Map

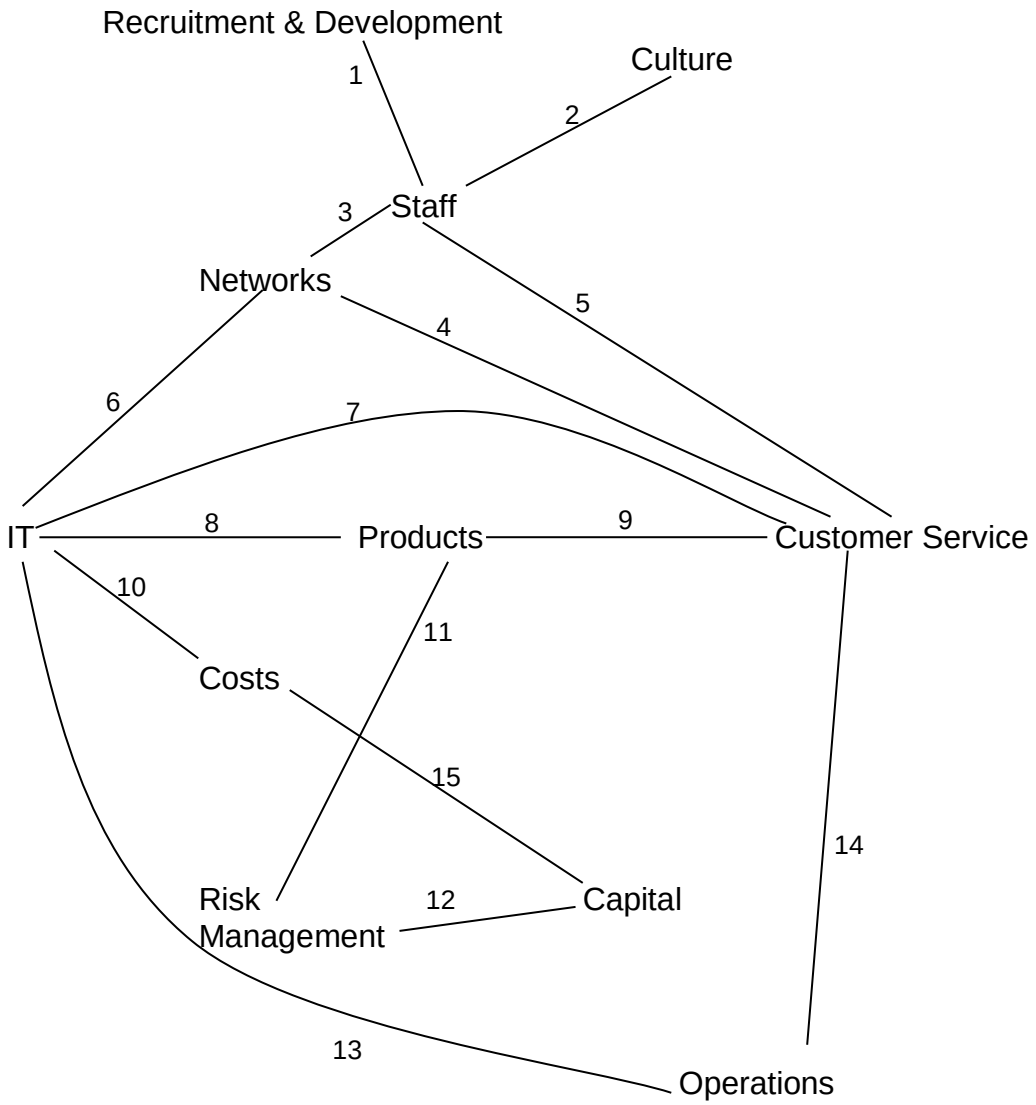


Table 5.30 Skipton Building Society Resource Linkage Numbering on Conceptual Diagram

Linkage Number	Resource Linkage	Linkage Detail
1	Recruitment and Development to Staff	Recruitment and development (1997), training eg CeMap (1999) and training to provide new service (2001)
2	Culture to Staff	Culture and providing value to members (2000)
3	Staff to Networks	Staffing and branches - FPC in every

		branch (1999)
4	Networks to Customer Service	Customer and networks relocation and layout style (1998); Branches as a focal point in sales strategy (2001)
5	Staff to Customer Service	Staffing and customers - sales manager in branches (2001)
6	IT to Networks	Internet (1998) (2001); customer choice including internet (1999)
7	IT to Customer Service	IT customer service (1997, 2001, 2002 and 2003)
8	IT to Products	Internet account (1999); mortgages on daily interest calculations (1999)
9	Products to Customer Service	Partnership CGU Life subsidiary part of commissions passed back to investors in bonuses to a linked account (1999)
10	IT and Costs	IT and cost (1997, 2002, 2003 & 2004)
11	Risk Management and Products	Risk management and products - mortgage linked to US libor (2001 & 2003)
12	Risk Management and Capital	Interest margin, interest rates and capital (1997)
13	IT to Operations	IT to improve efficiency (2001)
14	Operations and Customer Service	Customers recommend Skipton due to processing (1997)
15	Costs and Capital	Interest rates and capital (1997)

5.5.5 A&L

Extent to which new information has or has not been added to the resource proxies used in RQ1 and RQ2

<u>In resources where proxies exist</u>

The data from the resource proxies will be compared with that available from the textual analysis of the organisation's annual report. The risk proxy data gives information on capital strength through equity and capital to assets ratios. Data on losses is present with ratios to equity, balance sheet size, and pre-tax profit, and finally there is also a descriptive proxy of the largest element of losses. Detail in risk is added with information on overall policy, in this case prudent with a focus on asset quality, no exposure to overseas markets or hedge funds and the use of credit scoring. There is also information on capital management.

Liquidity proxy data comes in two forms: liquid assets to short-term funding and net loans to total assets. The text for liquidity gives information on mortgage funding.

For balance sheet services there is descriptive proxy data identifying the largest asset and liability and ratios of largest asset and liability to total balance sheet size. Again, no detail on balance sheet services.

Income proxy data is present in the descriptive proxies of type of largest source of gross income and largest type of other operating income. There are two ratios: net other operating income to interest income and gross income from top source to second top source. On income new information is on diversity policy, targets and outcomes.

There are three employee proxies: average cost per employee, staff cost to operating income and staff costs to income. For employees there is extra

detail on culture, training and development, morale, performance and remuneration and staff deployment.

Network proxy information has two proxies: assets per branch/office and staff per branch/office. Networks had additional data on multi-channel policy: the role of branches (to collect funds and then a sales focus), the role of post offices and intermediaries. There also are comments on processing centres, branch layout improvements and refurbishment.

Efficiency has two proxies: assets per employee and cost income ratio. Here there is new information on efficiency there are targets, actual figures achieved, and areas targeted for cost savings.

Overall more detail is added in all areas except balance sheet services.

<u>In resources where proxies do not exist</u>

For marketing there was detail on product changes, new products and changes in their manufacture, existing products, distribution channels, branding and promotional activities. Customer text revealed details of market research, target customers, relations with customers and sales initiatives. IT covered areas for IT investment, which included mortgagee processing, point of access, and customer service infrastructure. Operations revealed a focus on processes, customer service, centres and administration. Finally strategy outlined a focus on certain areas, and how the organisation implemented that policy and its evolution, with, for example, a greater focus on business banking. There is data for each of the new resources.

The extra detail from the qualitative Annual Report text is unsurprising given the widely accepted richness of the data from qualitative sources eg Hitt et al (1998) and its ability to give practical insights (Shrivastava, 1987). Qualitative data can also place empirical evidence in a context, in this case organisational policy and activities in the resource, thereby increasing the usability of the resource proxy data, supporting Hopkins and Hopkins (1997).

See Table 5.32 for details.

Table 5.31 A&L Resource Proxy and Annual Report Comments

Risk

Proxies

- Equity to Assets 4.99
- Capital to Assets 6.56
- Loan Losses to Equity 0.031
- Loan Losses to Balance Sheet Size 0.0014
- Loan Losses to Pre-tax Profit 0.11
- Type of Largest Element of Losses

2004	2003	2003	2001	2000	1999
unsecured loans, current accounts and credit cards	unsecured loans, current accounts and credit cards	unsecured loans, current accounts and credit cards	unsecured loans, current accounts and credit cards	unsecured loans and credit cards	unsecured loans and credit cards

Text

- Policy low risk (2002 and 2003 2004); prudent approach to personal lending and risk (1999); prudent approach to lending (2002); prudent approach (2001)
- No exposure to overseas markets or hedge funds (1998)
- Monitor and control arrears (1998); efficiently (1997)
- Focus on arrears (1998)
- Manage liquidity funding and risk reduced exposure to interest rate movements (2001)
- Arrears and bad debts best quartile (2001)
- Asset quality strong in all sectors (2002)
- Relatively straightforward and strong balance sheet (1998)
- Credit scoring - no branch lending (1998)
- ‘Effective and imaginative ways to manage excess capital’ - acquisitions, joint ventures, partnerships and share buy-backs (2000).

- Tier 1 capital reduced by share buy-back (1998)
- Share buy-back and capital ratios (2004)

New

Policy and implementation

Liquidity

Proxies

- Liquid assets to short-term funding 11.72
- Net loans to total assets 72.81

Text

- Some details of funding mortgages from increased wholesale and corporate balances (1998)

New

Level of detail

Balance Sheet Services

Proxies

Largest asset

2004	2003	2002	2001	2000	1999	1998	1997
residential mortgages	residential mortgages including securitised	residential mortgages including securitised	residential mortgages including securitised	advances secured on residential properties	advances secured on residential properties	advances secured on residential properties	advances secured on residential properties

Largest liability

2004	2003	2002	2001	2000	1999	1998	1997
due to customers	customer demand deposits	customer demand deposits	customer demand deposits	customer demand deposits	customer demand deposits	customer demand deposits	customer demand deposits

Percentage of total balance sheet of:

- Largest asset 60%
- Largest liability 50%

Text

None

New

Nothing

Income

Proxies

Type of largest source of gross income

2004	2003	2002	2001	2000	1999	1998	1997
%	%	%	%	%	%	%	%

- Net other operating income to interest income 0.71
- Gross income from top source to second top source 4.14

Type of other operating income

2004	2003	2002	2001	2000	1999	1998	1997
fees	fees	fees	fees	fees	fees	fees	fees

Text

- Diversity of income streams (1997)
- 'We will continue to target accelerating annual income growth in 2003 and 2004 on a like for like basis' (2002)
- Credit card income was £102m (2001:£76m) (2002)
- 'We will continue to target accelerating annual income growth in 2004' (2003)
- 2.7% income growth (2003)

New

Diversity policy, targets and outcomes

Employee

Proxies

- Average cost per employee £25k
- Percentage of staff costs to operating expenses costs 0.30
- Staff costs to income 0.18

Text - Culture – enthusiasm, commitment, professionalism and change. Team spirit and co-operation (1997) - Experience (2000) - Level of training and development, for group-wide customer service to create 'excellent customer service culture' (2001) (2002) - Role of training more than average for a financial services company (2001) - Reduce management and none customer facing staff (2001) - New bonuses (2000) - 'Over 80% of our staff replied to our annual employee opinion survey, with the results showing evidence of continuing improvement in staff morale and job satisfaction' (2004) - Performance details (1999)
New
Culture, training and development, morale, performance and remuneration and staff deployment
Networks – branches/offices only
Proxies o Assets per branch/office £123.36m o Staff per branch/office 30.08
Text - Role of branches is sales not to collect retail funds (1997) – many customers still prefer branches (1999) - Multiple channels - role of non-branch distribution, internet, telephone and ATMs. (2000, 2002 & 2003 [ATM 2001]); direct telephone and postal (1999); and customer service centre (1997) - Layout; refurbishment of branches (1997); in new branch format 29% in (2000); and 50% by end of (2001) - Forefront of postal and telephone banking including insurance sales (1997) - Regional mortgage centres (1997) - Wider range of internet products which can be applied for than for other banks (1998); amount of personal loans written through internet 5 x competitors (2000)

- Role of Post Office - 19,000 branches (1997 and 1998) - Branch sales focus (1999), sales through branches up transactions down (2004), retail network rationalisation (2004) - Mortgage intermediaries (1998, 2001) - Refurbish branches (1998, 2001), comment on branch layout (2000), improve branch layout (2001)
New Detail of network and its use
<u>Efficiency</u>
<u>Proxies</u> o Assets per employee 4.06 o Cost income 58.66
<u>Text</u>
- Cost down (1997), cost control example mortgage processes, sales system and new bank accounting system (1998), cost control reduce overheads, back office new mortgage applications process improves productivity by 50% - Cost income ratio down - reduce overheads and 'detailed targets for cost control' (2000), cost income ratio improved (2001) - Cost cutting on target, target of £100m in (2004) - Achieved targeted cost savings of £20m, detail on retail cost down but commercial up, aim for low cost customer service (2002) - On target to achieve cost savings of £100m, reinvest some savings for low cost delivery (2003) - Target achieved, continue to improve (2004)
New
Policy and some detail of implementation
Extra resources
<u>Marketing</u>
<u>Text</u>
- Competitively priced products, Best Buy mentions for: current account (1999), and

current account and others (2001), significant increase in Best Buy Awards (2001) - Policy to broaden scope of customer relationship (2000) - Innovate and effective product development (1997), new innovative credit card (1997) - Branding, strength and range and values, high awareness through product advertising (1999), well regarded brand, logo (2002). - Simple and straightforward targeted marketing (2003) - Rebrand business banking (2000) (2002) - well established franchises (2001), re brand ATMs pilot (2001) - Competitive savings products (2001) - Brand values 'include being both "simple and straightforward" and "friendly and approachable" for customers to deal with' (2002) (2003), 'straightforward processes' rewarding customers who buy more from us (2004), cross selling reduced cost of new card acquisitions (2001) - Simplified business banking tariff (2000) - Partnerships to offer some products (2002) - Target C1/C2 customers (2003) - Clearer, consistent, cost effective marketing material (2002), direct response TV (2002) - Products include: mortgages (1998), savings (1999), unsecured loans (1999), credit cards (1997) (1998), credit cards by partner MBNA (2002), current account (1997), asset finance (1997), general insurance (1997), unit trusts (1997), life assurance (1997), merchant acquiring (1997), new cash handling services (2001), asset finance (2001), new mortgage products (1999), small business products (2001), new internet banking products (2002), simplified product range (2002), range of small business services developed (2001)
New
- New products and changes in their manufacture - Existing products - Distribution channels - Branding - Promotional activities

Customers
- Text - ‘Our market research shows that we rate highly as a “friendly and approachable” service and bank.’ ‘This is due to the positive attitudes of our staff, which are reinforced by training.’ (2002) - Gain and keep new customers and enhance relationship with existing customers (1997) - Improve sales management with staff ownership scheme, sales incentives (1998) and incentives (1998) - Faster service - mortgages online - 60 second response, excellent low cost service (2001), faster more efficient service (1997) - Refine sales processes (1998) - Current account key for building relationship with customers (1999 and 2000) - Variety of channels to meet customer wishes (2000) - Invest in point of access (2000) - Cash rich business customers (2000) - Sales telephone calls to customers (2000) - Best buy products. See marketing. - Customer facing staff increasing (2001) - Case tracking for mortgage intermediaries (2001) - Partnerships to offer some products (1999) (2002) - Good prices on accounts have encouraged customers to visit branches (2001) - Enhanced service via internet c/a and savings accounts, mortgages (2001), virtual calls centre (2002) - Simpler, friendly, more approachable, manage customer relationship (2002 and 2003) - Existing customer preferential terms (2003) - C1/C2 customers (2003) above average internet use (2003) - Customer feedback - telephone service higher than competitors ‘branch higher than all but one’ (2004) - Triple website traffic (2000) - Long-term profitable relationship (1999) - Number of branches (1997 and 1998)

New
Policies and implementation
<u>IT</u>
<u>Text</u> - Scheduling for branches mortgage processing (1997) - Sales (1998) - Customer management (1999 and 2000) - Simplify processes through web enabling (2000), increase applications (credit card and unsecured personal loan functionality (2000 &2001) - Mortgages (2001 [increased sales] & 2002), current account and savings (2002). - Point of sale (2000) - Customer retention (2000) - Cross selling (2000, 2001, 2003) - Cost down (1997 & 2000) - Alliances (1999) - Customer database (2000). Treasury (2002). - Investing in points of access (2000) - Assist in product design simplify processes (2000) - Reduce cost eg Unisys for more flexible mortgages (2000) - Website redesign and re launch (2001), improve internet (2002) - Fully integrated customer service infrastructure (2001) - Speed - 60 second online mortgage response (2001)
New
All giving detail on where investments were made and the policy behind the investment
<u>Operations</u>
<u>Text</u>
- Efficient and effective transactions as well as information distribution, one customer service centre, regional mortgage centres (1997) - Rationalise mortgage processing and sales (1998), efficiency (1999), detailed information on customers (1997) - Improve service and cut costs (1998)

- Restructure administration and re-engineering (1999) - Simplify manufacturing processes (2000), radical process simplification (2001) simplify mortgages and cross sell (2001) - Simplify personal loan (2001), part of turn around in volumes
New
All giving detail of policy

<u>Strategy</u>
Mission - 'Low cost excellent service, competitive prices, good brand close control of asset quality and strong arrears management' (1997) - Leader in main markets where have the 'skills and core competences', long term relationships, increase share of financial activity and UK focus (1999). 38% of income other than mortgages and savings (1997) - 'The most customer focused financial services provider in the UK – bar none'. 'Big enough to be powerful, yet small enough to be fast' (2000). - Core 4 products of mortgages, unsecured loans, current accounts and savings (2001, 2002, 2003, 2004) - Partnerships, concentrate on products with a well established franchise (2001) - Securicor cash handling partnership (2001) - 'Direct bank with a high street presence' (2003); 'Strategy is reflected by our brand values of rewarding customers who buy more from us, offering better value products, developing straightforward processes, and providing friendly, approachable customer services' (2003) through Core 4 and partner 4. L&G provide full range of investment products, life assurance and general insurance. MBNA – credit card (2002) (2003) - Commercial banking built around cash handling (1997) - Diversity of income streams (1998) - Build on well established franchises (2001) - Diversify where opportunities exist to broaden the range of services on offer (1999); Asset finance acquisition (1997), innovative and effective partnerships 'supplement core strength' (2001)

- Sale of merchant acquiring (2003) and (2004) - Organic growth (1998), market share if price and asset quality acceptable (1998); expand treasury (1998); growth through innovation (1999) - Major expansion in small business banking lack of competition (2000) develop small business (2002) - Diversify commercial business (2000) - Wholesale banking focus 'on 4 core business lines: cash, lending, business banking and treasury (2003) - Alliances, eg Post Office new agreement (1998); strengthen links (2000) - Outsource payment processing (1999)
New Mission and choices made to implement it.

Identification of resource bundles?

A&L has a more complex cognitive map, delivering customer service are staff, products, distribution channel, IT, marketing and operations/processes. Each of these, except marketing and operations/processes, is supported by a bundle of resources/further detail not linked directly to customers. For staff, extra detail is provided by incentives, training, deployment and culture. For product this is risk, funding, alliances, branding and cost, both distribution channel and IT are linked with cost. The greater complexity could be due to the greater detail available in the Annual Reports and/or the larger range of products offered by A&L.

In more detail, starting with staff linkages, firstly with culture, as culture impacts on customers [through staff] (2000 and 2002), secondly staff and incentives, in this case sales incentives (1999), thirdly, staff to training as training has an impact on customers (2001), fourthly, staff to deployment (2001), and fifthly staff to customers (1999 and 2000), for example staff dedicated to customer service (1999). In a related area, culture is bundled

with processes/operations (1997, 2003 and 2004), via for example, team spirit and co-operation (1997).

Operations has a variety of relationships with customers through processing (2003 and 2004), with customers (1998 and 2001), for example through sales processes (1998), with marketing through simplifying processes to improve cross selling (2001) and with IT (2000 and 2001) via simplifying processes and providing on line processes. Marketing has two other links, with customers (2001), for example through sub brands and products and with distribution channels (2001), in this case visiting branches. Aspects of marketing are detailed with a relationship between products and branding, with the creation of strong brands for products and services (2001). Furthermore products are linked to customers (2000 and 2002), for example through product range and nature of customer relationship (2000), and customer incentives (2000).

IT has further links with customers (1997, 2000 and 2001) for example point-of-sale decision making and provision (2001) and IT and customer service (1997) and with products as it gives functionality and flexible product design (2000) and with costs as IT reduces costs (1997).

There are also other combinations involving products, firstly alliances and products, for example– 'combining' with another organisation credit cards, life assurance, and general insurance, (2001, 2002 and 2003). Secondly, products with distribution channels (2001), in this case products encourage network visits (2001) and thirdly, funding to products (1998), such as funding mortgages through wholesale balances. Fourthly, cost to products, where reducing costs leads to more competitive products (1997), and finally products and risks, (1997, 2001, 2003 and 2004), for example the risk on personal loans and avoiding high risk mortgage sectors and products (2001, 2003 and 2004).

Finally distribution channels also have a variety of further connections, firstly to customer, giving customers a range of distribution channels (2000 and

2001). Secondly with IT (1997, 2000, 2002), for example new scheduling system in branches (1997) and a variety of channels (2000). Thirdly with costs, as a range of distribution channels save costs (2000).

Consequently it can be seen that resource bundles for A & L can be identified from Annual Report comments. See Figure 5.29 below.

This bundling provides evidence to support Starbucks (1992 and 1993) that human resources combine with other resources, and less specifically gives backing to Helfat (1997) and Powell and Dent-Micallef (1997) on the existence of resource bundles. It also increases knowledge on the resource combinations that exist, expanding the work of Helfat (1997) and Powell and Dent-Micallef (1997).

Figure 5.29 Alliance and Leicester Resource Cognitive Map

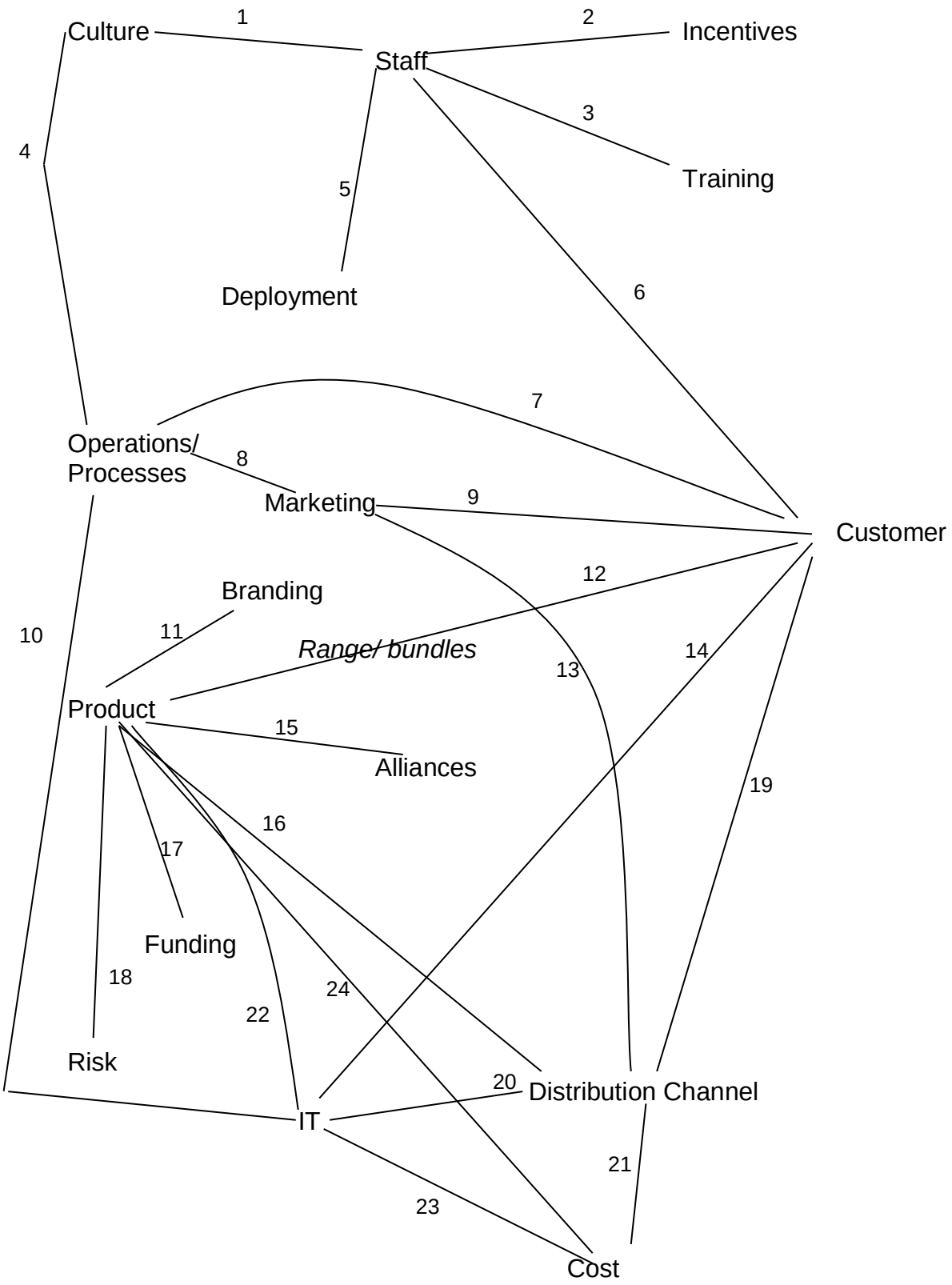


Table 5.32 A&L Resource Linkage Numbering on Conceptual Diagram

Linkage Number	Resource Linkage	Linkage Detail
1	Culture to staff	Culture and customers (2000) (2002)
2	Incentives to staff	Sales incentives (1999)
3	Training to staff	Training and customers (2001)
4	Culture to processes/operations	Culture and processing (2003 and 2004), team spirit and co-operation (1997)
5	Deployment to staff	Customer and staff deployment (2001)
6	Staff to customer	Staff and customers (1999) (2000)
7	Operations/processes to customer	Processing to customers (2003 and 2004). Operations and customer (1998) (2001). Customers through sales processes (1998)
8	Operations/processes to marketing	Processes and marketing (2001)
9	Marketing to customer	Marketing and customers (2001)
10	Operations/processes to IT	IT and operations (2000) IT and processes (2001)
11	Product to branding	Strong brands for products and services (2001)
12	Product to customer	Product range and nature of customer relationship (2000) Customer and products (2002) Customer incentives (2000)
13	Marketing to distribution channel	Distribution channels and marketing (2001)
14	IT to customer	IT and customer (2000); point-of-sale decision making and provision (2001); IT and customer service (1997)
15	Alliances to product	Alliances/outsourcing – ‘combining’ with

		another organisation credit cards, life assurance, and general insurance, (2001, 2002 and 2003)
16	Product to distribution channel	Products encourage network visits (2001)
17	Funding to product	Funding and products (1998)
18	Risk to product	Products and risk on personal loans avoid high risk mortgage sectors and products (2003) (2001) (2004). Commercials asset finance grown with low arrears (1997)
19	Distribution channel to customer	Customer and networks (2000 and 2001)
20	IT to distribution channel	IT and distribution channels (1997, 2000, 2002)
21	Distribution channel to cost	Range of distribution cahnnel to save cost (2000)
22	IT to product	IT product functionality and flexible product design (2000)
23	IT and cost	IT customer service and costs (1997)
24	Cost to product	Costs down, leading to more competitive products (1997)

5.5.6 Morgan Stanley

Extent to which new information has or has not been added to the resource proxies used in RQ1 and RQ2

<u>In resources where proxies exist</u>

The data from the resource proxies will be compared with that available from the textual analysis of the organisation's annual report. The risk proxy data gives information on capital strength through equity and capital to assets ratios. Data on losses is present with ratios to equity, balance sheet size, and pre-tax profit, and finally there is also a descriptive proxy of the largest element of losses (no data available). The text data gives types of risk, in this case market, operational and legal, policy for each risk, benchmark data on capital bases, credit agency ratings and charge-off figures.

Liquidity proxy data comes in two forms: liquid assets to short-term funding and net loans to total assets. The textual data is limited to information on how liquidity is improved.

For balance sheet services there is descriptive proxy data identifying the largest asset and liability and ratios of largest asset and liability to total balance sheet size. There is no relevant data from the texts.

Income proxy data is present in the descriptive proxies of type of largest source of gross income and largest type of other operating income. There are two ratios: net other operating income to interest income and gross income from top source to second top source. The text provides data on policy - a focus on fee income, future expectations on the trend of fee income in an SBU and information on credit cards fees.

There are three employee proxies: average cost per employee, staff cost to operating income and staff costs to income. There is a large volume of data

here, covering culture (teamwork, innovation, flexibility and customer focus), the value placed on intellectual capital, awards, training, motivation, and some information on staff numbers and reductions.

Network proxy information has two proxies: assets per branch/office and staff per branch/office. Here, there is text information on types and in some cases relevant numbers of distribution channels, branches, financial advisors, telephone, internet, merchants, brokers, other banks and financial advisors. There is also detail of policy and detail on branch numbers.

Efficiency has two proxies: assets per employee and cost income ratio. The text provides data on overall policy in some SBUs, areas where costs are being focused on, again at SBU level, and how costs are being managed. For instance seeking to reduce costs per transaction, examining costs per investor, combining and closing operations.

Overall, more detail is added in all areas except balance sheet services.

<u>In resources where proxies do not exist</u>

For marketing there is data on strategy, advertising, branding, overall and individual values, product and geographical range, new products policy (innovation), the role of alliances in product offering and on market share. There is data for customers on the goal of long-term relations, meeting needs and providing solutions, the role of the product range and some client numbers. IT data covers new systems; however there is nothing directly on operations. For strategy the text gives information on the importance of client focus, importance of links between the SBUs, the diversity of the SBUs, it also states an overall strategy of being in the top three in any market, the role of execution and superior service, shareholder value, and expansion, including acquisition detail. There is data for each of the new resources.

The extra detail from the qualitative Annual Report text is unsurprising given the widely accepted richness of the data from qualitative sources (eg Hitt et al, 1998) and its ability to give practical insights (Shrivastava, 1987). Qualitative data can also place empirical evidence in a context, in this case organisational policy and activities in the resource, thereby increasing the usability of the resource proxy data, supporting Hopkins and Hopkins (1997).

See Table 5.33 for more details.

Table 5.33 Morgan Stanley Resource Proxy and Annual Report Comments

Risk
Proxies ○ Equity to Assets 4.36 ○ Capital to Assets 4.59 ○ Loan Losses to Equity 0.045 ○ Loan Losses to Balance Sheet 0.0020 ○ Loan Losses to Pre-tax Profit 0.19 ○ Type of Largest Element of Losses N/A
Text - Types of risk, market, operational and legal (1997) - Overall policy of strong risk management culture (1998) - One of the largest capital bases (1998 & 1999) able to return capital to shareholders (1999) - Strong balance sheet ratios (2002) - Policy on each risk – eg no major proprietary positions linked to strong revenues (1998) - Moody's Aa3 (1998) strong debt ratings (2002) - Discovery charge-offs 6.19% (2002) and 6.60% (2003); less growth more quality (2002) - Institutional investors use intellectual capital not financial capital to lower costs (2002) - Added detail on market risk - forex (1997), use VAR for consumer lending (1997),

interest rate and credit (1997), managing credit risks (1997), (2004) disciplined (1999). Operational and legal risk (1997)

New

Types of risk, in this case market, operational and legal, policy for each risk, benchmark data on capital bases, credit agency ratings and charge off figures.

Liquidity

Proxies

- Liquid assets to short-term funding 238.55
- Net loans to total assets 3.87

Text

- Less reliance on short-term debt improves liquidity (2001) (2003)

New

Policy - how liquidity is improved

Balance Sheet Services

Resource Proxies

Largest asset

2004	2003	2003	2001	2000
Securities borrowed	Securities borrowed	Securities borrowed	Securities borrowed	Securities borrowed

Largest liability

2004	2003	2003	2001	2000
repos	repos	repos	repos	repos

Percentage of total balance sheet of:

- Largest asset 25%
- Largest liability 25%

Text

Nothing

Income

Proxies

- Type of largest source of gross income N/A
- Net other operating income to interest income 6.16
- Gross income from top source to second top source N/A
- Type of other operating income

2004	2003	2002	2001	2000
principal transactions trading	principal transactions trading	other income	principal transactions trading	principal transactions trading

Text

- Discovery (credit card) no fee and fees for late payments (1997)
- Discovery no fees for late payments post 9/11 (2002)
- 'We are confident that over the next few years our individual investor business will return to being the leader in terms of coverage of fixed expenses from continuing revenues, which have historically been defined as those revenues resulting primarily from fee-based assets' (2002)
- Intuitional investors - 'However, we deviated from our long-term, fee-based focus in 1998, 1999 and 2000 (2002)

New

Details on policy

Employee

Proxies

- Average cost per employee N/A
- Staff costs to operating costs 0.57
- Staff costs to income 0.40

<u>Text</u> - Leadership and diversity (2000) - Skills to analysis of information, insight, ideas, experience and knowledge (2000) - Numbers detail in terms of areas - ‘division’ (2001, 2002, 2003), overseas (2000), and overall (2001) - Team work of thousands of staff, for example, Conoco deal (1998), a two-year effort by a Morgan Stanley team comprising professionals from Equity Capital Markets, Fixed Income, Corporate Finance and M&A’. (2001) - Break down internal silos (2003) - Role to analyse the information - intellectual capital ‘reflected in our top-rated research investment products and client tailored advice’ (2000) - Role of staff in customer relationships trust examples of Lucent and Agere (2001) - Experience and discipline in managing risk (1998) - Best place to work awards (2003) - Ideas and capital (2003) - Flexibility and intellectual capital leads to innovation (1998) - Culture - risk management (1997) - Client - focus culture (2003) - Intellectual capital (1999) (2000) - Overview ‘skills over capital’ (2004) - Intangible assets differentiation most value intangible asset ‘our people’ compete on ideas (2004) - Ideas (2000) - Entrepreneurial spirit (2004) - Details of training, eg for programmes (2001, 2003), and ongoing to differentiate people (2002) - Motivation employees own 25% of stock in company (1998) - Some staff numbers (1999) - Details of reductions (2001)
New Policy detail – overall culture, training and numbers

Networks – branches/offices only
Resource proxies o Assets per branch/office N/A o Customers per branch/office N/A o Staff per branch/office N/A
Text - Types branches (1998) - Internet (1997 and 1998) - Use of telephone by financial advisors (1997), 11,238 financial advisors (1998) - Merchants (1997) more than 3 million (2002) - Broad distribution network (2004) via brokers, banks and financial planners and van Kampen (1997) - Geographical range – global (1997) - Value to clients (2000) - Internet eg Discovery Brokerage Direct – Financial Services to individuals (1998) - Closed 100 branches and will close 100 more and invest in more profitable branches (2002) - Discover merchant parity with Visa and MasterCard in the US (2002)
New
Detail of the network and its management
Efficiency
Proxies o Assets per employee N/A o Cost income 69.39
Text - Monitoring costs (1997 and 1998), Securities and Asset Management and Credit and Transaction Services - Discovery low cost provider (1999) - Transaction cost fall (2000) - Cost focus restructuring - closing operations (2001), detail on network, staff and combining operations (2002) - Low cost intuitional securities through investment in systems (2002)

- Cost focus (2003) detail on investment management and Discover - Individual investor cost level in place (2004) - Fixed income reducing cost per transaction (2004)
New Level of focus and some detail on how carried out
Extra Resources
<u>Marketing</u>
<u>Text</u> - Policy discovery new promotions and products. Broker new direct advertising. (1997) - Discovery - new brand advertising to expand merchant acquirers (1999), stress cash back (2002) - Branding MSDW (Morgan Stanley Dean Witter) (1997), Discovery and MSDW (1999) - Rebrand acquisition Discovery (1997) - Then MS and logo (2000) (2004) - Branding supported through advertising (2000) (2002) - Communications and sponsorship (2004) - Brand value – 'brand and reputation that reflect an unshakable commitment to clients and the highest standards of integrity' (2002) - Brand values 'embodies the promise of client tailored excellence' - 'A brand and reputation that reflect an unshakable commitment to clients and the highest standards of integrity' (2002) - Manage brand - review client satisfaction (2003) (2004) - Market segmentation individual investors (2003) - Products - innovative (2003) - New funds (1997) (1998) - New credit card (1998), cards (2002) (2004) - Equity research new trading (1998) - Technical innovation (1999) (2000), deals (2001), leverage buyout new Japanese model (2001) - New products, commodities and derivatives (2000)

- Internet facilities Discovery (1997) - New model leveraged buy outs in Japan reopened IPO for Chinese financial companies (2003), companies innovative offerings (2004) - 'Unique products for complex client problems' (2003) - 'A brand and reputation that reflect an unshakable commitment to clients and the highest standards of integrity' (2002) - 'Our brand is established with solid advertising' (2002) - 'We have invested heavily in our brand both in our commitment to our clients in our day-to-day business activities and in the creation of perceptions through our advertising, communications and sponsorships' (2004)
New
Strategy advertising, branding, overall and individual values, Details of advertising of merchant network Details of product and geographical range Policy innovation for new products Alliances to offer products Market share
<u>Customers</u>
<u>Text</u> - Role of account executives to manage information flow (1997) (2000) - Range of clients individual and institutional (1997) - 2 million Dean Witter clients (1997) - Needs advice, products and liquidity (1998) - Three main channels - Financial Advisors, to individual organisations and funds through intermediaries (1997) - Relationships not transactions close to clients 'knowing their goals' (1999) - Customers are individuals - know their goals (1999) and needs (2002) 'consultative approach' (2002) - Pay for advice (2000) - Client orientated working relationships (2000) - Details of customer service, eg calls after 9/11 and Discovery on missing payments (2000)

- Complex deals (2001), seek dialogue over deliver innovative (2001), trust (2001 & 2003) - Relationship manager for each of top 200 clients (2002) - New Head of Client Focus (2002) - Advice, solutions and differentiation (2003) - Importance of personal relationships (2003) - Long term relationships nearly ten years invest bank, nearly 18 years for a Discovery customer and with Fleet Boston from 1995 (2003) - 2000 firm wide measures of client satisfaction (2003), proud of results (2004) - Intuitional Securities Senior relationship managers (2003) - Investment banking, senior bankers focus on clients not administration, strategic client engagement group (2003), focus on execution a driver of satisfaction, differentiation and growth (2003) - Segmenting clients (2003) according to needs - Worldwide network, staying close to clients, offers solutions and stimulates dialogue and anticipating needs (2001)
New Not selling products; serving needs and proving solutions Strength of long-term relationship Client feedback on the role of relationships and some client numbers
<u>IT</u>
<u>Text</u> - Online services (1997) (1999), newest and most rapidly growing distribution channels is the internet – Discovery brokerage and institutional and individual customers (1998) - I choice – individual investors and institutional investors Client link (1998) - High net worth Client One (2004) - Innovation and application of IT ‘to financial challenges have been hallmarks of our success’ (1998) - Electronic trading (2000) (2000), research news and market data (2000)
New Detail of new systems

Operations
Text None direct, some indirect from nature of products, customers, IT and relationships - see relevant sections
New Nothing direct
Strategy
Text - Merger MS DW (1997) - Market leading positions each business (1997) - Mission world's pre-eminent FS firm (1998, 1999) - First choice (2000) client service, new markets, new products attracting talented people (1999) - Focus on clients, others largely on products and distribution (2000) - Leverage strengths (2000) - Breadth (1997) (1998) and depth (1999) (2003) - Advice, technology, research and originated product (1999) - Execution innovation and superior service (2000) - Links between divisions Dean Witter 'positive impact on' underwriting business (1997) - 'Excellent manufacturing' and 'distribution' (2004) - Business mix of unique 'strategic synergies and financial balance' (2004), diversity of income stream - securities, asset management and credit services (1998) (2000) (2001) - Synergies (1999) - Discovery leading internet card (2000) - 'Core competences add shareholder value' (2004) - 'Execution and superior service' (2004) - 'Top three in any markets' (2004) - Link distribution and equity and equity linked capital markets (2004), differentiation (2003)

- ‘Skills over capital’ (2004) - Overseas 20% staff increase in Europe and 10% in Asia (1998) - Discovery launch outside USA (1998) in UK (2000) - Equity market leadership Tokyo and HK (1998), - Some acquisitions, eg Dean Witter, Barclays Global Custody (1997) in Spain, (1999), Quilter UK private client (2000), acquire ATM debit card network (2004) - Retrenchment (2000), rebalancing (2002), no high priced acquisitions in 1999 and 2000 (2003). - Co-operative agreement in Japan and Italy minority stake acquisition (1999), - ‘More than 10,000 FAs [financial advisors] distributing UPS shares to more than 90,000 of our individual clients’ (1999) - Repeated client focus (1997) (1998) (1999) (2000) (2001) (2002) (2003) (2004) - One top manager to focus on client relationships (2002)
New Importance of client focus, importance of links between the SBUs, the diversity of the SBUs Overall policy – top three in any market, role of execution and superior service and shareholder value Expansion, including acquisition detail

Identification of resource bundles?

There are six linked main resources identified as providing services to clients. They are distribution network, risk, staff, brand, products, information and IT. These in turn are linked to other resources (some of them other main resources) and subsets of resources. Risk linked to capital and staff, staff to capital and information, and given greater detail by its subsets of culture, technical skills and training. Products is linked to liquidity, marketing and alliances, brand to advertising, and IT to information. Distribution is linked directly to three other main resources, IT, products and staff.

More specfically, staff can be linked with several other resources, to capital as the mission statement connects people, ideas and capital (2000), to

information (1997 & 2000), for example staff process information – using ideas, insight and analysis when serving clients. Staff can also be linked to skills (1998 and 2000), for example through using intellectual capital to serve clients (1998) and to training through training and customer services (2001 and 2003) via staff. Moreover, there is a link to distribution (1998 and 2004) for example the using the distribution power of 11,238 financial advisors (1998) and to clients (1997, 1998, and 2001) as staff process information – using ideas, insight and analysis when serving clients (1997 and 2000), and staff and customer service calls after 9/11 (2001). Additionally staff can be linked to products (1998 and 2000) - staff and innovative products eg high yield financing for an internet retailer (1998) and marketing as technical expertise leads to new products (2000). Another staff link is to brand (2002) - brand and reputation and superior quality people (2002) and brand investment through commitment to clients (via staff) (2004). And finally with IT (1998 and 2003) IT and staff leads to customer service (1998) and IT, staff and Client One (2003).

Products have several links links, with clients - customer service, products and liquidity (1998) and value to customer from an increased range of products (2003), with marketing (2000) as marketing (and technical expertise) = new products. And with alliances and IT and distribution to combine IT, product development, and distribution skills to develop new products (2001). Also with liquidity [risk] (1998).

IT has three further connections, with distribution, for example client alliances which combine IT, product development with distribution skills to develop new products (2001), secondly with customers (1998, 2000 and 2003) for instance IT and customers online Discovery service (1998) and Client One (2003). Thirdly, information and IT, technology including intellectual capital.

Risk can be linked with several other resources, including risk to customers, specifically customer service and liquidity [risk] (1998), also capital, via credit rating (1998), and with staff (2001), for the latter risk management success comes from employee discipline and expertise (1999). Other links include

brand and clients, in this case through brand client satisfaction data (2003 & 2004). Brand with advertising (2002 and 2004) for example, using solid advertising to establish the brand (2002). Finally clients to distribution, as there is 11,238 financial advisors giving distribution power (1998).

Consequently it can be seen that resource bundles in Morgan Stanley can be identified from using Annual Report comments. See Figure 5.30 and Table 5.34.

This bundling provides evidence to support Starbucks (1992 and 1993) that human resources combine with other resources, and less specifically, gives backing to Helfat (1997) and Powell and Dent-Micallef (1997) on the existence of resource bundles. It also increases knowledge on the resource combinations that exist, expanding the work of Helfat (1997) and Powell and Dent-Micallef (1997).

Figure 5.30 Morgan Stanley Resource Cognitive Map

The numbers relate to the table below which shows resource links.

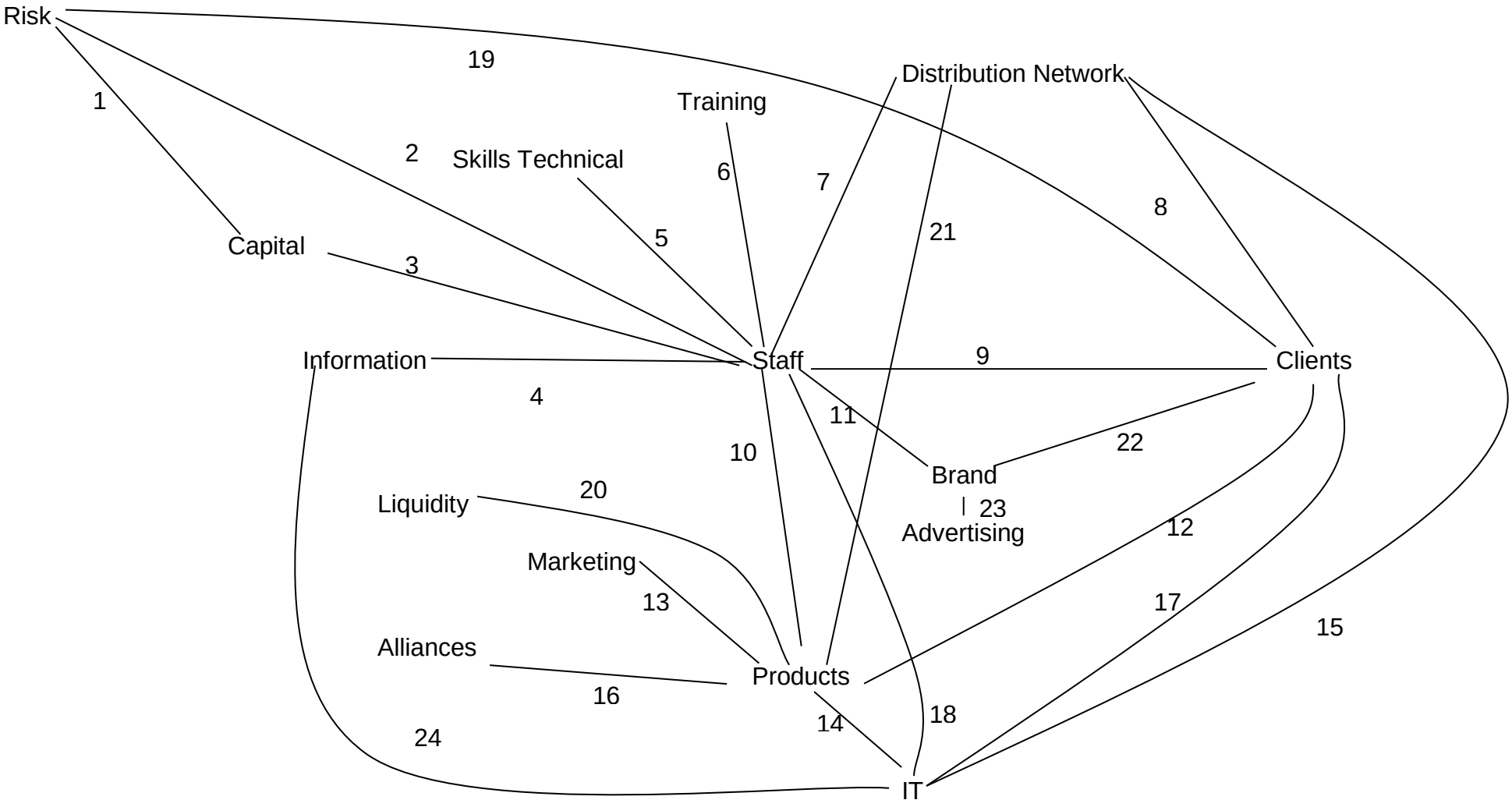


Table 5.34 Merrill Lynch Resource Linkage Numbering on Conceptual Diagram

Linkage Number	Resource Linkage	Date In Annual Report
1	Risk to Capital	Capital and credit rating (1998) Risks and capital (1998)
2	Risk to Staff	People and risk (2001) – risk management success comes from 'experience and discipline of our people' (1999)
3	Staff to Capital	Mission connecting people, ideas and capital (2000)
4	Information to Staff	Staff process information – using ideas, insight and analysis when serving clients (1997 & 2000) Role of account executives to manage information flow (1997) (2000)
5	Skills to Staff	'Intellectual capital serving our clients' (1998) Marketing and technical expertise (2000)
6	Training to Staff	Training and customer services (2001 and 2003) via staff
7	Distribution to Staff	Networks and staff 'distribution power of our 11,238 financial advisors' (1998) Skills and distribution network – equity and equity linked capital markets (2004)
8	Clients to Distribution	Networks and staff 'distribution power of our 11,238 financial advisors (1998)
9	Staff to Clients	Staff (process information – using ideas, insight and analysis) when serving clients (1997 and 2000) Staff and customer service – financial advisors (1998). Staff and customer service calls after 9/11 (2001) Distinguish Morgan Stanley through quality of people, insights execution 'applied consistently in clients' interests' (2001)

		‘technology and intellectual capital serving our clients’ (1998) Getting things done - trading skills, conceptual expertise, access to investors, industry research (client judgement of effectiveness) (2001). ‘Through the quality of our people, our insights and our execution’ (2001) Staff and clients Client one (2003)
10	Staff to Products	People and innovative products eg high yield financing for internet retailer (1998) Marketing and technical expertise = new products (2000)
11	Staff to Brand	‘A brand and reputation that reflect an unshakable commitment to clients and the highest standards of integrity’ (2002) via staff Brand and reputation superior, quality people (2002) ‘We have invested heavily in our brand both in our commitment to our clients (via staff) in our day-to-day business activities (and in the creation of perceptions through our advertising, communications and sponsorships)’ (2004)
12	Products to Clients	Products to clients (customer service, products and liquidity) (1998). ‘Our increased breadth of product strengthens our value to clients’ (2003)
13	Marketing to Products	Marketing and new products (2000) Marketing (and technical expertise) = new products.
14	IT to Products	Client alliances ‘bring together product development, information technology and distribution skills’ to create new products and services. (2001)
15	IT to Distribution	Client alliance ‘bringing together product development, information technology and

		distribution skills to create new products and services (2001)
16	Alliances to Products	Client alliance ‘bringing together product development, information technology and distribution skills to create new products and services (2001)
17	IT to Customers	IT and customers online service 2m discovery (1998) ‘technology (and intellectual capital) serving our clients’ (1998) IT and customers (1999, 2000) IT and clients Client one(2003)
18	IT to Staff	IT and staff – customer service (1998) IT, staff and Client one (2003)
19	Risk to Customers	Customer service and liquidity [risk] (1998)
20	Liquidity to Products	Products and liquidity [risk] (1998)
21	Products to Distribution	Client alliance ‘bring together product development, information technology and) distribution skills to create new products and services.’ (2001)
22	Brand and Clients	Marketing and customers brand client satisfaction data (2003 & 2004)
23	Brand to Advertising	‘Our brand is established with solid advertising’ (2002) We have invested heavily in our brand (both in our commitment to our clients in our day-to-day business activities and) in the creation of perceptions through our advertising, communications and sponsorships (2004)
24	Information and IT	‘technology (and intellectual capital)’

5.5.7 Discussion of Research Question 3

The question examines, firstly, can the data from Chairmens' and CEOs' comments in Annual Reports provide a richer picture of resources than that provided by resource proxies? And secondly, does the Annual Report enable identification of resource bundles?

Is the data richer?

There is a consistent pattern in all of the six organisations as there is added detail in areas where resource proxies exist, except balance sheet services. Additionally there is data on the all the new proxies of; marketing, customers, operations and IT. Data is also available on organisations' strategy, the direction the organisation is using the resources to achieve. The detail does vary in volume from the high levels for Morgan Stanley and Alliance and Leicester and the much briefer details for Cattles, Progressive B/Soc and Close Brothers. Overall the use of Chairmens' and CEOs' comments (in some cases Directors' comments – where the others did not exist) in Annual Reports adds data to existing resources and enables more resources to be researched. The added detail focuses, though not exclusively, on policy, its execution and progress as well as information, where they exist, at SBU level.

The collected data reduces some of the proxy weaknesses found in the literature. Firstly which resources can be measured, (Rumelt, 1982; Liberman and Dhawan, 2005; and Barnett et al, 1994), the Annual Report comments have provided additional resources. Secondly, how accurate are the measurements (transparency)? (eg Barney and Zajac, 1994; Miller and Shamsie, 1996; and Brush and Artz, 1999), in this case Annual Reports have provided additional data on resources which are being measured by proxies. Thirdly, how accurate are the measurements (inability of a proxy to measure all aspects of a resource) (eg Spanos and Lioukas, 2001 and Pennings, Lee and van Witteloostuijn, 1998) again Annual Reports provided additional data on resources which are being measured by proxies. And fourthly, the need to

use proxies to measure several resources (eg Boyd et al, 2005) is reduced as the textual analysis provides more data to measure resources.

Wernerfelt (1984) raised concerns over the difficulties of assessing the resources in a target firm – which could involve product diversification. In this circumstance, analaysis of texts which relies on the knowledge of those who work for the organisation provides additional knowledge to that obtainable from resource proxies. It adds detail on intangibles (Hall, 1995), such as culture (eg A&L) which also provides some detail on social complexity (Barney, 1991). and on tangible resources, for example on networks (eg Cattles) and financial policy (eg Close Brothers). It also sheds some light on causal ambiguity (eg King and Zeithaml, 2001) for example the business performance of Morgan Stanley may be linked to its focus on customer service.

There has been extensive use of secondary sources in GRBV work in other industries eg Cockburn, Henderson and Stern (2000) and Henderson and Cockburn (1994). As far as the author could ascertain this is the first time textual analysis of Annual Reports has been used in banking to identify resources. Moreover all of the extant literature is GRBV - this is the first time any work of this nature has been undertaken as part of a DRBV study.

In summary, analaysis of texts complements, but does not replace, proxies.

Secondly does the data enable the identification of resource bundles?

The data enabled cognitive maps of resource bundles (see Figures 5.25, 5.26, 5.27, 5.28, 5.29 and 5.30) to be developed using the textual analysis of Annual Reports. It confirms the existence of bundles as argued in the literature eg, Penrose (1959), Wernerfelt (1984) and Barney (1986) and Lippman and Rumelt (2003).

More specifically only using text from Annual Reports can be added to other methods of data collection which enables the creation of resource bundles.

Mehra (1996) used expert panels, Helfat (1997) - quantitative data, Powell and Dent-Micallef (1997) and Tripsas (1997) – a variety of sources.

This is the first work looking at producing bundles using only Annual Reports, and the first constructing bundles in providers of UK Banking Services 1997-2004. Furthemore it is the first assessment of resource bundles as part of a DRBV study - the other resource bundle work is GRBV.

5.6 Research Question Four

Are there differences in the external environment between different industry groups? (RBV argues firms should be set in their external context)

Brief research methods overview – Chairmens' and CEOs' comments in Annual Reports for the 29 (there was no usable data for private bank) organisations for the period 1997-2004 were examined (where they were not present, Directors' reports were used). To reflect the balance of the data the pre-determined PESTC was amended with political split in regulation and other political issues - for ease, the latter was called political.

Due to the very strong similarities, it was decided to combine B/Soc and Mortgage Providers, the other groups were kept separate. The results are presented in the following order: B/Soc and Mortgage Providers, Broad Investment Banks, Niche Investment Banks, Combined, Retail and Consumer Credit. There was no data for Private Bank. For each of these there is a cognitive map. Therefore the number organisations per map varied from 17 for B/Soc and mortgage providers to one each for retail and Consumer Credit. Also the level of data and it's usefulness varied from organisation to organisation. See 4.11.4 for more details. Accordingly, the maps do not always seek to be comprehensive in terms of their supporting evidence due to the large amounts of data available but do aim to be representative.

Due to the high volume of data the external factors for B/Socs and Mortgage Providers were split into two groups, creating a map which was split in two for ease of presentation. Firstly, economic and financial markets factors which impact on demand for mortgages and secondly the same factors impacting on saving, savings and equity related linked products as well as other factors competition, regulation, IT, political and social. The relevant Annual Report text demonstrated that mortgage demand is perceived to be reliant on a buoyant housing market, and the buoyant market is perceived to be reliant on interest rates, inflation, housing stock, employment and economic strength. Mortgage arrears are affected by interest rates, employment and economic strength. Demand for savings is influenced by the relationship between interest rates and demand for savings. There are high levels of competition. Regulation covers a variety of regulations, some are general business regulations such as accounting standards and changes to benefit payments, while others are sector specific such as the Code of Mortgage Practice, Building Societies Act 1997, demutualisation and depolarisation. There is also the industry specific capital regulations. On IT, the Millennium Bug, internet and its impact on distribution and new entrants were mentioned. There was also reference to the Euro which was considered political. On social factors the importance of demographics for long-term investments and the desire to switch mortgages through re-mortgaging were present. See Figures 5.31 and 5.32 below.

Figure 5.31 Cognitive Map B/Soc and Mortgage Providers One - Mortgages

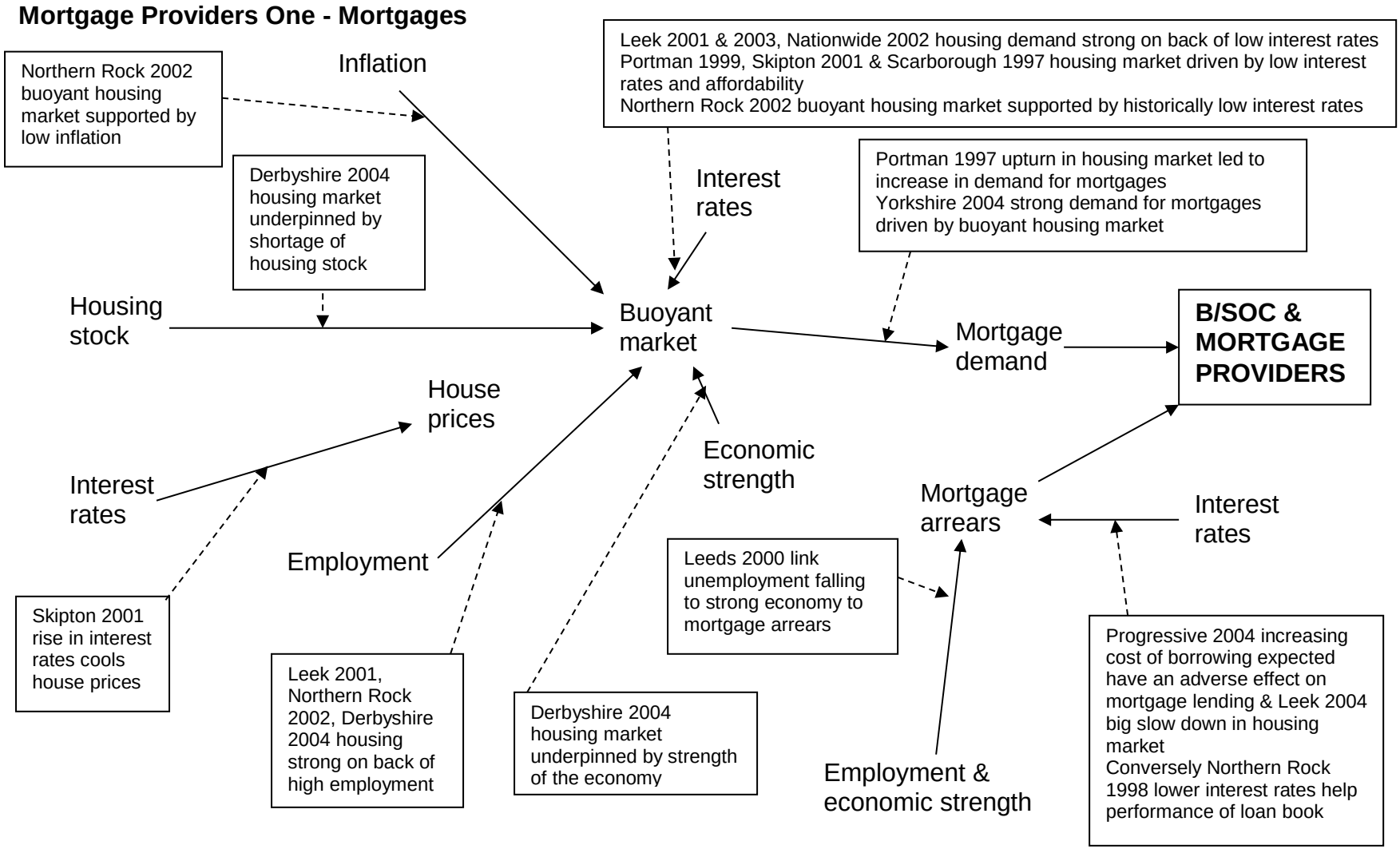
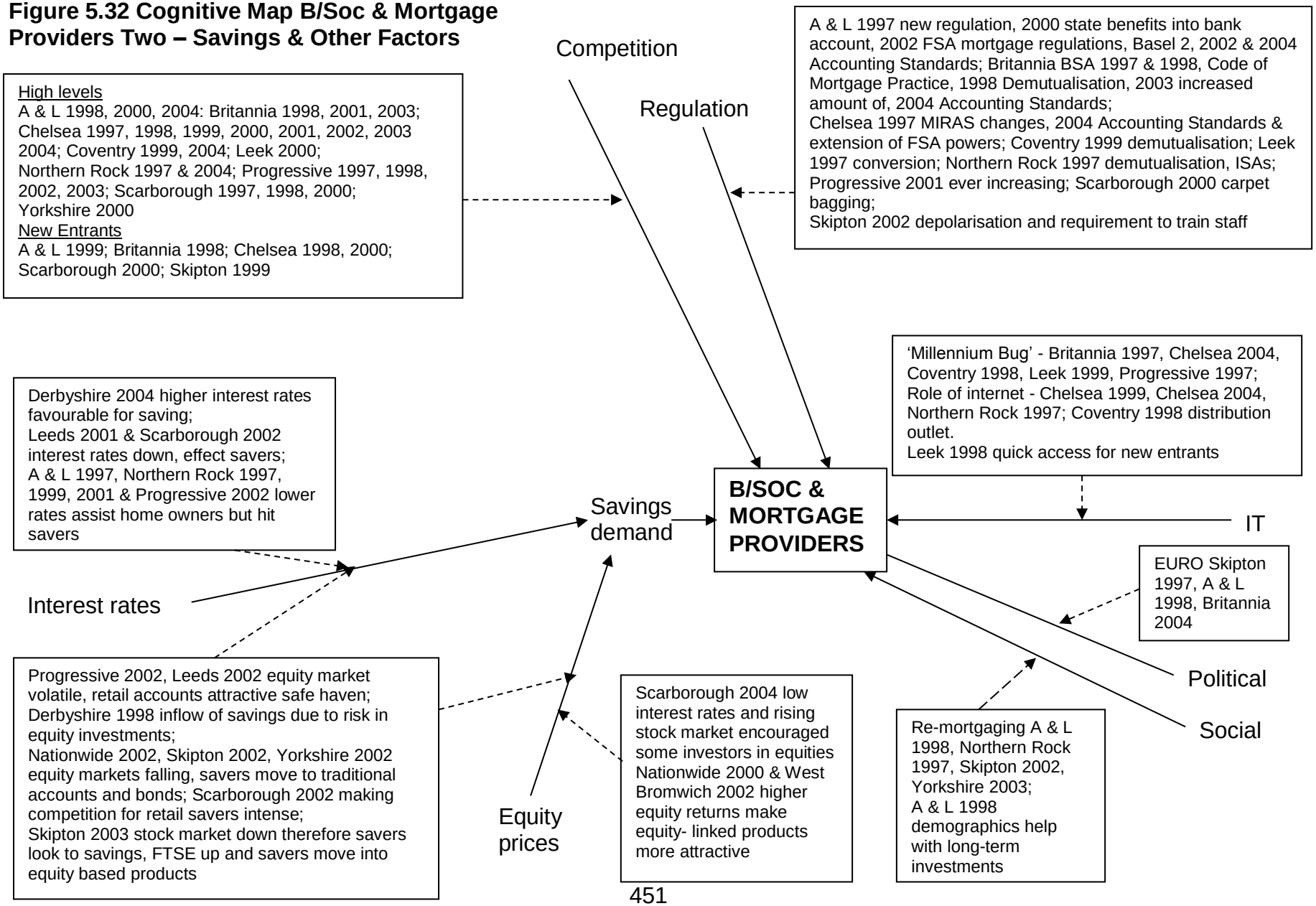


Figure 5.32 Cognitive Map B/Soc & Mortgage Providers Two – Savings & Other Factors



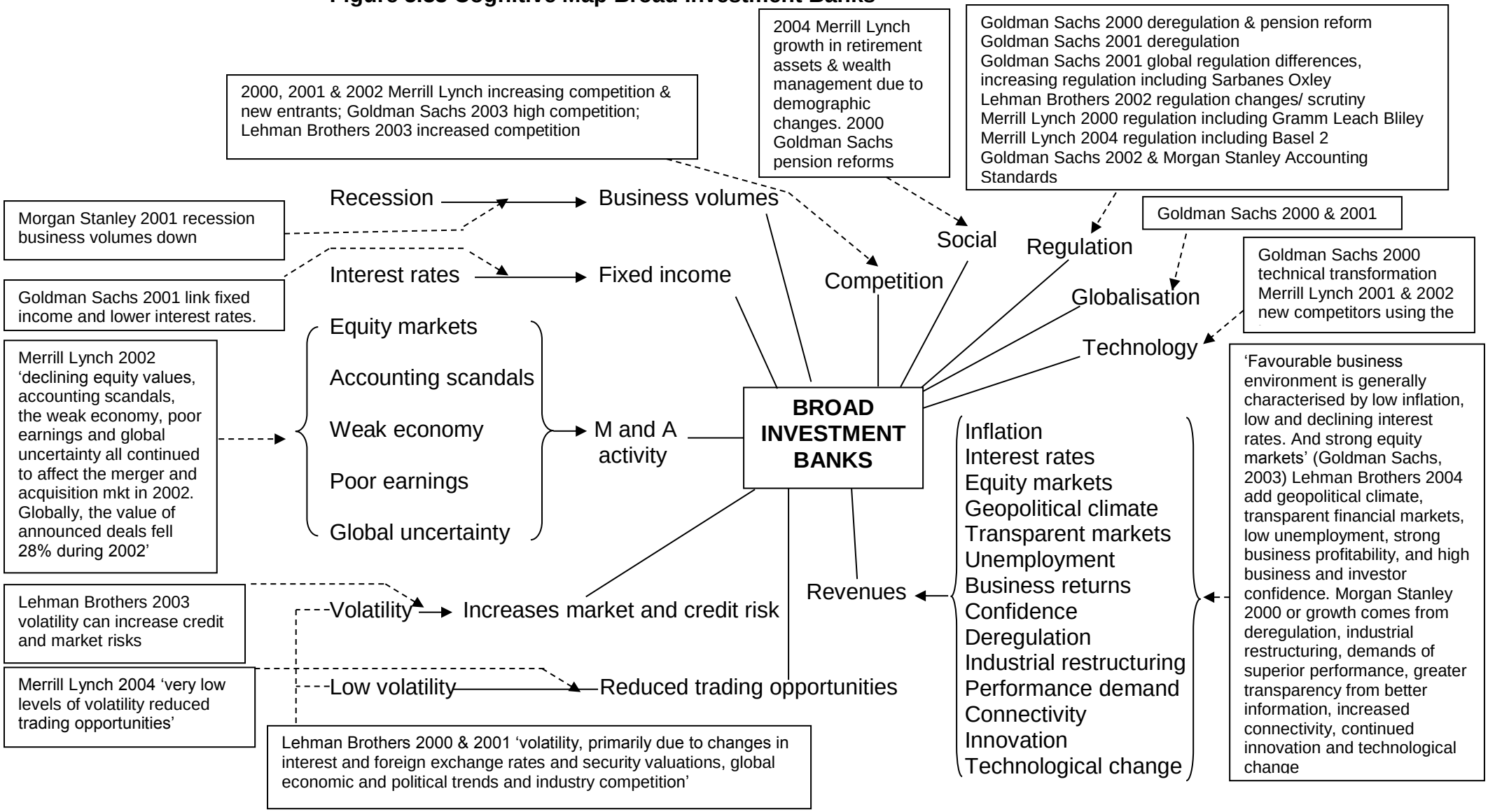
Broad Investment Banks

The external economic factors can be grouped into, those which impact on general revenues, and the impact of a recession. There is also specific detail on sectors within Broad Investment Banks (see for example fixed income and M and A) and volatility. Other factors which were identified are competition, social, regulation, globalisation and technology. Also, the following factors were identified as affecting income: inflation, interest rates, equity markets, geopolitical climate, transparent markets, unemployment, business returns, confidence, deregulation, industrial restructuring, demand for performance, transparency, connectivity, innovation and technological change. Recession was identified as having a negative impact on business volumes. Volatility was attributed to variations in interest and foreign exchange rates, securities values, global economy, political trends and industry competition. It was also believed that M and A activity was affected by equity markets, accounting scandals, a weak economy, poor earning and global uncertainty. Fixed income is impacted upon by interest rates.

Other factors included high competition, the impact of the social factor of changes to demographics and its impact on pensions. There were a series of regulatory issues, deregulation and global regulation. Also the general industry issue of capital adequacy, industry structure of Gramm Leach Bliley and the US business wide impact of Sarbanes Oxley. Other factors were globalisation and technical transformation.

See Figure 5.33 below for a cognitive map of Broad Investment Banks.

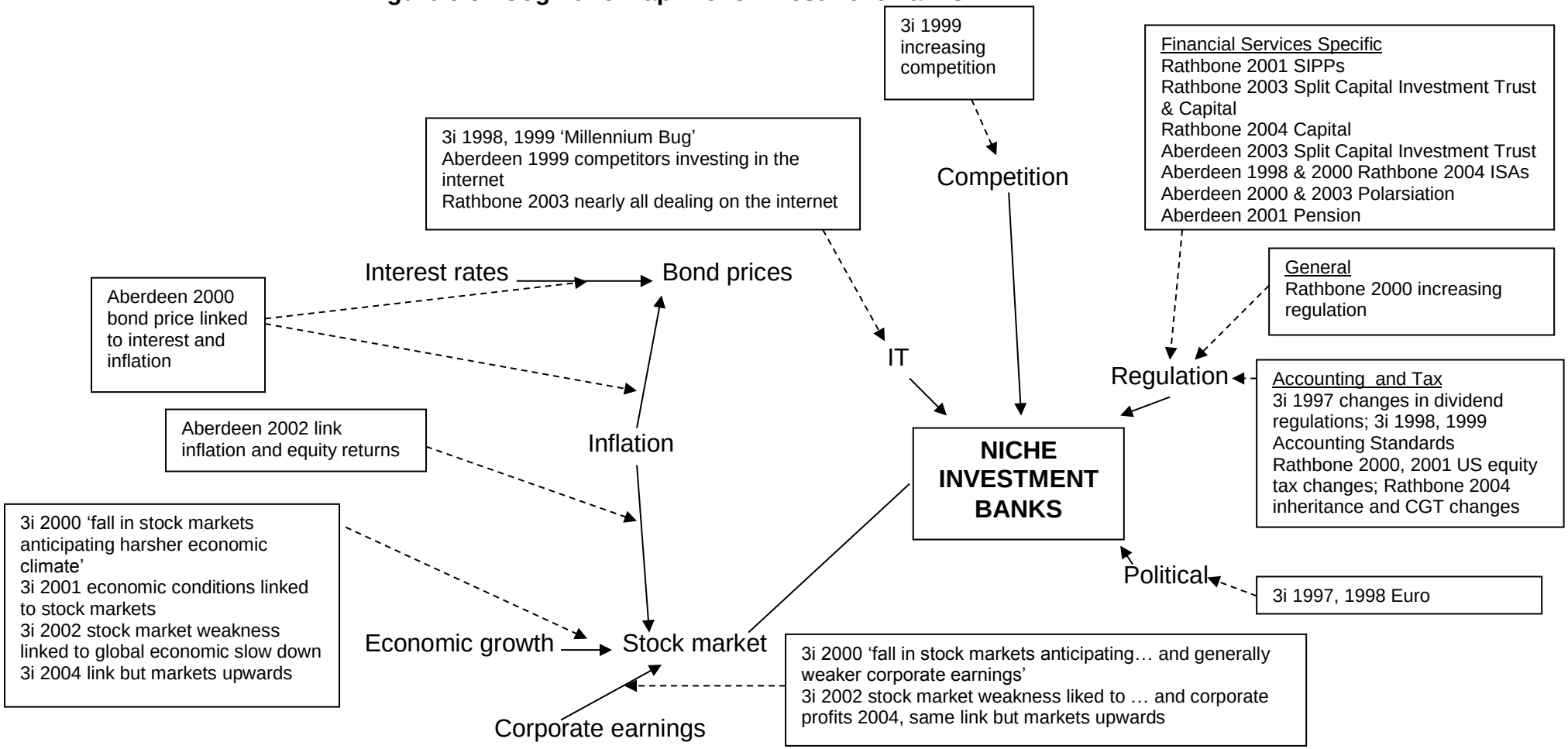
Figure 5.33 Cognitive Map Broad Investment Banks



Niche Investment Banks

Figure 5.34 demonstrates the impact of interest rates, inflation, economic growth and corporate earnings on the different constituent parts of Niche Investment Banking. Specifically, interest rates and inflation were believed to impact on bond prices, inflation, economic growth and corporate earnings on the level of the stock market. Other factors were competition, IT - in the form of the 'Millennium Bug' and internet and electronic trading, the political factor of the Euro, and regulation, which was perceived to have been increasing. Regulation was split between financial services specific, which covered SIPPs, split capital investment trusts, ISAs, pensions, polarisation, and the broad industry issue of capital. There were general regulation issues of changes in dividend regulations, accounting standards, US equity tax changes and UK inheritance and CGT changes.

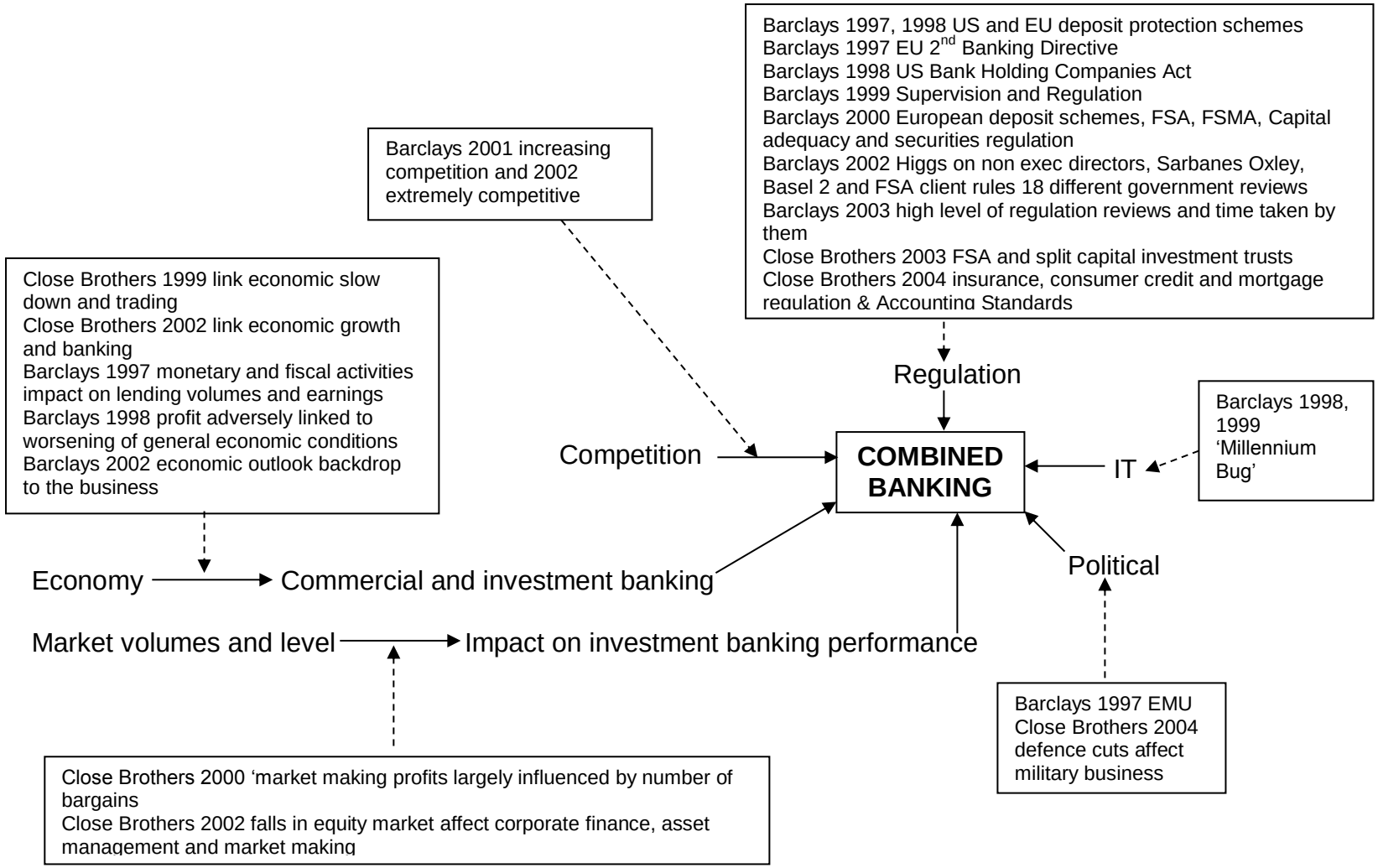
Figure 5.34 Cognitive Map Niche Investment Banks



Combined Banks

Figure 5.35 demonstrates the importance of the economy for both parts of Combined Banks, investment and commercial banking, with specific market factors also believed to impact on the investment banking part of Combined Banking. Regulation plays an important part, though the data is largely from one organisation with a focus in the early years on the factual position due to the nature of its annual reports. There is also some information on IT ('Millennium Bug'), political (EMU) and competition. Detail is restricted due to the small number of Combined Banks and the limited data in some Barclays Annual Reports.

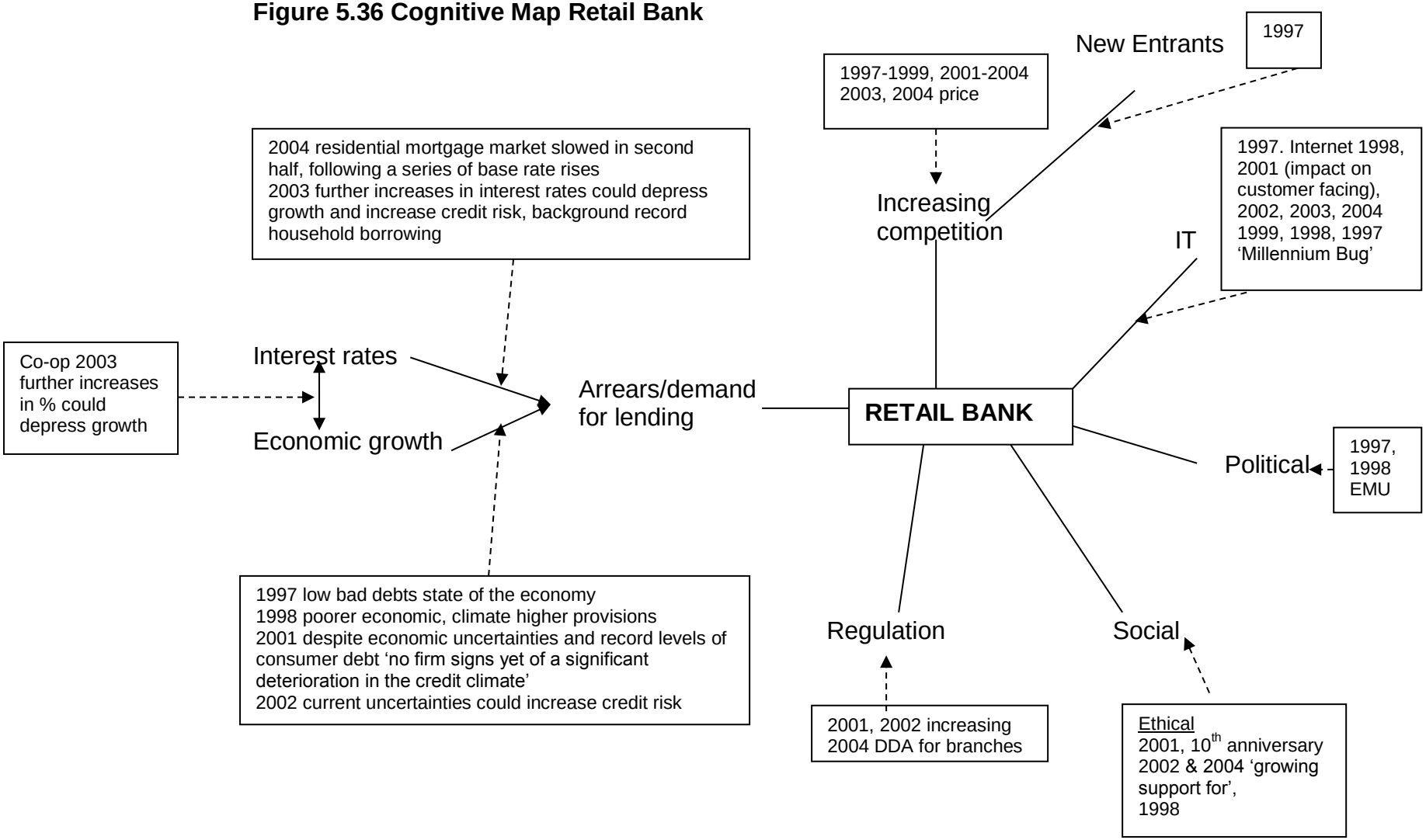
Figure 5.35 Cognitive Map Combined Banks



Retail Banking

The highest level of detail is on economic factors where there are links between interest rates, growth and lending arrears, the main risk for Retail Banks. Other factors are increased competition, with new entrants mentioned, the impact of the internet, increased regulation and social (Co-op has an ethical niche), IT and the political factor of EMU. It should be noted that there is only one Retail Bank in the group. See Figure 5.36.

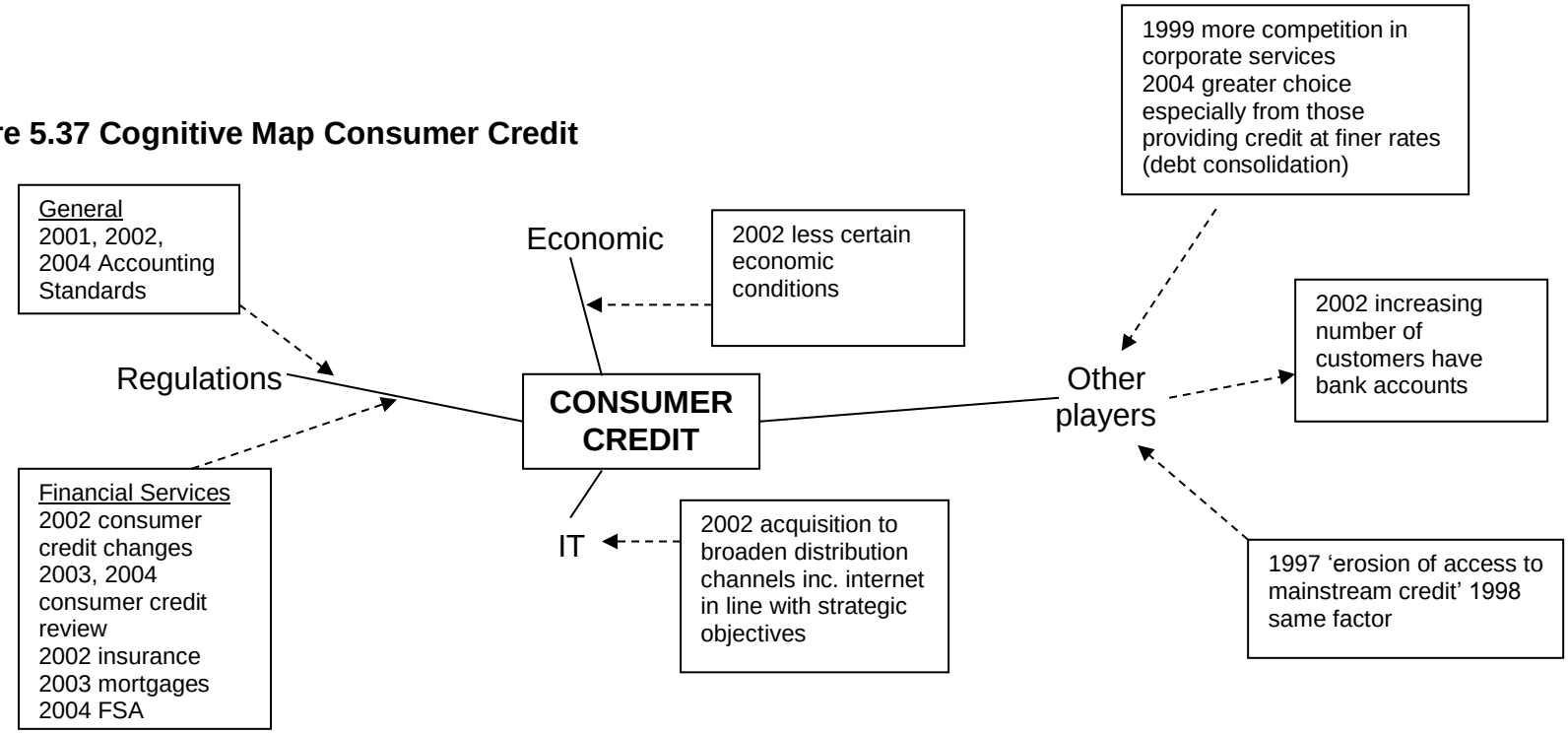
Figure 5.36 Cognitive Map Retail Bank



Consumer Credit

There is a shortage of information on the external environment for this industry group. There is only one organisation within it and there was limited data in the early Annual Reports. There was little data on economic factors. Regulation can be split into two, accounting standards and financial services specific regulation. The other main factor is the role of other players. While there is an identifiable gap in the market, it is not without its competition, though in some cases customers use banks and Cattles. There is one mention of IT as an external factor. See Figure 5.37.

Figure 5.37 Cognitive Map Consumer Credit



5.6.1 Discussion of Research Question Four

The PESTC framework enabled the data to be classified. Given the volume of data specific to regulation, it was decided to add a separate external factor of regulation. There are some factors common to all the external environments - the economy, regulation, IT, competition and political (for all except Consumer Credit). In addition social appears in B/Soc and Mortgage Providers and Broad Investment Banks. At this level of external factors there is a broad commonality.

The next step was to examine in detail each of the factors. The factor with the most detail is economic, the most pervasive aspects being interest rates and economic growth, which are present in all except Consumer Credit. Inflation is present in B/Soc and Mortgage Providers, Broad Investment Banks and Niche Investment Banks. Employment is present in B/Soc and Mortgage Providers and Broad Investment Banks. Economic factors either impact on asset quality (B/Soc and Mortgage Providers and Retail) - less specifically for Combined, or on financial markets (Niche Investment Banking) volumes, revenues or contribute to volatility and impact on revenues/volumes (Broad Investment Banks). Financial markets are present for B/Soc and Mortgage Providers, Broad Investment Banks, Niche Investment Banks and Combined Banks. There is a difference in the linkage to the financial markets, between those who trade in the markets and invest their own money in the markets. They are directly affected by the markets (both Investment Banking Groups and Combined), with the exact impact varying depending on the part of their business. In contrast there is another group which mentions financial markets as they have an impact on the behaviour of investors, in particular whether they invest in savings accounts or equity linked products (B/Soc and Mortgage Providers).

Regulation was another common factor; a large amount of this was group specific. For B/Soc and Mortgage Providers it largely focussed on factors specific to the group, in this case, predominantly, demutualisation. Likewise,

for Niche Investment Banks reference was made to SIPPS, split capital investment trust pensions and ISAs. Similarly, combined regulation concerns reflected the broad nature of their operations and covered insurance, mortgages, and split capital investment trusts. There was little detail for Retail and Consumer Credit, what there was, was again group specific and predominantly from Consumer Credit where insurance, mortgages and consumer credit were mentioned. Broad investment banks also had some specific information, such as Gramm Leach Bliley (impacting on industry structure). There were also a large number of comments on the level of regulation (Broad Investment Banks, B/soc and Mortgage Providers, Niche Investment Banks, combined and retail). There were also the general industry factors of level of capital, in B/Soc and Mortgage Providers, Broad Investment Banks, Niche Investment Banks and Combined Banking. Also mentioned were some general business factors - in particular, changes in Accounting Standards, which was mentioned for all except Retail.

Competition was always high when mentioned other than in Consumer Credit where their niche was evident. Throughout it was competition with those who offered the same products and not with all providers of banking services. IT, focused largely on the internet for all except Combined. Political is largely one common factor, the Euro (B/Soc and Mortgage Providers, Niche Investment Banks, combined and retail). Social is limited, appearing in B/Soc and Mortgage Providers (demographics for long-term investments and re-mortgaging), Broad Investment Banks (demographic changes for long-term pensions) and retail (ethics).

In essence, there are common factors but the detail within these factors can vary. Some are common, for example interest rates and economic growth are largely common factors but the way they interact with organisations varied, as did financial markets. Others are different, for example group, specific regulation.

In short, there are differences in the external environment between different industry groups (RBV argues firm resources should be set in their external context).

RQ4 results confirm the GRBV literature which conceptually sets resources within the context of their business environment for example: Wernerfelt (1984); Barney (1991); Peteraf and Barney (2003); and Knott (2002).

It also supports the GRBV empirical work undertaken, for example: Skaggs and Youndt (2004); Javidan (1998); Miller and Shamsie (1996); and Henderson and Cockburn (1994). There are two examples in financial services, Barnett et al (1994) research Illinois retail banking, and Levinthal and Myatt (1994) US Mutual Funds. None of the work is on providers of banking services within the UK; this is the work conducted in this area and represents new knowledge.

The extant DRBV literature is very limited. Conceptually, Markides (1997) argues that when diversifying firms need to consider their new market, which would only be necessary if the environment differs from their existing market. Peteraf and Bergen (2003) also set resources in their competitive context, in their case an industry study looking at cereals. This thesis is the first study examining differences in the external environment in this level of detail as part of DRBV research.

5.7 Research Question Five

Will financial performance be an inverted J shape as the amount of resource difference between the current product range and planned product range increases?

Research methods overview

The level of resource difference was measured by using the same numerical resource proxies as were used for RQs 1 and 2. In total 17 were used measuring eight out of the nine resources for which proxies were devised (there are non for marketing), resources had at least two proxies. There were still some gaps in the data for particular organisations or groups, eg no cost data for Consumer Credit, but to eliminate proxies or organisations with no data would have a major impact on the range of both organisations and proxies. The following performance measures were used: ROAA; ROAE; net interest margin, and balance sheet growth.

The next stage was to identify possible diversifications. This was based on those which had been implemented or there was information in the public domain that they had been very seriously considered.

- **B/Soc M,S, FA,CB & PB** to **Mortgage Provider**
- **B/Soc M,S, FA,CB & PB** to **Retail Bank**
- **Retail Bank** to **B/Soc M,S, FA,CB &**
- **Consumer Credit** to **Retail Bank**
- **Mortgage Providers** to **Retail Bank**
- **Retail** to **Combined Barclays**
- **Niche Investment Bank** to **Broad Investment Bank**
- **Broad Investment Bank** to **Combined Private Bank** to **Niche Investment Bank**

For B/Soc there was a logical line of progression followed over the years by the most diversified B/Socs:

- **B/Soc M & S** to **B/Soc M, S & GI**
- **B/Soc M, S & GI** to **B/Soc M, S, GI & FA**
- **B/Soc M, S, GI & FA** to **B/Soc M, S, GI, FA & CB**
- **B/Soc M, S, GI, FA & CB** to **B/Soc M, S, GI, FA, CB & PB**

- **B/Soc M, S, GI & FA** to **B/Soc Multiple**
- **B/Soc M, S, GI, FA & CB** to **B/Soc Multiple**
- **B/Soc M, S, GI, FA, CB & PB** to **B/Soc Multiple**

See 4.11.5 for more details.

The presentaion of results for RQ5 commences with an outline of the resource difference followed by details of the business performance differences of each of the four indicators. To clarify the picture the performance indicators are then amalgamated to enable the overall relationship between resource difference and performance to be assessed. To take account of the differing performance goals of profit seeking and mutual organisations the results are then examined for those diversifications which do not involve diversification from one set of performance goals to another and finally the possible impact of economies of scale are considered. Tables and Figures are used to aid the discussion.

Resource Differences These range from a smallest mean resource difference of 2.29 (B/Soc M, S, GI & FA to B/Soc M, S, GI, FA & CB) to a largest difference of (55.16 Niche Investment Banks to Broad Investment Bank). More specifically, the smallest resource differences are B/Soc only product diversifications where the differences range from 2.29 to 10.61. The next highest resource difference is retail to combined 14.70, then B/Soc M, S, GI, FA, CB + PB to Retail and Retail to B/Soc M, S, GI, FA, CB + PB 16.66, followed by a diversification within the retail sector of Mortgage Provider to Retail 17.12. There is then a gap to the diversification of Consumer Credit to Retail which has a resource difference of 30.84, there are two other diversfications with resource differences in the 30s, Private Bank to Niche Investment Bank 36.56 and Broad Investment Banks to Combined 39.35. With the last and largest diversification by resource difference being Niche Investment Bank to Broad Investment Bank with a resource difference of 55.19. See Table 5.37.

The **Business Performance** differences do not follow the same pattern as the resource differences; they oscillate from positive to negative. For the B/Soc sector the range is +6.24 to -10.79 with two positives 6.24 (B/Soc M, S ,GI + FA to B/Soc M,S, GI, FA and CB) and 1.04 (B/Soc M & S to B/Soc M, S + GI), this is counterbalanced by four negatives -5.35 (B/Soc M,S, GI, FA and CB to B/Soc M, S, GI, FA, CB & PB), -4.55 (B/Soc M,S, GI, FA and CB to B/Soc Multiple), -10.79 (B/Soc M, S, GI, FA, CB + PB to B/Soc Multiple) and – (4.55 B/Soc M, S ,GI + FA to B/Soc Multiple) and one little changed of -0.47 (B/Soc M, S + GI to B/Soc M, S ,GI + FA). The total amount of variation increases as diversifications involving the other sectors are included. For this types of diversification there are six positives, the diversifications of B/Soc M, S, GI, FA, CB & PB to Mortgage Provider results in a performance gain of +22.07. These gains continue when B\Soc are not always involved with the diversification of Consumer Credit to Retail (+20.43), Retail to B/Soc M, S, GI, FA, CB + PB (+17.84), Consumer Credit to Retail (+20.43), Broad Investment Banks to Combined (+12.86), and Niche Investment Banking to Broad Investment Banking (+14.06). There is one little changed (Private Bank to Niche Investment Banks) -1.70, and two larger negatives (Mortgage Providers to Retail) -5.59, (B/Soc M, S, GI, FA, CB + PB to Retail) -17.84. See Table 5.36.

Examining each measure of **Business Performance**, for **ROAE**, the pattern is similar, though less pronounced, with differences increasing as the resource difference does. The B/Soc range is from -19.39 to +2.75, the other sectors extend this from – 35.89 (B/Soc M, S, GI, FA, CB + PB to Retail) to +53.97 (Consumer Credit to Retail). **ROAA**, has the same pattern though more pronounced; for B/Soc the range is -2.98 to +0.67, increasing with the addition of the other sectors from -17.64 (Niche Investment Banking to Broad Investment Banks) to +91.69 (Consumer Credit to Retail). For **Net Interest Margin**, the pattern is even more pronounced; B/Soc varies from -2.04 to +0.38 - adding the other sectors gives a range from -85.53 (Private Bank to Niche Investment Banking) to +69.06 (Niche Investment Banking to Broad Investment Banks). **Balance Sheet Growth** shows the same pattern again with B/Soc variation –24.00 to 28.35, adding in the other sectors, -84.37

(Consumer Credit to Retail) to 61.05 (Private Bank to Niche Investment Banking). See table 5.36.

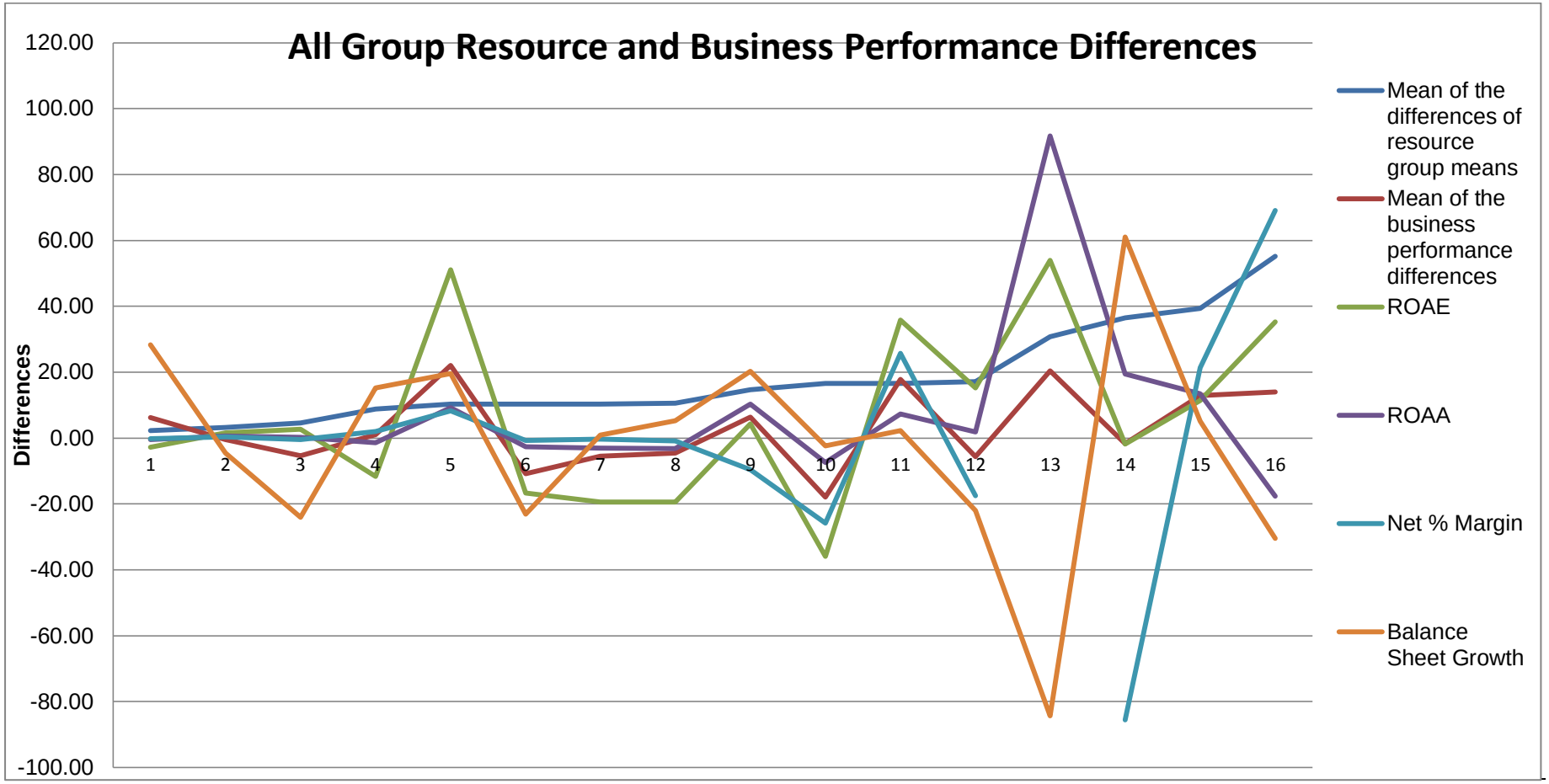
Table 5.35 Resource Differences and Business Performance Indicators

					Business performance differences a + is a positive whatever the performance measure			
	Group	Group	Mean of the differences of resource group means	Mean of the business performance differences	ROAE	ROAA	Net % Margin	Balance Sheet Growth
1	B/Soc M, S, GI + FA	B/Soc M, S, GI, FA + CB	2.29	6.24	-2.74	-0.46	-0.20	28.35
2	B/Soc M, S + GI	B/Soc M, S, GI + FA	3.25	-0.47	1.54	0.67	0.38	-4.47
3	B/Soc M, S, GI, FA + CB	B/Soc M, S, GI, FA, CB + PB	4.66	-5.35	2.75	0.29	-0.43	-24.00
4	B/Soc M & S	B/Soc M, S + GI	8.78	1.04	-11.69	-1.43	2.04	15.23
5	B/Soc M, S, GI, FA, CB + PB	Mortgage Providers	10.35	22.07	51.13	9.19	8.33	19.65
6	B/Soc M, S, GI, FA + CB	B/Soc Multiple Diversification	10.39	-10.79	-16.64	-2.69	-0.72	-23.09
7	B/Soc M, S, GI, FA, CB + PB	B/Soc Multiple Diversification	10.39	-5.44	-19.39	-2.98	-0.29	0.91
8	B/Soc M, S, GI + FA	B/Soc Multiple Diversification	10.61	-4.55	-19.38	-3.15	-0.92	5.26
9	Retail	Combined Banking	14.70	6.32	4.35	10.27	-9.56	20.24
10	B/Soc M, S, GI, FA, CB + PB	Retail	16.66	-17.84	-35.89	-7.38	-25.80	-2.30
11	Retail	B/Soc M, S, GI, FA, CB + PB	16.66	17.84	35.89	7.38	25.80	2.30
12	Mortgage Providers	Retail	17.12	-5.59	15.24	1.81	-17.47	-21.94
13	Consumer Credit	Retail	30.84	20.43	53.97	91.69		-84.37
14	Private Bank	Niche Investment Banking	36.56	-1.70	-1.76	19.45	-85.53	61.05
15	Broad Investment banks	Combined Banking	39.35	12.86	11.39	13.48	21.38	5.21
16	Niche Investment Banking	Broad investment Banks	55.19	14.06	35.23	-17.64	69.06	-30.39

See Appendix Three for the individual resource and business performance indicator calculations.

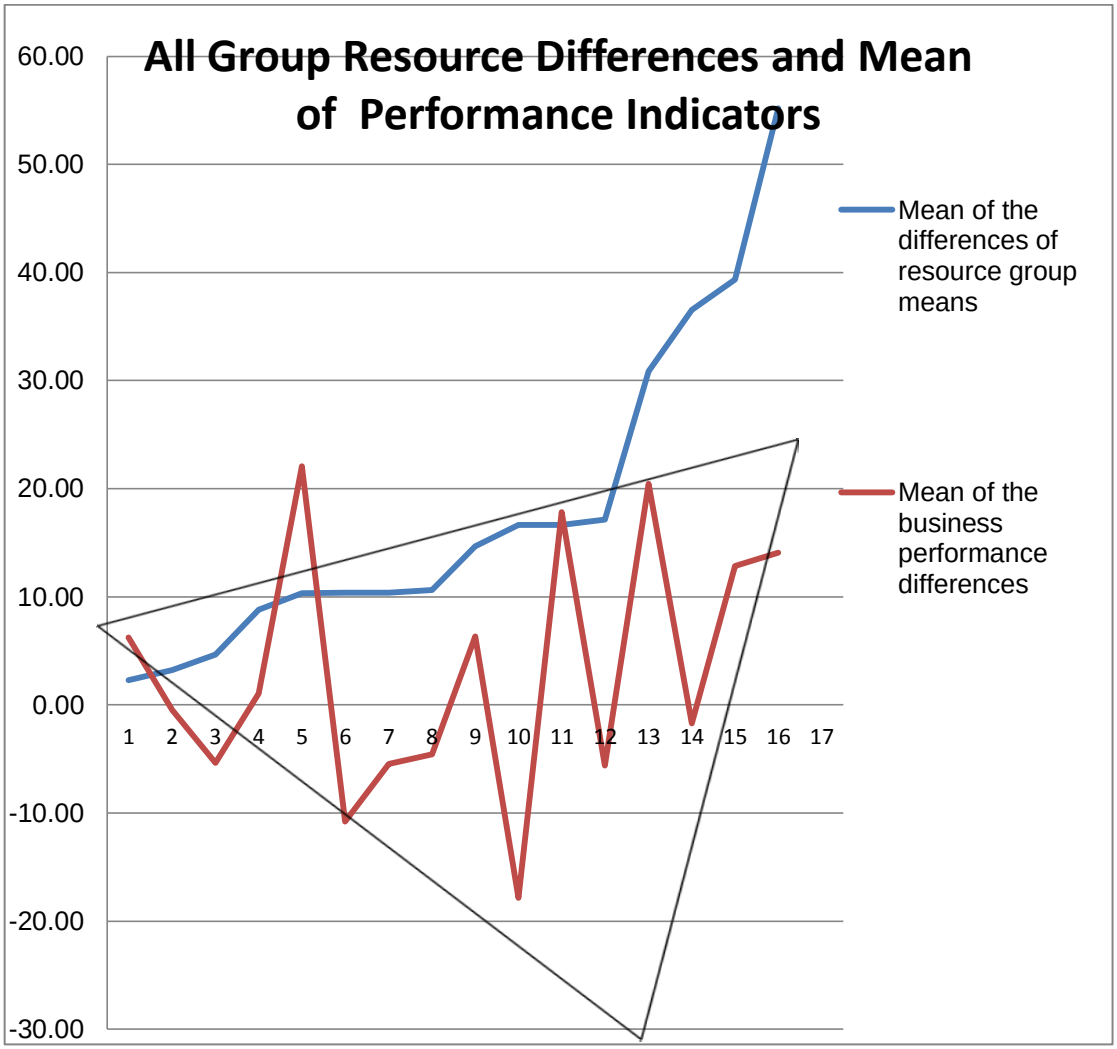
Given the high numerical element in Table 5.36 as visual presentaionas privded by Figure 5.38 is useful. The vertical axis on Figure 5.38 shows the amount of difference in resources and performance. The numbers on the horizontal axis correspond to the numbers on Table 5.37 and accordingly denote different diversifications. The data is ordered with with the least resource difference on the left increasing with the greatest on the right. The Graph confirms the pattern with the smaller changes amongst the B/Soc axis points 1-4 and 5-8. It also shows that not all performance indicators move in the same way, for example, axis points 12-13 (balance sheet growth negative the others ROAE, ROAA and net interest margin positive).

Figure 5.38- All Group Resource Differences Verses Business Performance Indicators



Using only the combined business performance indicator and the resource differences, demonstrates a pattern of variation shown in Figure 5.39 below. With the exception of horizontal axis point 5 B/Soc (M, S, GI, FA, CB + PB to Mortgage Providers), there is a tendency that the greater the resource variation, the greater the range both positive and negative occupied by the business performance indicators. The balance of varied performance is shown by eight decreases and seven increases in performance. It is also demonstrated by the triangle which can be partially fitted over the performance variation range.

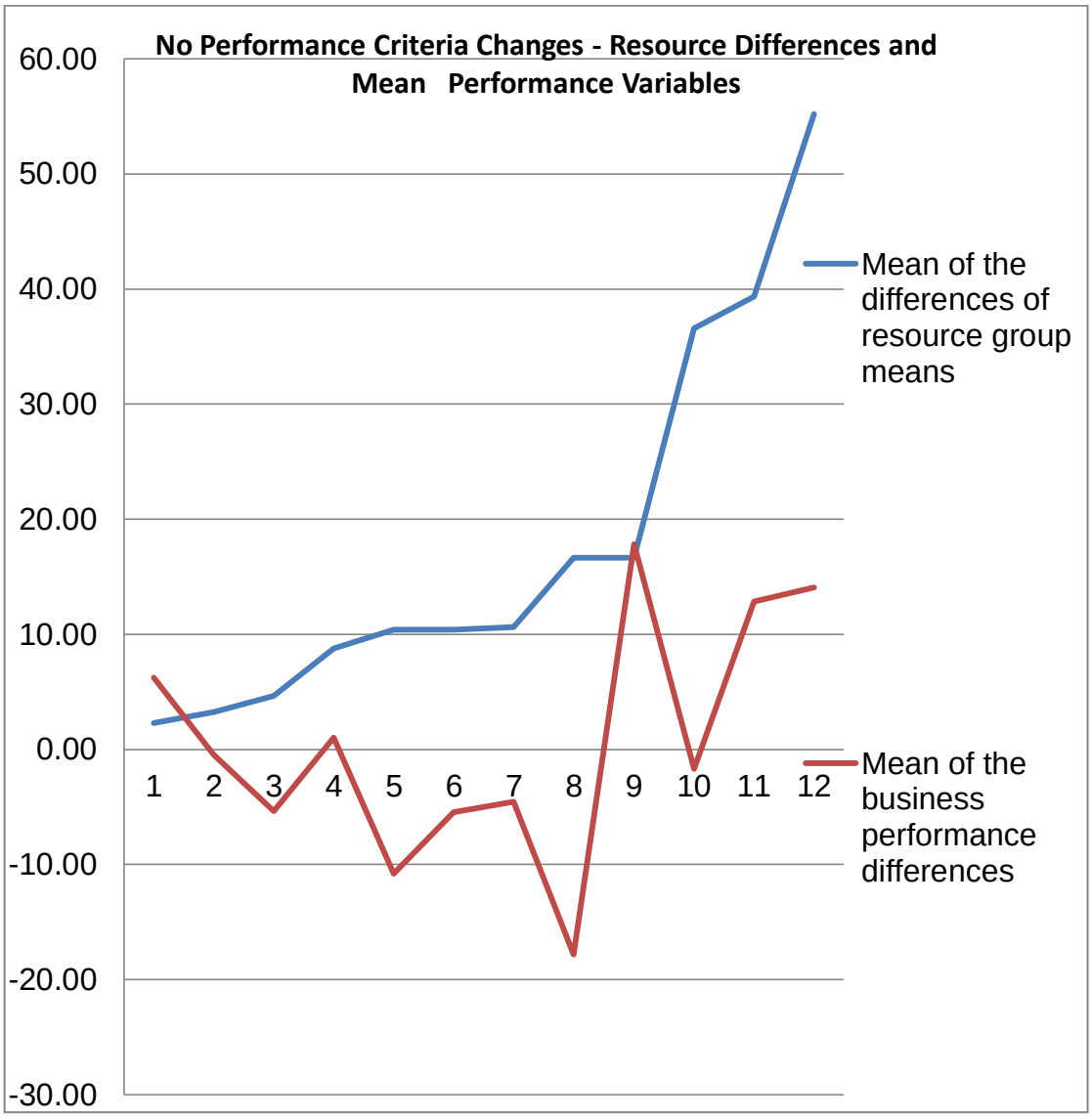
Figure 5.39- All Group Resource Differences and Mean of Business Performance Indicators



While there has been an adjustment for differences in business performance goals, there remains the issue of diversifications which combine both profit seeking and mutual organisations. It was decided to remove these (B/Soc M,G,GI,FA,CA & PB to Mortgage Provider, Retail to Combined Bank, Mortgage Provider to Retail and Consumer Credit to Retail), ie 5, 9, 10 and 13 on the above charts. It is then possible to to see if this made any difference to the pattern seen in Figure 5.39. Figure 5.40 shows the same overall tendency of increasing performance risk and reward as the resource difference

increases, though this is accentuated, with the range tending to get wider the greater the resource difference. The balance of the impact of product diversification is shown by the seven decreases and four increases in business performance.

Figure 5.40- No Performance Criteria Changes - Resource Differences and Mean Performance Variables



The numbering on the horizontal axis of Figure 5.42 is shown in Table 5.41 below.

Table 5.36 Numbering on the Horizontal Axis of Figure 5.40

Number	From Group	To Group
1	B/Soc M, S, GI + FA	B/Soc M, S, GI, FA + CB
2	B/Soc M, S + GI	B/Soc M, S, GI + FA
3	B/Soc M, S, GI, FA + CB	B/Soc M, S, GI, FA, CB + PB
4	B/Soc M & S	B/Soc M, S + GI
5	B/Soc M, S, GI, FA + CB	B/Soc Multiple Diversification
6	B/Soc M, S, GI, FA, CB + PB	B/Soc Multiple Diversification
7	B/Soc M, S, GI + FA	B/Soc Multiple Diversification
8	B/Soc M, S, GI, FA, CB + PB	Retail
9	Retail	B/Soc M, S, GI, FA, CB + PB
10	Private Bank	Niche Investment Banking
11	Broad Investment Banks	Combined Banking
12	Niche Investment Banking	Broad Investment Banks

Economies of Scale

The banking strategy literature highlights the possibility that economies of scale could have an impact on financial performance. However, its findings are inconclusive, for example no evidence of scale economies was found by Drake (1995), yet others including Molyneux (1996) found evidence to the contrary. It was therefore decided to test for the impact of size by correlating asset size and amount of income to the four business performance measures (ROAA, ROAE, net interest margin and rate of balance sheet growth). The correlations were calculated for by industry group and they were also split between, to mirror the analysis above, into profit seeking and non profit seeking. All of the results were in the range -0.225 to 0.393 indicating no correlation negative or positive between size and business performance. It can therefore be concluded that organisation size has no impact on the results for RQ5.

5.7.1 Discussion of Research Question Five

The results from RQ5 show that the impact of resource difference in product diversification on business performance in UK providers of banking services 1997-2004 is one of a tendency towards increasing return and risk. The greater the resource difference, the higher the range of business performance outcomes both negative and positive. These results have three literature contexts: the results produced, the data collected for the study (research methods) and the use of resources to measure product diversification.

RQ5 results differ from the existing conceptual model developed in this thesis and the extant literature. The conceptual model suggests an inverted J shaped curve derived from Palich et al's (2000) inverted U shaped curve. The extant literature focuses on the relative performance of related and unrelated diversification, seeking to ascertain which delivers superior performance. The results of the literature are inconclusive and can be assigned to three groups; related performs better than unrelated, eg Rumelt (1974 and 1982); Markides and Williamson (1994 and 1996) and Mayer and Whittington (2003), unrelated performs better than related, eg in Chatterjee and Wernerfelt (1991), Elgers and Clark (1980) and Chatterjee (1986) and some of the literature is inconclusive, eg Karim and Mitchell (2000), and Lubatkin and O'Neil (1998).

In contrast RQ5's results can be best characterised as a triangular shape with an increasing range of both positive and negative returns as resource difference increases. This suggests that the question for the business performance of product diversification should be rephrased. From 'does related or unrelated deliver superior business performance?' To 'what is the impact of differing degrees of product diversification on business performance?'

The results of RQ5, set in the context of the data and research methods used answered the calls for fine grained product diversification study eg Markides and Williamson (1996) and Rouse and Dallenbach (2002) work.

Furthermore RQ5 used resource differences to measure the amount of product diversification. This is in contrast to the majority of the literature which used product based SIC codes to assess product diversification (Stimpert and Duhaime, 1997). In contrast, this thesis follows Markides and Williamson (1996) who argued for the examination of the underlying strategic assets [resources] when diversifying, see also Ginsberg (1990). Accordingly this avoids the dangers of being heavily reliant on SIC codes and other broad based external analysis (Johnson et al, 2003).

This study is a single industry study of providers of UK banking services 1997-2004, it is not argued that its results are generalisable. The results for RQ5 do, however, suggest that consideration should be given to re-framing the question asked in research in the area. It is unlikely that a single industry study can show unrelated diversification, though there has been a debate about whether providers of banking services can be classified as a single industry (Heffernan, 2005). However, given the differences within the industry this study at the very least could be considered to examine one widespread industry.

At this stage having conducted one fine grained single industry study using resources to assess level so diversification it is not possible to split out the effects of a single indursty study from a one which uses resources to assess levels of diversification. This suggests multi industry multi resource work, though this might be be dfficiult to achieve and still take account of resource heterogeneity.

The results for this question also raise the question of why might there be differing results for similar level of resource diversification? As the study is quantitative it examines relationships and not causality, however the DRBV literature gives some possible reasons, accuracy of managerial perceptions of relatedness (eg Collis and Montgomery (1995) see also Hitt et al (2001a), strategic direction of the organisation (see Wernerfelt, 1984; and, Teece,

Pisano and Shuen, 1997) and possible of resource importance difference (eg Mehra, 1996 and Powell, 2000) and levels of competition (eg Porter, 1985).

5.8 Research Question Six

To what extent will individual resource differences vary in product diversifications?

The question splits into two parts. To what extent are there differences in the resources in each diversification? And secondly, to what extent does the difference for each resource proxy vary across all diversfications?

To what extent is there a difference for each diversification?

For each diversification three figures were calculated, the minimum resource proxy difference, the maximum resource proxy difference and from this the range of the resource proxy differences. This enabled three aspects of difference to be evaluated.

The mimium resource proxy difference has a small range, varying from 0.00 B/Soc M, S, GI, FA & CB to B/Soc Multiple to 4.91 Broad Investment to Combined, a range of 4.91.

The highest resource proxy difference has much larger range from 10.15 B/Soc M, S, GI to B/Soc M, S, GI & FA to 100 niche investment to broad investment, a range of 89.85.

The difference range varies from 10.02 B/Soc M, S, GI to B/Soc M, S, GI & FA to 99.48 Niche Investment bank to Broad Investment bank.

To conclude, there is wide variation in the differences present in each diversification from 0 to 99.48, ie the difference in resource proxy differences varies from 0 to 99.48% of the total difference present in the study for that resource proxy. For full details of each calculation for each product diversification strategy see Table 5.40 below.

Table 5.37 Highest and Lowest Resource Differences

Resource Differences/ Diversification	B/Soc M,S, FA,CB & PB to Mortgage Provider	B/Soc M,S, FA, CB & PB to Retail	Consumer Credit to Retail	Mortgage Providers to Retail	Retail to Combined	Niche IBs to Broad Investment	Broad Investment Bank to Combined	Private Bank to UK Niche IB	B/Soc M & S to B/Soc M, S & GI	B/Soc M, S & GI to B/Soc M, S, GI & FA	B/Soc M, S, GI & FA to B/Soc M, S, GI, FA & CB	B/Soc M, S, GI, FA & CB to B/Soc M, S, GI, FA, CB & PB	B/Soc M, S, GI, FA, CB & PB to B/Soc Multiple	B/Soc M, S, GI & FA to B/Soc Multiple	B/Soc M, S, GI, FA & CB to B/Soc Multiple
Employees															
Cost of Staff/ Number of Staff (cost per member of staff)			S2 4.15					S2 3.47							
Cost of Staff/ Total Income	L1 33.72														
Cost of Staff/ Operating Expenses - Overheads					L2 46.73	S2 2.08					L2 7.73	L1 19.36			
Balance Sheet Services															
Largest Asset/ Balance Sheet										S1 0.13	L1 12.18				
Largest Liability/ Balance Sheet		L2 38.46					S1 4.91								
Income streams															
Other Operating Income/Net Interest Income		S2 0.57		S1 0.06				L1 98.29				S1 0.17			
Gross Income - Top Source/ Gross Income - Second Top Source					S1 0.94				L1 57.43	L2 9.45			L2 33.93	L2 33.13	L2 29.06
Efficiency															
Cost Income Ratio	L2 52.34			L1 59.73					L2 33.25	L1 10.19		L2 13.78		L1 43.02	
Assets Per													L1		L1

Employee													36.57		45.79
Capital															
Capital to Total assets						L1= 100		L2 89.78							S2 0.07
Equity to Total Assets	S1 0.03		L2 56.95			L1= 100						S2 0.33		S2 0.39	
Losses															
Loan Losses/Balance Sheet			L1 88.97			S1 0.52	S2 5.28	S1 0.05	S1 0.07		S2 0.22		S1 0.02		
Loan Losses/Total capital															
Loan Losses/Pre tax profit		L1 55.93		L2 49.88	L1 40.03										
Liquidity															
Net Loans/Total Assets									S2 0.14				S2 0.11		
Liquid Assets/ Deposits and Short-Term Funding	S2 0.35						L2 87.44				S1 0.01			S1 0.26	
Networks															
Assets per Branches/Offices		S1 0.40	S1 1.66		S2 1.43	L1 98.29	L1 96.61			S2 0.39					S1 0.00
Employees per Branch or Office				S2 0.18											
Highest Difference	52.34	55.93	88.97	59.73	46.73	100.00	96.61	98.29	57.43	10.15	12.18	19.36	36.57	43.02	45.79
Lowest Difference	0.03	0.40	1.66	0.06	1.43	0.52	4.91	0.05	0.07	0.13	0.01	0.17	0.02	0.26	0.00
Range	52.31	55.53	87.31	59.67	45.30	99.48	91.70	98.25	57.36	10.02	12.17	19.19	35.55	42.76	45.79

NB there is one less diversification for RQ7 than RQ5 as B/Soc M, S, FA, CB & PB to Retail is examined both ways in RQ5.

The amount of the differences and their position is shown. L1 = largest difference, L2 = second largest difference, S1 = smallest difference, S2 = second smallest difference. As RQ1 and RQ2 found similarity between many proxies for each resource, it was decided that there would only be one difference per resource taken account of ie L1 and L2 or S1 and S2 could not come from the same resource.

To what extent does the difference for each resource proxy across diversifications vary?

This question will be examined in two ways ulitising the data from table 5.40. How often does a resource have the top proxy difference in each diversfication (either highest or second highest) and how often a smallest difference in each diversfication (either lowest or second lowest)? This enables a comparison to be made with the differences of the other resources. And secondly the range of differences per resource.

The data shows a wide range of differences, starting the the largest number of top differences. Efficiency has all top differences, 8 in total and no smallest differences, income has more top differences (6) than smallest differences (4), employees has 4 top differences and 3 smallest differences, then balance services is equal with 2 top and 2 smallest differences, followed by losses with 6 top and 4 smallest differences, capital has 3 top to 4 smallest differences, networks 2 top to 5 smallest differences and finally liquidity with the smallest number of top differences (1) and the largest number of smallest differences (5). See Table 5.41.

Table 5.38 Number of Top and Smallest Resource Proxy Differences by Resource

Resource/Top or bottom Difference	Number of Largest Differences	Number of Smallest Differences
Employees	4	3
Balance Sheet Services	2	2
Income	6	4
Efficiency	8	0
Capital	3	4
Losses	4	6
Liquidity	1	5
Networks	2	6

The second method of examining the question is the range of the differences for each resource. There are varying levels difference from 31.64 for employees to 99.97 for capital, a range of 68.33. The amount of differences tends to be towards the higher end of the range with five out of eight being above 87.43 (income, capital, losses, liquidity and networks) this distribution results in a mean of the range of the differences of 74.04. See Table 5.42.

Table 5.39 Minimum, Maximum and Range of Resource Differences

Resource/Minimum, Maximum and Range	Minimum	Maximum	Range
Employees	2.08	33.72	31.64
Balance Sheet Services	0.13	38.46	38.33
Income	0.06	98.29	98.18
Efficiency	10.19	59.73	49.54
Capital	0.03	100.00	99.97
Losses	0.02	88.97	88.95
Liquidity	0.01	87.44	87.43
Networks	0.00	98.29	98.29

Examined by resource there are large differences both relative to other resources and within the resource.

In short, both measures show a wide variation in resources in diversfication, whther examined by diversfication or by resource.

5.8.1 Discussion of Research Question Six

The results for RQ6 demonstrate that inter-group resource differences are not uniform both within a diversification and by resource. This is unsurprising since resource heterogeneity has been attributed to eighteen different causes, including, imperfect resource mobility and barriers to entry (Barney, 1991), routine theory (Ethiraj et al, 2005), irreversible investments creating idiosyncratic resources

(Direickx and Cool, 1989) and learning from past experience (Collis, 1996; and Zollo and Winter 2002), for full details see 2.11.2, including Table 2.2. It is not unexpected that if this substantial range of factors can cause heterogeneity in the same type of resource it could also have a different level of impact on different resources giving rise to differing levels of heterogeneity within a range of resources and different product diversification strategies. As the data is largely quantitative there is no data as to why the different levels of heterogeneity exist.

There has been very limited work on differences in resources in diversification. Chatterjee and Wernerfelt (1991) found that resources have different levels of flexibility and Markides and Williamson (1994) conceptualised that different ways of resources changing and combining in product diversification suggest the need to examine resource combinations resource by resource. Other literature does not tackle the issue of variation at resource level. Instead it examines the overall picture, such as levels of resource similarity, Das and Teng (2000), Grant (1991), Larson and Finklestein (1999) Hitt, Ireland and Harrison (2001) and Peteraf and Bergen (2003). This is the first time work of this kind that, the researcher could find, which specifically examines differences by resource since Chatterjee and Wernerfelt (1991) (though it should be bourne in mind that they examine resource flexibility). This thesis the first which looks at a single industry, the first which looks at banking and therefore the first which looks at providers of banking services in the UK 1997-2004. This work suggests a more complex picture than the literature to date with major differences by resource and for organisations managing resources in product diversifications.

5.9 Modifications to the Conceptual Model

The conceptual model required modification following the analysis of the primary data. In summary the results show:

RQ1 and RQ2 - There is sufficient resource heterogeneity to suggest that there is usually a pattern to resources; resources varied depending on the industry sector

and industry group in providers of banking services in the UK 1997-2004. This enabled the rest of the analysis to proceed.

RQ3 - Annual Reports do provide richer resource data and can lead to the identification of resource bundles in providers of banking services in the UK 1997-2004.

RQ4 - Different industry sectors and groups are set in different external environments in providers of banking services in the UK 1997-2004.

RQ5 - Financial performance does not follow an inverted J shape as the amount of resource difference between the current product range and the planned product range increases in providers of banking services in the UK 1997-2004. Instead, as the difference increases the risk increases with increasingly higher and lower levels of performance seen.

RQ6 - There is substantial amount of variance in the level of individual resource difference in product diversification in providers of banking services in the UK 1997-2004.

As a result of the findings from RQ1, RQ2, RQ3, RQ4, RQ5, and RQ6 the conceptual model was modified. Accordingly, the model now shows, differing levels of heterogeneity by resource and diversification; that extra information can be gained from Annual Reports to augment existing resources proxies and provide data for new proxies and identify resource bundles; and that resources are set in differing external environments. Furthemore there is an increasing risk and reward as the level of diversification increases from no diversification through related to unrelated, this resulted in changes to the left hand column within the inner box (see Figures 5.43 [and with more detail in one aspect] in 5.44 below) here the results are shown in block capital letters.

Figure 5.41 Modified Conceptual Model

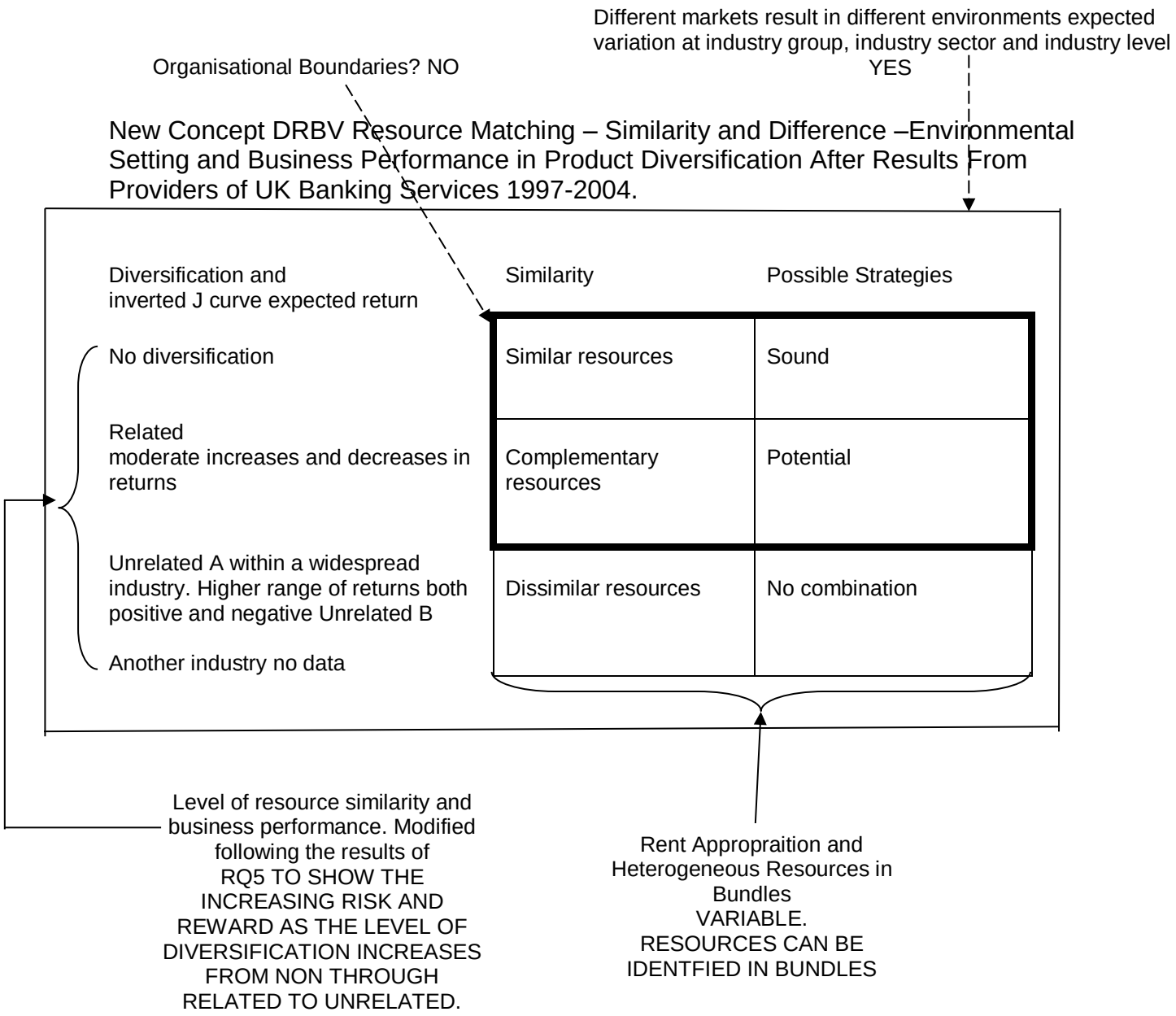
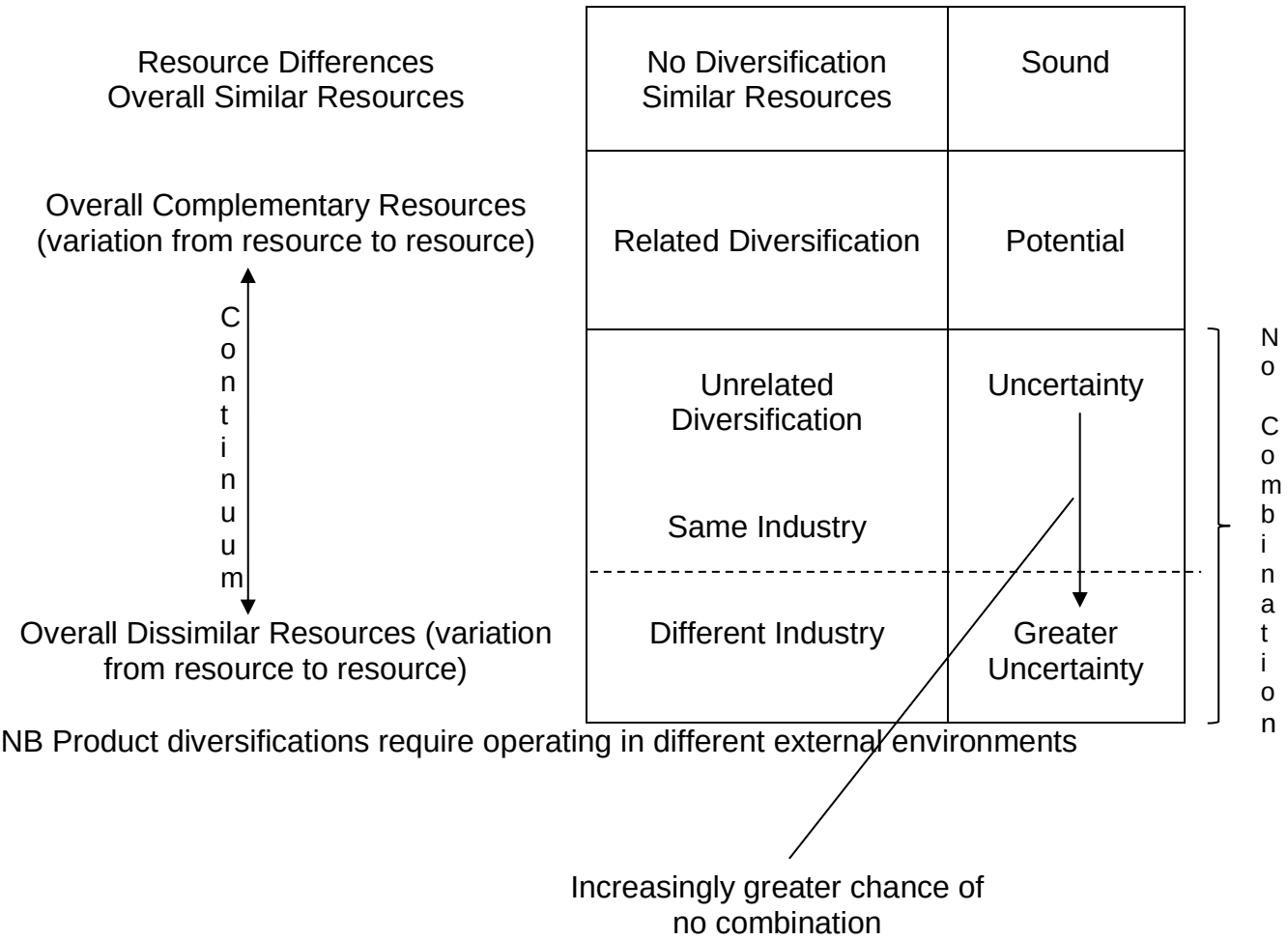


Figure 5.42 examines each of the possible strategic positions as shown in the two right hand columns in the inner box above model in more detail.

Figure 5.42 Conceptual Model – Diversification Types

There are no resource priorities as these have not been tested. There are also no changes to no diversification as this have not been tested. As the business performance results were different from what was expected there are changes to the outcomes of the different levels of product diversification, reflecting increasingly the high risk high returns as diversification increases. It splits no combination into two sub sections – uncertainty and greater uncertainty, the former within the same industry the latter within a different industry, this limitation became apparent during the data collection and analysis.



NB Product diversifications require operating in different external environments

Taking each in turn:

Sound

No diversification and no resource or external priority differences. This strategy has good resource fit, is low risk, low change with limited improvement in performance from similar resources. It is anticipated that performance gains would come from economies of scale.

Potential

Moderate increases to moderate reduced financial returns from complementary resources. This strategy has increased levels of resource change and accompanying increased risk from the probable greater resource change and the need to manage different external environment. It increases financial performance, possibly deriving from economies of scope – however the differing results from RQ5 suggest that these are not always fulfilled. Non fulfilment could lead to no change in returns or even lower returns.

No combination

This is now split into two sections recognising that there are two aspects to this one within the same industry and one were diversification is across two industries

Uncertainty This strategy has a higher range of outcomes which include high positive and negative returns. Typically it has complementary resources but with greater difference than in low potential. There are likely to be increased levels of resource change and external environment change with accompanying increased risk. There is the possibility of increased performance possibly derived from economies of scope however this is are not always fulfilled. Non fulfilment could lead to reduced business performance.

The greater the resource differences, the higher the potential for resource change through resource complementarity but the greater the complexity and risk.

Greater Uncertainty This strategy was untested. It has arguably incompatible resources and expected dissimilar resources and greater levels of external environment change. There is no expected suitable resource combination with danger from moving outside dominant logic/organisational boundaries, it anticipated to be high risk with reduced returns. No attempt to combine resources would result in a positive outcome. Any attempt would require investment for no return but would incur a cost either directly or through opportunity cost.

Chapter 6:

Conclusion

6 CHAPTER SIX - CONCLUSION

Having analysed the data and discussed the findings, this chapter concludes the thesis. It examines the contribution made to theory, to methodology, to empirical work, to practice and to industry knowledge (from the industry chapter). It also critiques the theoretical development, methodology used and empirical results and, finally, identifies opportunities for further work.

6.1 Introduction

This thesis is a response to calls for fine grained research on product diversification, which involved designing two new research strategies. It starts the process of strengthening the conceptual underpinning of DRBV using modified aspects of GRBV. The strengthening was through the development of a new concept for product diversification, resource matching which combines resource heterogeneity, bundling and similarity and difference, environmental setting and projected business performance.

The thesis does not seek positivistic generalisability in its findings nor the creation of a research strategy which could be used in other studies without modification. As the first study of its type there is room to improve the research methods, to conduct further empirical work and to modify the conceptual model.

Despite looking at 1997-2004 the strategy of product diversification is as relevant today. In wider context, as this thesi was being written, the outcome of the proposed merger of Glencore (commodities trading) and Xsrata (mining), which would create a widely product diversified organisation, is still unclear. More specifically for providers of banking services the issues of product diversification is still relevant. For example, since 2007 there has been a decline in the number of independent demutualised Building Societies and the Dunfermline, Derbyshire, Cheshire and Chelsea have all lost their independence. The very recent troubles and change in CEO at Barclays has resulted in speculation that the bank may reduce the breadth of the product

range in its investment banking operation. In contrast some the building societies which had pursued product diversification strategies have been successful, for example, the Nationwide, Yorkshire and Skipton, with the first two taking over the weaker societies mentioned above. Also Nationwide has been reported to be planning to expand its range of service further by increasing its SME provision.

6.2 Contributions

6.2.1 Contributions to Theory

A weakness in RBV is the lack of a theory of DRBV (Angwin, 2004). This is not due to a lack of relevance 'diversification studies may arguably be where the resource based approach has the greatest impact', (Foss, 1997, p.11), and vice versa RBV is important to diversification (Foss, 1997a). This thesis has taken a small step towards developing a theory of DRBV through the development of resource matching, which demonstrates that the conceptual development of DRBV is possible by blending the existing, more conceptual GRBV literature (eg Barney, 1986 and 1991, Amit and Shoemaker, 1993, Reed and De Phillippi, 1990 and Peteraf, 1993) with the more limited, existing DRBV conceptual literature (eg aspects of Markides and Williamson, 1994, Peteraf and Bergen, 2003, Das and Teng, 2000 and Hitt et al, 2001).

6.2.2 Contributions to Methodology

There have been calls for fine grained product diversification studies - Markides and Williamson (1996), Rouse and Dallenbach (2002), Boyd et al (2005), Hitt et al (1998), Sharma and Kesner (1996), and Johnson et al (2003). Those calls had gone unanswered, in respect of DRBV and the relationship between performance and type of product diversfication, until this thesis which responds to the calls with an industry study, of providers of banking services 1997-2004, arguably a widespread industry. It creates a new means of operationalising resources in a diversification study, which takes account of industry level heterogeneity by being tailored to a specific industry. Also it enables multiple resources to be measured and resource differences and

similarities between firms which have adopted differing strategies of product diversification to be calculated.

The research adopts a new approach which recognises that there are issues in quantitative only resource measures. In response, it uses some qualitative proxies, and mindful of concerns about the ability of proxies to measure resources uses multiple proxies per resource eg Boyd et al (2005). Also, the thesis only measures resources for which data was available, again responding to another criticism of proxies eg Ingram and Thompson (1994), and furthermore not using proxies to measure more than one resource, eg Boyd et al (2005).

Acknowledging the limitations of proxies, however applied, eg Spanos and Lioukas (2001), this thesis has also used textual analysis to create cognitive maps of resources of firms with differing product diversification strategies. The picture gained is richer than that available from proxies, even multiple proxies per resource. This approach does not replace proxies but is complementary to the data available from proxies.

Analysis of texts has also made possible the creation of differing cognitive maps of the external environment faced by differing industry groups and sectors, allowing the setting of resources in their context. The use of textual analysis and cognitive mapping is well established, eg Easterby Smith et al (2009) and Howcroft and ul-Haq (2010). The contribution is not the technique but its application to these areas of research.

The use of a detailed product offering analysis, based on organisation websites and Annual Reports, to assist in the production of fine grained industry groupings gives a finer grained approach than the widely used SIC codes, responding to concerns about their use, especially in fine grained studies, eg Robins and Wiersema (1995). This is new approach in DRBV research. As is the use of resources rather than products or product related measures to measure relatedness, this responds to to concerns raised eg Markides and Williamson (1996).

This fine grained approach uses externally available data and is not reliant on organisational access.

The thesis has also developed the unused, apart from four interviews, alternative research strategy. This involved interviews of, and questionnaires, from a range of managers, ideally from the same process in organisations with differing product offerings. The approach used relied on publically available data with largely quantitative resource proxies supplemented by some qualitative proxies and Annual Report comments of Chairmen, CEOs and were needed Directors. In contrast the alternative approach would have gathered data from different levels from inside the organisation, giving a different source for identifying resources and enabling the study causal ambiguity. This method would enable the analysis of resource differences and differing perceived strengths and makes possible the gathering of data on the external environment, enabling comparison, priority assessment and analysis of causal ambiguity. Accordingly the thesis developed two differing research strategies.

6.2.3 Contribution to Empirical Work

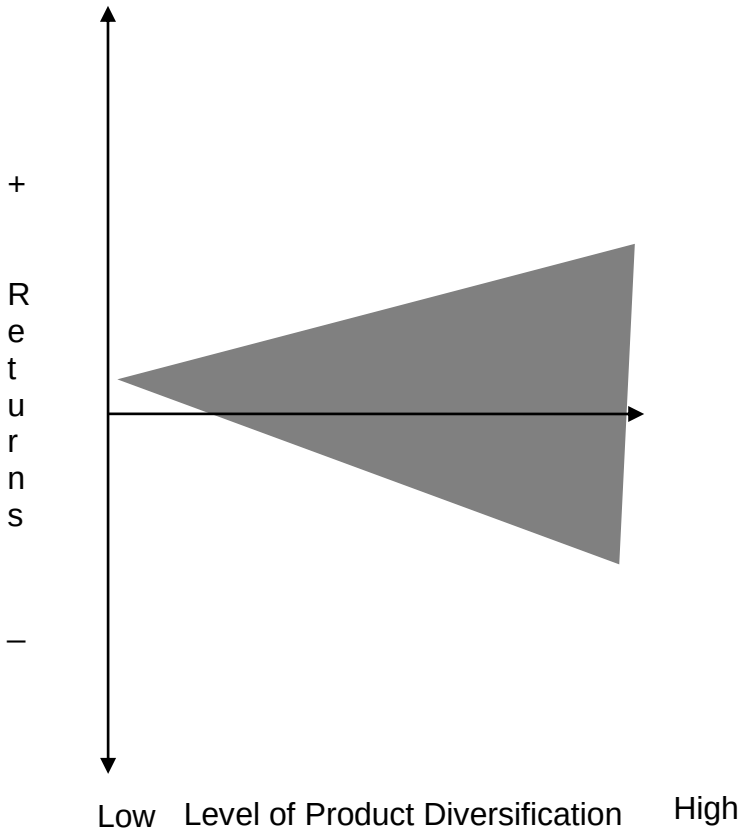
This is the first fine RBV grained study of product diversification and business performance of types of diversification which uses multiple resources to examine a single industry. To date, the work in the area has been overwhelmingly multi-industry studies seeking to answer whether related product diversification performs better than unrelated, using product related measures to assess relatedness. The extant research has focused on the question does or does not related perform better than unrelated? For example, Palich et al (2000) argue for an inverted U shaped curve, with related diversification expected to perform better than unrelated. The research to date has produced conflicting results. Some found related diversification improved performance, eg Rumelt (1974) and Markides and Williamson (1994 and 1996), while others found unrelated performed better eg Chatterjee (1986). Further other research found inconclusive results, eg Lubatkin and O'Neil (1998). These conflicting results have stalled work in the area.

This thesis used 29 organisations which were providers of banking services in the UK in the time period 1997-2004, due to data availability (an accounting regulation change implemented was 2004-5) and an atypical industry environment since 2007.

It establishes the existence of resource heterogeneity of differing degrees for most resources, which enables resource differences to be used, as there is a pattern to the resource differences a firm has to manage when following a strategy of product diversification. Had there been no pattern but random scatter of resources, the results of a resource analysis would have been random.

This study found that the greater the resource differences in product diversification, overall the greater the risk. There is gives both higher returns and lower returns, with a slight decline in most cases, before the higher and lower returns tend to become more pronounced. This is single industry study therefore raises questions about the curvilinear approach advocated by Palich et al (2000). See Figure 6.1 below based on the results for RQ5.

Figure 6.1 Returns and Level of Product Diversification



Resource bundles have been found to exist and a cognitive map can be produced from Annual Reports (sample of six organisations), giving greater detail than proxies alone. The author could find no other research undertaking such work.

The external analysis confirms the need to set resources in their external environment as the environment varies at industry group and sector level. The first time this level detail of work, in this case comparing several industry groups, has been undertaken in DRBV research.

Individual resource differences in product diversification are found to vary in UK banking this gives a complex picture confirming the usefulness of multi resource empirical research. Again, the first time such work has been undertaken in DRBV research.

6.2.4 Contribution from Industry Chapter

The industry chapter demonstrates product diversification is a risky strategy in providers of UK banking services.

6.2.5 Contribution to Practice

This research can aid managers of providers of banking services in the UK and other professionals (eg consultants and industry analysts) when considering product diversification. It could form part of the assessment stage when considering product diversification, either through takeover or by organic growth.

The research provides a method of measuring resource differences between a non - diversified and a diversified firm, as in this thesis, but also between a firm delivering one set of products and one delivering another set of products, where such firms existed, though this research does not provide any initial data. It also supplies data on resource differences and business performance, identifying, the greater the product diversification the greater the performance range, which includes both an improvement and a decline in business performance.

The research may be of use to providers of banking services in other countries and to other industries as a method that can be adapted when considering product diversification and results which could inform a decision on product diversification.

The findings of the industry chapter should be borne in mind when considering a strategy of product diversification, especially in providers of banking services, particularly in the UK. It is historic and does not pretend to predict the future, but may offer some guidance as to the future.

6.3 Critique

As this thesis has created a new concept and not amended an existing one, and as it has created a new methodology and not used an existing one, one criticism common to these aspects is the ability to improve the concept and the methodology. They are not tried and tested and so there is the possibility of significant improvement, accordingly, the critique is wide ranging and perhaps somewhat disparate as this is its first critique and seeks to review the main aspects of the concept and methodology.

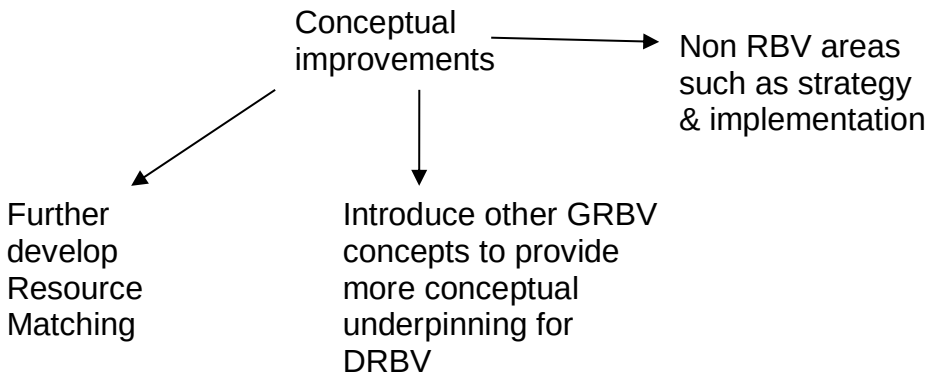
6.3.1 Conceptual

There are three areas:

- Improve existing concept without extending its range, it would be surprising if this new concept was not improved with further research.
- Extend existing concept to other aspects of RBV. The GRBV section of the literature review identified the breadth of RBV, in contrast the DRBV section revealed limited use of many aspects of GRBV, such as causal ambiguity, resource importance, resource intangibility and path dependency.
- Extend concept to include other relevant issues pertinent to product diversification, these could include strategies followed and implementation, as well as more detailed examination of the external environment, including competition.

See opportunities for further work for more detail and Figure 6.2 below.

Figure 6.2 Conceptual Improvements



6.3.2 Methodological and Empirical

This section is split into general issues which cover macro aspects, and the series of micro areas, sectors and groups, proxies, resource difference measurement, measuring business performance, textual analysis and relative importance.

<u>General</u>

- Inability research look inside the organisations, the thesis solely utilises publicly available data. Internal data from interviews and questionnaires from a range of managers and levels would mitigate the identification issue raised in the literature (eg Barney, 1986)
- The product diversification literature has developed a series of ways of assessing relatedness which are related to the products an organisation offers. The most widely used being standard industry classification codes (SIC) codes (eg Palepu, 1985; Chatterjee and Wernerfelt, 1991; and Hansen, Perry, and Reese, 2004), entropy (a measure of weighted sales) and Herfindal (measure of market share). It should also be noted that there has been recent work in this area which has sought to refine product based measures In contrast this thesis uses the fundamentally different approach (see for example Markides and Williamson, 1996) of resource difference but makes no assessment of the difference between this approach and the those which have been used before.

- To reduce the impact of an a typical year the thesis undertakes a longitudinal study. However for ease of analysis, the thesis uses mean figures and does not look at resource change or variation in the time period.
- This is a single industry study which enables a fine grained approach which takes account of the core RBV assumption of resource heterogeneity. However within a single industry there is there might not be an example(s) of unrelated diversification - a wide ranging conglomerate like GE straddles several industries with interest which include financial services, aviation, oil and gas. Moreover the use of industry specific proxies creates difficulties in measuring firms which have diversified outside a single industry.
- Heavy reliance on two main data sources, ie Annual Reports and Bankscope, restricted the data used.
- Some of the most detailed GRBV literature (eg Ray et al, 2004 and Ethiraj et al, 2005) undertakes a fine grained analysis of processes. In contrast this thesis examines whole firms.
- The empirical data is historic - it stops in 2004 and is restricted to one industry and country. This limits the relevance of the findings.
- The reliance on accounting data makes the methodology vulnerable to changes in accounting standards and for the thesis restricted the number of years studied.
- The full range of providers of banking services includes based broad investment banks. As there were none in the UK which met the criteria of the study US based firms were used (the four broad investment banks). As they employeed different accounting standards and had the majority of their business outside the UK, this reduced the relevance of their data.
- Chatterjee and Wernerfelt (1991) found differing levels of resource flexibility, this was not taken into account in RQ5.

<u>Sectors and Groups</u>

- The fine grained allocation of Building Societies to industry groups was undertaken using the criteria that a product had to be offered for over 50% of the period studies, ie at least five years, even though the organisations strategy may have changed during the period of the study. Such a change would reduce the robustness of the industry groups.

Proxies

- Bankscope is industry specific accordingly it would provide data for studies of providers of banking services in other countries. Whilst Bankscope derives its data from Annual Reports, it would be time consuming to use Annual Reports to gather data on firms in other industries making a comparable study of other industries more difficult.
- Resource proxies could be further developed. Following the themes of the literature critique of proxies (eg Penning, Lee and van Witteloosuijn, 1998; Harrison et al, 1993; and Miller and Shamsie, 1996), there may be a way of measuring some resources not measured, eg technology, or improving the measurement of resources covered such as losses and employees.
- RBV argues that resources are heterogeneous at several levels including industry (eg Henderson and Cockburn, 1994; Iansiti and Clark, 1994; Berman, Down and Hill, 2002; Knott, 2003a). Accordingly the resource proxies for this thesis were designed for providers of banking services and the proxies would need changing for different industries.
- To better represent individual industry groups, and therefore individual product diversification options the thesis uses a non-weighted measure to calculate industry sector resource proxy means from the industry group resource proxy means. However the sectors have differing numbers of organisations. A weighted mean would take into account the number of organisations in the industry group and sector.
- An important criteria for the organisations chosen for the study, and for resource proxies and performance measurement was the size of its assets, moreover the largest asset was also used for proxies. However, Bankscope assets do not include funds under management which would be expected to play an important role in several organisations. This would also impact on the liability resource proxies.

Resource Difference Measurement

- The thesis only measures resource differences between none or less diversified and more diversified. Not between two non-diversified organisations or an existing diversified and its new target market. This means the research does not show the underlying resource difference between two industry groups but the difference between the existing organisation and the mean resource position of the possible new organisation, a smaller figure than that between the existing organisation and its target market.
- The measurement of resource differences for the assessment of performance measured is in relation to total industry variation for the resource. It is a relative, not an absolute measure, which could vary from industry to industry.

Measuring Business Performance

The thesis ultised were possible with adptataions existing business performance measures, however:

- The method of calculating business performance for RQ5 between mutual and profit sharing organisations might just measure natural differences between the two types of organisation.
- The measure of mutual performance does not take account of bonus payments direct to members.
- This measure does not take into account the possibility of different levels of business performance in different industries, or different industry sectors or groups which would affect the business performance analysis.
- Does not use market share as a measure of business performance due to a lack of data for the industry, restricting the data to aspects of size, profit margins and profitability.
- The measure of growth of the size of the organisations used is based on the balance sheet which does not take account of any growth in fee income.
- Some of the performance indicators used are industry specific, eg ROAA and net interest margin and would not be useable in other industries.

Textual Analysis including Resource Bundles

- Resource bundles could be examined in more detail eg is it possible to quantitatively measure differences or will analysis be limited to qualitative? Any quantitative data could be fed into the resource difference/performance difference calculations.
- There were different levels of detail of data in Annual Reports, some were more detailed on the external environment and resources than others, this resulted in variable levels of data for both RQ3 and RQ4.

This volume of critique is not surprising as this is a totally new methodology, used for the first time which examines resources, external factors and business performance, seeking to identify, measure and assess some of their interdependencies.

Reflective Learning

Undertaking this thesis has taught the author the importance of access, especially its timing. As well as the need to review the data available before inputting and analysis, this would have saved a significant amount of time had issues with changes in accounting regulations and the availability of data been resolved earlier. There is also the wider learning of how to undertake a research project and a recognition that some gasp are perhaps unfilled due to the difficiulty in fliing them!

6.4 Opportunities for Further Work

These are closely linked with the critique and in many cases directly respond to it, for ease this section follws the same format as the critique.

6.4.1 Conceptual

- Further Develop Resource Matching Further empirical work is expected to result in more modifications, especially if this is based on internal data. There is the possibility of: i) different models for different resources, ii) developments from other empirical research, which could include different models for different

industries, and iii) the different size resource gaps in product diversification could mean that different resource combinations (Markides and Williamson, 1994) would take place, a) economies of scope, b) asset improvement, c) asset creation and d) asset fission. The type of change might depend on the distance between the resources and vary depending on the resource.

- Extend to Other Areas of RBV The conceptual model includes a limited number of GRBV aspects which could be applied to develop DRBV concepts. Any of the other areas in GRBV which have not been included might be able to be to develop Resource Matching for example path dependency and resource importance. Also, the unused technique would allow greater examination of causal ambiguity.
- Extend to Other Areas Outside RBV Detailed examination of other factors, eg strategies pursued by the organisation (possibly low cost verses high cost) and implementation. This could also include other concepts to examine resources, such as operations concepts which impact on the design of operations, including the 4Vs (volume, variety, variation and visibility), the five performance objectives (speed, quality, dependability, flexibility and cost) and typologies of differences in service operations - see Literature Review on Services 2.22). This work is similar in scope to Hitt et al (2001a) on M and A. A conceptual paper (Thornton, Hudson Smith and Howcroft, forthcoming) examining the links between RBV and operations has been accepted at BAM 2012.
- A different approach to product diversification and its established question: which is the most successful related or unrelated? This single industry research finds that the business performance outcome range spreads as resource difference increases, creating the possibility of both higher and lower returns. This suggests that it would be useful to rephrase the question at the core of this area of research making it broader by changing it to an examination of the relationship between types of diversification and business performance, rather is does related or unlrelated give superior performance. This rephrasing and the results of this study also indicate that statistical methods which assume linearity like multiple regression may not be the most appropriate statistical techniques to use for such research.

6.4.2 Methodological

General

- Utilise the internal methods set out in this thesis (utilising interview and questionnaire) which could examine resources and their external setting at process, business division and/or firm level, resulting in finer grained detail on resources, resource bundles and the external environment.
- Conduct another type of fine grained DRBV diversification study - this could be a case study of the strategy of a single, possibly a multi industry firm. As no research method is perfect (McGrath, 1982 in Scandura and Williams, 2000) using a different set of methods is expected to result in an increase in the level of knowledge.
- Improve the new operationalisation of resources, of external factors and their comparison perhaps through using new data collection techniques, see the two bullet points immediately below.
- Combine methods used in this research with interviews and questionnaires. This would give more comprehensive data and enable more triangulation, eg cognitive maps with other sources, more junior employee interviews, analysts and other expert's views.
- Compare the results from assessing product diversification by the established product relatedness measures, such as SIC codes (eg Chatterjee and Wernerfelt, 1991; Hansen, Perry, and Reese: 2004; and Lin, Yang and Arya, 2009), with those from multiple resources as developed by this thesis. As this thesis covers a very limited number of SIC codes all at the third digit level, this would require further studies using the methods set out in this thesis including other industries. Accordingly this would enable an assessment to be made of the usefulness of utilising resources to measure relatedness. If there is a high correlation between the two this could lead to the use of an established method which is likely to have easier data collection, such as SIC codes (see Palepu, 1985 and Montgomery's (1982) in Stimpert and Duhaime (1997) finding of a high correlation between SIC codes and Rumelt's classification which led to the use of SIC codes). The opposite result would suggest that the use of multiple resource proxies to measure relatedness should persist.

- Use other sources of external data, eg professional journals, expert panels and analysts' reports. This would increase the data available for resources and external factors.
- It may be possible to look at large diversified conglomerates by aggregating a series of individual industry data from the subsidiaries and so look at more than one industry, though losing some of the fine grained detail of a single industry study.
- Give consideration to how to handle differing levels of data per organisation.
- Work at process level work would provide a greater level; data could be collected from managerial interviews and questionnaires or expert panels.

Sectors and Groups

- Examine the possibility of studying one year only to severely curtail having firms with evolving product diversification strategies placed in an industry group based on their predominant product offering during the timescale. Though this would increase the impact of an atypical year.
- Increase the criteria for inclusion in group from a strategy followed in 50% plus one years, in this case five out of eight years to perhaps six out of eight (75%). This would reduce the number of organisations but would be more rigorous and could be used where a larger number of organisations are available, for example the US banking industry.

Proxies

- Develop new resource proxies for providers of banking services, this would increase the rigour of such empirical work, in some areas industry awards might be used.
- Develop new resource proxies for new industries, an area of consideration would be technologies used.
- Could use Annual Reports to obtain figures for funds under management. This could result in changes to the organisations in the sample and any calculations involving assets.
- Use of weighted group and sector means, this would give a better representation of the balance of firms within an industry.

Resource Difference Measurement

- Consider using both the range and the mean of resource differences when assessing resource differences and business performance. This would take account of the range of resource differences.
- Seek alternative measures for level of resource difference for comparison with business performance. Perhaps a measure of difference based on multiple industries could be used for generic resources.
- Measure resource differences between the existing organisation and a firm which solely offers the new products it is considering. Business performance could still be measured between the non-diversified and the diversified organisation. This would require a market where all three types of organisation exist (i.e. the original, a firm which solely offers the new products it is considering and firm which has already undertaken such a diversification). Such a measurement would assess the difference between the existing and planned market and not as this thesis did between the current organisation and the aggregate position of the diversified organisation, accordingly it would highlight areas of resource similarly and difference more clearly.

Measuring Business Performance

- Only use profit-seeking organisations or non-profit seeking organisations. Not using both in the same study would avoid possible conflict between different business performance goals, industry numbers permitting.
- Develop fine grained performance measures for other industries to replace the industry specific measures of ROAA, and net interest margin.
- Adapt mutual performance measures to take account of rewards and other payments to members.

Textual Analysis including Resource Bundles

- Compare bundles of resources, number of resources, types of resources, number of connections and complexity of connections ie how many resources at each connection and the resources connected. This would increase the the data available from the analysis of texts.

- Use a group of experts (with differing skills) to produce cognitive maps of resources, making the cognitive mapping more objective.
- In large organisations where there is sufficient detail, the Annual Reports could enable the production of bundles for each division, permitting intra organisation comparison, though resource analysis at process level.

6.4.3 Empirical

- Conduct research on other industries and other countries, this would increase the knowledge and accordingly give some generalisability.
- The existing data (1997-2004) could be used: i) in different RBV areas and be utilised for other RBV work, eg rate of resource development, application of aspects of VRIO - are there some resources which are more valuable, which are rare, and are there persistent differences which suggest issues with imitation and/or substitution of some for others? ii) to tackle resource development and issues with substitution and imitation. There could be findings on sustainable resource heterogeneity; the data already collected enables this to be reviewed within industry groups and sectors.
- Resources could be examined on an individual basis to test if there are different levels of flexibility. This data could come from comparing resource differences and performance.
- Utilise the research methods opportunities detailed above to improve the existing study.

A word of warning on data availability - the banking database Bankscope provided a significant amount of data for this study. Not all industries have a similar source of data - multi industry databases such as Fame and DataStream do not have the same amount of data as Bankscope. Accordingly comparable studies using a single database may only be feasible within the banking industry. This would mean a series of studies of other countries covered by Bankscope, eg Australia and the USA.

Without a comparable database to Bankscope, it would be significantly more time consuming to carry out similar research as the information would have had to be extracted from individual Annual Reports. However, it may not always be possible to obtain several years of Annual Reports - they might not be available for smaller firms or in all other countries.

A Final Thought

This thesis identified gaps in the literature. To research this required filling a gap in research methods twice, one used one unused. These new research methods have resulted in the creation of new knowledge on the impact of resources and their external setting on the business performance of product diversification. The literature gap identified was not a gap surrounded by, or largely surrounded by, existing knowledge, but a line in the literature which this thesis has crossed but only to advance a small way across the line both conceptually and empirically using single industry study. The thesis has achieved this by adapting some aspects of a strong set of GRBV conceptual thinking and combining it with some of the limited DRBV conceptual thinking to possibly restart the stalled work on the impact on performance of product diversification. Hence the significant large amount of opportunities for further study; conceptual, methodological and empirical.

Stimpert and Duhaime (1997) were correct - the literature does not take account of how complex is [resource] relatedness [in product diversification when set in its external setting].

7 References

Journal Articles and Book Chapters

Adegbesan, AJ (2009), On the Origins of Competitive Advantage: Strategic Factor Markets and Heterogeneous Resource Complementarity, *Academy Of Management Review,* Vol. 34, No. 3, 463–475.

Adner, R. and Helfat, C.E. (2003), Corporate Effects and Dynamic Managerial Capabilities, *Strategic Management Journal,* Vol, 24, No 10, pp. 1011-1025.

Afuah, A., (2002), Mapping Technological Capabilities into Product Markets and Competitive Advantage: The Case Of Cholesterol Drugs, *Strategic Management Journal,* Vol, 23, No 2, pp.171-179.

Ahuja G., and Katila R., (2004*),* Where Do Resources Come From? The Role of Idiosyncratic Situations, *Strategic Management Journal,* Vol, 25, No 8/9 887-902

Amit R., and Shoemaker PJH., (1993) Strategic Assets and Organisational Rent, *Strategic Management Journal,* Vol, 14, No 1, pp.33-46

Anand, BN, and Khanna, T, (2000), Do Firms Lean to Create Value? The Case of Alliances, *Strategic Management Journal,* Vol, 21, No 3, pp. 295-315.

Anand, J and Singh, H, (1997), Assets Redeployment, Acquisition and Corporate Strategy in Declining Markets, *Strategic Management Journal,* Volume 18, No S1, pp.99-118.

Argyres, N, (1996), Evidence Of The Role Of Firm Capabilities In Vertical Integration Decisions, *Strategic Management Journal,* Volume 17, No 2, pp.129-150.

Argyres, N., (1996b) Capabilities, Technological Diversification and Divisionalization, *Strategic Management Journal,* Vol, 17, No, pp.395-410.

Ashton, JK, (2001) *A Test of Perfect Competition in the UK Retail-Banking Deposit Market*, The Service Industries Journal Vol 21, No4, pp. 119-132

Baele, L, De Jonghe, O and Vander Vennet, R. (2007), Does The Stock Market Value Bank Diversification?*, Journal of Banking and Finance*, Vol 31, No 7, pp. 1999-2023.

Balakrishnan S., and Fox I., (1993), Asset Specificity, Firm Heterogeneity and Capital Structure, *Strategic Management Journal*, Vol, 14, No 1, pp.3-16.

Barnett W.P., Greve H.R., and Park D.Y.,(1994), An Evolutionary Model of Organisational Performance, *Strategic Management Journal,* Vol, 15, Winter Special Edition, pp.11-28.

Barney, J.B. (1986), Strategic Factor Markets: Expectations, Luck, and Business Strategy*, Management Science,* Vol 32, No 10, pp. 1231-1241.

Barney, JB., (1986a), Organisational Culture: Can It Be a Source of Sustained Competitive Advantage? *Academy of Management Journal,* Vol, 11, No 3, pp. 656-665.

Barney, J.B. (1991), Firm Resources and Sustained Competitive Advantage, *Journal of Management*, Vol.17, No. 1, pp. 99-120.

Barney, J.B. (1995) Looking Inside for Competitive Advantage, *Academy of Management Executive,* Vol 9. No 4, pp. 49-61

Barney, J.B., (2001), Is the Resource-Based "View" A Useful Perspective for Strategic Management Research? *Yes, Academy of Management Review,* Vol 26, No1. pp.41-56.

Barney, J.B., and Arikan, A.M., (2001), The resource-Based view: Origins and Implications, pp.124-188 in Hitt, M.A., Freeman, R.E., and Harrison, J.S., (eds) (2001), *The Blackwell Handbook of Strategic Management,* Blackwell Business.

Barney, J.B., and Hansen, M.H., (1994), Trustworthiness as a Source of Competitive Advantage*, Strategic Management Journal,* Vol, 15, Winter Special Issue, pp.175-190.

Barney, J, Wright, M and Ketchen, D.J, (2001), The Resource Based View of the Firm: Ten Years After 1991, *Journal of Management,* Vol, 27, Special edition, pp. 625-641.

Barney, J.B. and Zajac, E.J. (1994), Competitive Organisational Behaviour : Towards an Organisationally-Based Theory of Competitive Advantage, *Journal of Strategic Management,* Vol, 16, Winter Special Edition, pp. 5-9.

Batiz-Lazo, B., and Wood, D. (2001), Management of Core Capabilities in Mexican and European Banks, *International Journal of Bank Marketing,* Vol, 19, No 2, pp. 89-100.

Batiz-Lazo, B., and Wood, D. (2001a), Information Technology Innovations and Commercial Banking: A Review and Appraisal From An Historical Perspective, Accounting and Finance Research Unit. ? used

Bergh, DD, (1998), Product-Market Uncertainty, Portfolio Restructuring, and Performance: An Information-processing and Resource-Based View, *Journal of Management,* Vol, 42, no 2, pp.135-155

Bergh, DD, Diversification Strategy Research at a Crossroads, pp. 362-383 in Hitt, M.A., Freeman, R.E., and Harrison, J.S., (eds) (2001), *The Blackwell Handbook of Strategic Management,* Blackwell Business.

Bergh, DD, (2001a), Executive Retention and Acquisition Outcomes: A Test of Opposing Views on the Influence of Organizational Tenure, *Journal of Management,* Vol, 27, No 5 , pp.603-622.

Bergh, DD, Johnson, RA and Dewitt, R-L (2008), Restructuring Through Spin-Off or Sell-Off: Transforming Information Asymmetries into Financial Gain, *Strategic Management Journal,* Vol 29, No 2 pp.133-148.

Berman, S.L, Down, J. and Hill, C.W.L. (2002), Tacit Knowledge as a Source of Competitive Advantage in the National BasketBall Association, *Academy Of Management Journal,* Vol 45, No 1, pp.13-31.

Bettis R.A., (1981), Performance Differences in Related and Unrelated Diversified Firms, *Strategic Management Journal,* Vol 2, no 4 pp.379-393

Bettis R.A., and Prahalad C.K., (1995), The Dominant Logic: Retrospective and Extension, *Strategic Management Journal,* Vol, 16, No 1, pp.5-14.

Birkinshaw J., Hood N., and Jonsson S., (1998), Building Firm Specific Advantages in Multinational Corporations: The Role of Subsidiary Initiative, *Strategic Management Journal*, Vol, 19, No 3, pp.221-241.

Black, J.A., and Boal, K.B., (1994), Strategic Resources: Traits, Configurations and Paths to Sustainable Competitive Advantage, *Strategic Management Journal,* Vol, 15, Summer Special Edition, pp.131-148.

Blyer M., and Coff,R.W. (2003), Dynamic Capabilities, Social Capital and Rent Appropriation: Ties That Split Pies, *Strategic Management Journal,* Vol, 24, No 7, pp. 677-686.

Bogner W.C. and Thomas, H. (2004), Core competence and Competitive Advantage: A model and Illustrative Evidence from the Pharmaceutical Industry pp. 111-144, in Hamel, G and Heene, A (eds), *Competence-based Competition,* John Wiley and Sons.

Bogner WC., Thomas H., and McGee J., (1999), Competence and Competitive Advantage: Towards a Dynamic Model, *British Journal Of Management,* Vol, 10, No 4, pp.275-290.

Bowen, H.P. and Wiersema M.F., (1999), Matching Method to Paradigm in Strategy Research: Limitations of Cross Sectional Analysis and Some Methodological Alternatives, *Strategic Management Journal*, Vol, 20, No 7, pp.625-636.

Bowman, C. and Ambrosini, V., (2000), Value Creation Verses Value Capture: Towards a Coherent Definition of Value in Strategy, *British Journal Management,* Vol, 11, No 1, pp.1-15.

Bowman C and Ambrosini V, (2003), How the Resource Based and the Dynamic Capability Views of the Firm Inform Corporate Level Strategy, *British Journal of Management,* Vol, 14, No 4, pp.289-303.

Bowman, EH and Helfat, C E. (2001), Does Corporate Strategy Matter? *Strategic Management Journal,* Vol, 22, No1 pp. 1-23.

Boyd, B.K., Gove, S. and Hitt, M.A. (2005), Construct Measurement in Strategic Management Research: Illusion or Reality? *Strategic Management Journal,* Vol, 26, No 3, pp.239-257

Briault, C (2000), FSA Revisited and Some Issues for European Securities Markets Regulation, London Financial Services Authority, December.

Bromiley, P and Fleming, L (2002) The Resource Based View of Strategy: A Behaviourist Critique, pp. in Augier, M. and March J.G., *The Economics of Choice, Change and Organisation: Essays in Memory of Richard M. Cyert,* Edward Elgar 2002.

Brush T.H., and Artz K.W. (1999), Towards a Contingent Resource Based Theory: The Impact of Information Asymmetry on the Value of Capabilities in Veterinary Medicine, *Strategic Management Journal*, Vol, 20, No 3, pp. 223-250

Bryce, DJ and Winter, DJ (2009), A General Interindustry Relatedness Index, *Management Science,* Vol 55, No 9 pp.1570-1585

Campbell A. and Goold M, (1992) Building Core Skills, Ashridge Strategic Management Centre Working Paper pp.163-187, in Campbell, A.& Sommers Luchs K, (1997) (Eds.) *Core Competency Based Strategy,* International Thomson Business Press

Campbell A., Goold M. and Alexander M., (1995), Corporate Strategy: The Quest for Parenting Advantage*, Harvard Business Review,* March-April, pp.120-132.

Capron. L. Dussage, P. and Mitchell, W. (1998), Resource Deployment Following Horizontal Acquisitions in Europe and North America, 1988-1992, *Strategic Management Journal,* Vol, 19, No 7, pp.631-661.

Carmeli, A. and Tishler ,A. (2004), The Relationship Between Intangible Organisational Elements and Organisational Performance, *Strategic Management Journal,* Vol, 25, no 13, pp.1257-1278.

Castanias, R.P. and Helfat C.E. (1991), Managerial Resources and Rents, *Journal of Management,* Vol, 17, No 1, pp.155-171

Castanias, R.P. and Helfat C.E. (2001), The Managerial Rents Model: Theory And Empirical Analysis, *Journal of Management,* Vol, 27, No 6, pp.661-678.

Chang, SJ, (1995), International Expansion Strategy of Japanese Firms: Capability Building Through Sequential Entry, *Academy of Management Journal,* Vol, 38, No 2, pp.383-407

Chang, S.J., and Singh, H. (1999), The Impact of Modes of Entry and Resource Fit on Modes of Exit by Multi Business Firms, *Strategic Management Journal,* Vol , 20, No 11, pp. 1019-1035.

Chatterjee S., (1992), Sources of Value in Takeovers: Synergy or Restructuring-Implications for Target and Bidder Firms, *Strategic Management Journal*, Vol, 13, No 4, pp.267-286.

Chatterjee S. and Wernerfelt B., (1991), *The Link Between Resources and Type of Diversification: Theory and Evidence, Strategic Management Journal,* Vol, 12, No 1 pp. 33-48

Chou C-C and Chang, P-L, (2004), Core Competence and Competitive Strategy of the Taiwan Shipbuilding Industry: A Resource Based Approach, Maritime Policy Management, Vol, 31, No 2, pp.125-137.

Claessens, S and Klingebiel, (2001) *Competition and Scope of Activities in Financial Services*, The World Bank Research Observer Vol 16, no1 pp. 19-40.

Cockburn, IM, Henderson, RM and Stern, S, (2000), Untangling the Origins of Competitive Advantage, *Strategic Management Journal,* Vol, 21, No 10/11 pp. 1123-1145

Coff, RW (1997), Human Assets and Management Dilemmas: Coping with Hazards on the Road to resource Based Theory, *Academy of Management Review,* Vol, 22, No 2, 374-402.

Coff RW, (2002) *Human Capital, Shared Expertise, and the Likelihood of Impasse in Corporate Acquisitions,* Journal of Management, Vol, 28, No 1, pp.107-128

Cohen WM and Levinthal D (1990), Absorptive Capacity: A New perspective on Learning and Innovation, *Administrative Science Quarterly,* Vol 35, No 1, pp. 128-152

Colbert, BA, (2004) The Complex Resource Based View: Implications for Theory and Practice in Strategic Human Resource Management, *Academy of Management Review* Vol 29, No, 3, pp.341-358.

Collis D.J., (1991) A Resource Based Analysis of Global Competition: The Case of the Bearings Industry, *Strategic Management Journal* Vol 12, Summer, pp.49-68

Collis D.J., (1994) Research Note: How Valuable Are Capabilities? *Strategic Management Journal,* Vol 15, Winter Special Edition, pp.143-152.

Collis, D.J, and Montgomery, C.A., (1995) Competing on Resources, *Harvard Business Review,* July-August, pp.118-128.

Collis, D.J, and Montgomery, C.A., (1998), Creating Corporate Advantage, *Harvard Business Review,* May-June, pp.71-83.

Combs, J.G. and Ketchen, D.J., (1999), *Explaining Interfirm Co-operation and Performance: Toward A Reconciliation Of Predictions From The Resource Based View and Organisational Economics,* Strategic Management Journal Vol 20, No 9, p867-888.

Conant, J.S., Mokwa M.P., and Varadarajan P.R, (1990), Strategy Types, Distinctive Marketing Competencies and Organisational Performance: A Multiple Measures Based Study, *Strategic Management* Journal Vol 11No 5 pp.365-383.

Conner K.R., (1991) A Historical Comparison of Resource-Based Theory and Five Schools of Thought Within Industrial Organisation Economics: Do We Have a New Theory of The Firm?, *Journal of Management* Vol 17 No.1 pp.121-154.

Conner, KR, and Prahalad, CK (1996), A Resource-based Theory of the Firm: Knowledge verses Opportunism, *Organization Science* Vol 7, No 5, pp.477-501

Conrad, G.R.(1963) Unexplored Assets for Diversification*, Harvard Business Review,* Sept.-Oct. pp. 67-73

Cordingly, M, Christmann, P and King DR (2008) Reducing Causal Ambiguity in Acquisition Integration: Intermediate Goals as Mediators of Integration Decisions and Acquisition Performance, *Academy of Management Journal,* Vol, 51, No 4, pp. 744-767.

Crook, RT, Ketchen, DJ, Combs, JG and Todd, SY, (2001) Strategic Resources And Performance: A Meta-Analysis, *Strategic Management Journal,* Vol 29, No 11, pp.1141-1154

Cuervo-Cazurra, A. (2003) "Transforming the Firm through the Co-evolution of Resources and Scope." *Strategy Process*. Chakravarthy, B, Mueller-Stewens, G, Peter Lorange, P and Lechner, C (eds). Blackwell Publishing, 2003. Blackwell Reference Online. 11 June 2012 <http://www.blackwellreference.com/subscriber/tocnode?id=g9781405100670_chunk_g97814051006706>

Daft, R and Lewin, A, (1990), Can Organisation Studies Begin to Break Out of the Normal Science Straitjacket? An Editorial Essay, *Organisation Science*, Volume 1, No 1. pp.1-9

Das T,K. and Teng, B-S, (2000), A Resource Based Theory of Strategic Alliances, *Journal of Management* Vol 26, No 1, pp. 31-61.

Datta, D.K. and Pinches G.F., (1992) Factors influencing Wealth Creation From Mergers and Acquisitions: A Meta- Analysis*, Strategic Management Journal.* Vol 13 No 1 pp.67-84

De Carlois, DM, (2003), Competencies and Imitability in the Pharmaceutical Industry: An Analysis of Their Relationship with Firm Performance, *Journal of Management* Vol 29, No 1, pp.27-50

Decker, S.A. and Thornton C.D. (2002), *Diversification and Core Competencies in Financial Services: a Case Study of UK Commercial and Investment Banking,* Working Paper presented at the British Academy of Management Conference.

Demsetz, H (1973), Industrial structure, Market Rivalry and Public Policy' *The Journal of Law and Economics* 16*.* pp. 73-82 in Foss, NJ, (ed), (1997) *Resources, Firms and Strategies,* Oxford University Press

De Vita, G, Tekya, A, Wang, CL (2011), The Many Faces of Asset Specificity: A Critical Review of Key Theoretical Perspectives, *International Journal of Management Reviews,* Vol 13, No 4, pp.329-348

Dierickx, I. and Cool K., (1989) Asset Stock Accumulation and Sustainability of Competitive Advantage, *Management Science* Vol 35 No 12, pp.1504-1551.

Døving, E and Gooderham, PN (2008), Dynamic Capabilities as Antecedents of the Scope of Related Diversification: The Case of Small Firm Accountancy Practices, *Strategic Management Journal,* Vol 29, No 8, pp.841-857

Doz, Y.(1994), Managing Core Competency for Corporate Renewal: Towards a Managerial Theory of Core Competences, *INSEAD Working Paper*, pp. 53-75 in Campbell, A.& Sommers Luchs K, (1997) (Eds.) *Core Competency Based Strategy,* International Thomson Business Press.

Dyer, J.H. and Singh, H., (1998) The Relational View: Cooperative Strategy and Sources of Interorganisational Competitive Advantage, *Academy of Management* Review Vol 23 No 4, pp.660-679

Eisenhardt, K.M. and Martin, J.A, (2000), Dynamic Capabilities: What Are They? *Strategic Management Journal* Vol 21, No 10/11, pp. 1105-1121.

Eisenhardt, KM and Schoonhoven, CB, (1996), Resource-based View of Strategic and Social Effects in Entrepreneurial Firms, *Organisation Science* Vol 7, No 2 pp.136-150.

Ethiraj, S.K., Kale, P. and Krishnan, M.S. (2005), Where do Capabilities Come From and How Do They Matter? A Study in the Software Services Industry, *Strategic Management Journal* Vol 26, No 8 pp.25-45.

Farjoun M., (1994) Beyond Industry Boundaries: Human Expertise, Diversification and Resource-related Industry Groups, *Organisational Science* Vol. 5 No2, pp. 185-199.

Felin, T And Hesterly, WS (2007), The Knowledge-Based View, Nested Heterogeneity, and New Value Creation: Philosophical Considerations on the Locus of Knowledge, *Academy of Management Review*, Vol. 32, No. 1, 195–218.

Fiol, C.M. (1991), Managing Culture as a Competitive Resource an Identity-Based View of Sustainable Competitive Advantage, *Journal of Management* Vol 17, No 1 pp.191-211.

Fiol, C.M. (2001), Revisiting an Identity-Based View of Sustainable Competitive Advantage, Vol 27, No 6 pp.691-699.

Foss, NJ, (1997a) Resources and Strategy: Problems, Open Issues, and Ways Ahead, pp.354-365 in Foss, NJ, (ed), (1997) *Resources, Firms and Strategies,* Oxford University Press.

Nicolai J. Foss, NJ (2010) ,Why Micro-Foundations for Resource-Based Theory Are Needed and What They May Look Like, *Journal of Management,* published online 10 December 2010

Foss, K. and Foss, N.J., (2005) Resources and Transaction Costs: How Property Rights Economics Furthers the Resource-Based View*, Strategic Management Journal,* No 26, Vol 6 pp.541-553.

Galunic, D.C., and Rodan, S., (1998), Research Notes And Communications Resource Combinations in the Firm: Knowledge Structures and The Potential for Schumpeterian Innovation, *Strategic Management Journal* Vol 19, No 2, pp. 1193-1201.

Gardener EPM, Howcroft B and Williams J, (1999) The New Retail Banking Revolution, *The Services Industry Journal*, Vol 19 Issue 2 pp.83-100.

Ghemawat P., (1986) Sustainable Advantage*, Harvard Business Review* Sept-Oct pp. 53-58

Gibbert, M, (2006), Generalising About Uniqueness: An Essay on an Apparent Paradox in the Resource Based View, *Journal Of Management Inquiry* Volume 15 No 2, pp.124-134

Gibbert M (2006a) Munchausen, Black Swans and the RBV: Response to Levitas and Ndofor, *Journal of Management Inquiry* Volume 15, No, 2, pp. 145-151.

Ginsberg , A. (1990), Connecting Diversification to Performance: A Sociocognitive Approach, *Academy of Management Review* Vol 22, Winter Special Issue, pp.153-174.

Ginsberg, A., (1994), Minding the Competition: From Mapping to Mastery, *Strategic Management Journal* No15, Winter, Vol. 15, p153-174.

Godfrey PC., & Hill CW.L., (1995), *The Problem of Unobservables in Strategic Management,* Strategic Management Journal Vol 16, No 7, pp.519-533.

Grant R., (1988) On 'Dominant Logic', Relatedness and the Link between Diversity and Performance, *Strategic Management Journal,* Vol 9.No 6, pp.639-642.

Grant R., (1992) Diversification in the Financial Services Industries*,* pp. 203-242 in Campbell A., and Sommers Luchs K, (1992) *Strategic Synergy,* Butterworth Heinemann.

Grant R.M, (1991), The Resource- Based Theory of Competitive Advantage: Implications for Strategy Formulation, *California Management Review,* Vol 33, No 3, Spring pp. 114-135

Gruber, M, Heinemann, F, Brettel, M and Hungeling S (2010), Configurations of Resources and Capabilities and their Performance Implications: An Exploratory Study on Technological Ventures, *Strategic Management Journal,* Vol 31, No 12, pp.1337-1356

Gupta, D. and Gerchak, Y., (2002), Quantifying Operational Synergies in a Merger/Acquisition*, Management Science* Vol 48, No 4, pp.517-533.

Hall, MJB, (2008), The Sub-Prime Crisis, the Credit Squeeze and Northern Rock: The Lessons to be Learned, *Journal of Financial Regulation and Compliance,* Vol 16 No1, pp.19 - 34

Hall, R., (1992) The Strategic Analysis of Intangible Resources, *Strategic Management Journal*, Vol 13, No2, pp. 135-144.

Hall R., (1993) A Framework Linking Intangible Resources and Capabilities to Sustainable Competitive Advantage*, Strategic Management Journal* Vol 14, No 8, pp.607-618.

Hall, S (2006) What Counts? Exploring the Production of Quantitative Financial Narratives in London's Finance Industry, *Journal of Economic Geography* Vol 6, No 5, pp. 661–678

Hall S (2007) 'Relational Marketplaces' and the Rise of Boutiques in London's Corporate Finance Industry, *Environment and Planning A*, Vol 39. pp. 1838-1854

Hamel G. (1991), Competition for Competence and Inter-Partner Learning within International Strategic Alliances, *Strategic Management Journal* Vol 12, Sumer, p.83-103

Hamel G and Prahalad CK, (1993) The Core Competence of the Corporation, *Harvard Business Review,* May/June. pp.79-91

Hansen, M.H., Perry L.T., and Reese C.S., (2004) A Bayesian Operationalisation of the Resource-Based View, *Strategic Management Review* 25, No 13 pp. 1279-1295.

Harrison, JS, Hall, EH, and Nargundkar, R, (1993), *Resource Allocation as an Outcropping of Strategic Consistency? Performance Implications,* Academy of Management Journal, Vol 36, No 5, p1026-1051

Harrison, J.S., Hitt, M.A. and Ireland, R.D. (1991) Synergies and Post Acquisition Performance: Differences verses Similarities in Resources in Resource Allocation, *Journal of Management* Vol 17, No 1, pp. 173-190.

Hawawini, G. Subramanian, V., and Verdin, P. (2003), Is Performance Driven by Industry- or Firm Specific Factors? A New Look at the Evidence, *Strategic Management Journal* Vol 24, No 1, pp. 1-16.

Heffernan, S (2002), How do UK .Financial Institutions Really
Price Their Banking Products? *Journal of Banking & Finance*, Vol 26, No 10, pp. 1997-2006

Helfat, CE (1994), *Evolutionary trajectories in petroleum firm R and D, Management Science, Vol 40 1720-1747*

Helfat, CE, (1997) Know-How and Asset Complementarity and Dynamic Capability Accumulation: The Case of R and D, *Strategic Management Journal* Vol 18, no 5, pp. 339-360.

Helfat C.E, and Peteraf M. A., (2003) The Dynamic Resource-Based View: Capability Lifestyles, *Strategic Management Journal*, Volume 24 No. 10. pp.997-1010.
Henderson, R., (1994), The Evolution of Integrative Capability: Innovation in Cardiovascular Drug Discovery, *Industrial and Corporate Change*, Vol 3 No3 pp.607-630

Henderson R., and Cockburn I., (1994), Measuring Competence? Exploring Firm Effects in Pharmaceutical Research, *Strategic Management Journal,* Vol 15, Winter Special Issue, pp.63-84.

Hennart, J-F, and Reddy, S., (1997) The Choice Between Mergers/Acquisitions and Joint Ventures: The Case Of Japanese Investors in the United States. *Strategic Management Journal* Vol 18, No, 1, pp. 1-12

Hess AM and Rothaermel (2011) When Are Assets Complementary? Star Scientists, Strategic Alliances, and Innovation in the Pharmaceutical Industry. *Strategic Management Journal*, Vol. 32 No 8, p895-909

Hitt, MA, Dacin, MT, Levitas, E, Arregle, J-LA, and Borza, A, (2000), Partner Selection in Emerging and Developed Market Contexts: Resource-Based and Organizational Learning Perspectives*, Academy of Management Journal* Vol 43, No, 3, pp.449-467.

Hitt, MA, Gimeo, J. and Hoskisson R.E., (1998) *Current and Future Research Methods in Strategic Management,* Organisational Research Methods, Volume 1, No 6, pp.6-44.

Hitt, MA, Harrison, J, Ireland RD, and Best, A, (1998), Attributes of Successful and Unsuccessful Acquisitions of US Firms, *British Journal of Management* Vol 9, No 2, pp. 91-114

Hitt M.A., and Ireland R.D., (1985) Corporate Distinctive Competence, Strategy Industry and Performance, *Strategic Management Journal* Vol 6, No 3, p273-293

Hitt, MA, Ireland, RD, and Harrison, JS, (2001), Mergers and Acquisitions: A value Creating or Value Destroying Strategy? pp. 384-408 In Hitt, MA, Freeman, and Harrison, JS, (eds), (2001) *The Blackwell Handbook of Strategic Management,* Blackwell Publishers Ltd,

Hitt, M.A., Bierman, L. Shimizu, K and Kochhar, R. (2001) Direct and Moderating Effects of Human Capital on Strategy and Performance in Professional Service Firms : A Resource Based View, *Academy Of Management Journal,* Vol 44, No1, pp.13-28

Hodgkinson IR and Hughes P (2011) Online, May 2011, The Performance Implications of Strategic Capital for Public Leisure Providers, *The Service Industries Journal*

Holcomb TR, Holmes RM and Hitt, MA (2006), Diversification to Achieve Scale and Scope: The Strategic Implications of Resource Management for Resource Management for Value Creation, *Advances in Strategic Management* Volume 23 pp.549-587

Holcomb TR, Holmes RM, Connelly BL (2009) Making The Most of What You Have: Managerial Ability as a Source of Resource Value Creation, *Strategic Management Journal*, Vol 30, No 5, pp. 457-485

Hoopes D.G., Madsen T.L., and Walker G., (2003) Why is there a Resource Based View? Towards a Theory of Competitive Heterogeneity, *Strategic Management Journal* Vol 24 No 10 pp.889-902.

Hopkins W.E., and Hopkins, S.A., (1997), Strategic Planning-Financial Performance Relationships in Banks: A Causal Relationship*,* Strategic Management Journal Vol 18 No.8, p635-652

Hosikisson, RE, Hitt MA, Wan WP and Yiu, D. (1999) Theory and Research in Strategic Management: Swings Of A Pendulum, *Journal of Management*, Vol, 25, No 3, pp.417-456

Howcroft, B. and Hamilton, R (1999), Perspectives of Change in Retail Banking, *Journal of Financial Services Marketing,* Vol 4 No, 1pp. 65-81

Howcroft, B, (2001), Editorial: Bank Branch Networks and Direct Delivery Channels, *Journal of Financial Services Marketing,* Vol 5, No 3, pp. 202-204

Howcroft, B, Durkin, M, Armstrong G and Emerson, E, (2007) Small Business–Bank Relationships and the Role of Internet Banking, *Service Industries Journal,* Vol.27, No, 7, pp. 947-961

Howcroft, J.B., Ul-Haq, R, and Hammerton, R, (2010), Bank Regulation and the Process of Internationalisation: A Study of Japanese Bank Entry into London, *The Service Industries Journal*, Vol, 30, Nos 7-8, pp, 1359-1375

Iansiti, M and Clark, KB, (1994), Integration and Dynamic Capability: Evidence from product development in Automobiles and Mainframe Computers, *Industrial and Corporate Change* Vol 3 No 3, pp. 557-605

Ingram, H. and Thompson, S., (1994) Wholly-Owned vs. Collaborative Ventures For Diversifying Financial Services, *Strategic Management Journal,* Vol 15, No 4, pp. 325-334

Jacobides, M.G., and Winter S.G. (2005), The Co-Evolution of Capabilities and Transaction Costs: Explaining the Institutional Structure of Production, *Strategic Management Journal,* Vol 26, No 5 pp. 395-413.

Javidan M, (1998) Core Competence: What Does it Mean in Practice? *Long Range Planning* Vol 31 No 1, No 1 pp. 60-71.

Johnson G., and Thomas, H. (1987), The Industry Context of Strategy, Structure and Performance: The UK Brewing Industry, *Strategic Management Journal* Vol 8, No 4, p343-361

Karim, S., and Mitchell, W., (2000) Path-Dependent and Path Breaking Change: Reconfiguring Business Resources Following Acquisitions in The U.S. Medical Sector 1978-1995, *Strategic Management Journal,* Vol 21, No 10/11, pp. 1061-1081.

Khanna, T., Gulati R, and Nohira N. (1998) The Dynamics and Scope of Learning Alliances: Competition, Cooperation, and Relative Scope, *Strategic Management Journal*, Vol 19, No 3, pp. 193-210.

Kim, J-Y and Finklestein S (2009), The Effects of Strategic and Market Complemantarity on Acquisition Performance : Evidence from The US Commercial Banking Industry , 1989 -2001), *Strategic Management Journal* Vol 30, No 6, pp. 617-646.

King, D.R., Dalton, D.R. Daily C.M. and Covin, J.G, (2004) Meta-Analyses of Post-Acquisition Performance: Indications of Unidentified Moderators, *Strategic Management Journal,* Vol 25, No 2, pp.187-200.

King, A.W, and Zeithaml, C.P., (2001), Competencies and Firm Performance: Examining The Causal Ambiguity Paradox*, Strategic Management Journal* Vol 22, No 1, pp.75-99.

Klepper, S. and Simons, K.L. (2000) Dominance by Birthright: Entry of Prior Radio Producers and Competitive Ramifications in the U.S. Television Receiver Industry, *Strategic Management Journal* Vol 21, No 10/11, pp. 997-1016.

Knez M., and Camerer, C., (1994) Creating Expectational Assets In the Laboratory: Coordination in 'Weakest Link Games, *Strategic Management Journal*. Vol 15, Winter Special Edition, pp.101-119.

Knott, A.M. (2003), The Organisational Routines Factor Market Paradox, *Strategic Management Journal* Vol 24, No 10, p929-943

Knott, A.M, (2003a), Persistent Heterogeneity and Sustainable Innovation, *Strategic Management Journal* Vol 24, 8, p687-705, , pp. 929-943.

Knott, P.J., (2002) Better Constructs for Analysis and Management of Firm Capabilities, *British Academy Of Management Conference*, London.

Kogut, B and Kulatilaka, (2001) Capabilities as Real Options, Organisation Science, *Organization Science*, Vol 12, No 6, pp. 744-758.

Kor, Y.Y., and Lebleici, H. (2005), How Do Interdependencies Among Human Capital Development, and Diversification Strategies Affect Firms Financial Performance? *Strategic Management Journal* Vol 26, No 10 pp. 967-985.

Kor, YY and Mahoney, JT (2000) Penrose's Resource-Based Approach: The Process and Product of Research Creativity, *Journal Of Management Studies* Vol 37, No 1, pp. 109-139.

Kraaijenbrink J, Spender JC and Groen AJ, (2010), The Resource Based View: A Review and Assessment of its Critiques, *Journal of Management,* Vol 36, No 1, pp. 349-372.

Lado, AA, Boyd, NG and Wright, P. (1992), A Competency-Based Model of Sustainable Competitive Advantage: Towards a Conceptual Integration, *Journal of Management* Vol 18, No 1 pp. 77-91.

Lado, AA, Boyd, NG, Wright, P, and Kroll, M, (2006), Paradox and Theorising Within the Resource-Based View, *Academy of Management Review* Vol 31, No 1, pp.115-131.

Lado, AA and Wilson MC, (1994), Human Resource Systems and Sustained Competitive Advantage, A Competency Based Perspective, *Academy Of Management Review*, Vol 19, No 4, pp. 699-727

Lado AA and Zhang MJ (1998) Expert Systems, Knowledge Development and Utilisation, and Sustained Competitive Advantage: A Resource Based Model, *Journal of Management* Vol 24, No 4, 489-509.

Lampel, J. and Shamsie, J. (2000), Probing the Unobtrusive Link: Dominant Logic and the Design of Joint Ventures at General Electric, *Strategic Management* Journal Vol 21, No 5, pp. 593-602.

Larson, R., and Finklestein, S., (1999), Integrating Strategic, Organizational, and Human Resource Perspectives on Mergers and Acquisitions: A Case Survey of Synergy Realization, *Organization Science* Vol 10, No 1, pp.1-26

Lee, GK and Lieberman, MB (2010), Acquisition VS. Internal Development as Modes of Market Entry, *Strategic Management Journal* Vol 31 No 2 pp.140-158

Lei D., Hitt M.A., and Bettis R., (1996) Dynamic Core Competences through Meta-Learning and Strategic Context, *Journal of Management*, Vol.22, No 4, pp.549-569.

Leiblein, MJ, (2011), What Do Resource And Cability Based Theories Propose? *Journal of Management*, Vol, 37, No 4, pp. 909-932

Leiblein, MJ and Madsen TL (2009) Unbundling Competitive Heterogeneity: Incentive Structures and Capability Influences On Technological Innovation *Strategic Management Journal,* Vol 30, No 7, pp.711-735

Leiblein, M.J, and Miller, D.J. (2003), An Empirical Examination of Transaction and Firm Level Influences on the Vertical Boundaries of the Firm, *Strategic Management Journal,* Vol 24, No 9, pp.839-859.

Lenox, M. and King, A. (2004), Prospects for Developing Absorptive Capacity through Internal Information Provision, *Strategic Management Journal* Vol 25, No 4 pp. 331-345.

Leonard-Barton, D., (1992) Core Capabilities and Core Rigidities: A Paradox in Managing New Product Development, *Strategic Management Journal,* Vol 13, Summer, pp. 111-125.

Levinthal D., and Myatt J., (1994) *Co-Evolution of Capabilities and Industry: The Evolution of Mutual Fund Processing, Strategic Management Journal*, Vol 15, Winter pp.45-62.

Levinthal, DA and Wu, B (2010) Opportunity Costs and Non-Scale Free Capabilities: Profit Maximization, Corporate Scope, and Profit Margins, *Strategic Management Journal*, Vol 31, No 7, pp.780-801

Levitas, E., and Chi, T., (2002), Rethinking Rouse and Dallenbach's rethinking: Isolating vs Testing for Sources of Sustainable Competitive Advantage, *Strategic Management Journal* Vol 23, No 10, p957-962

Levitas E and Ndofor HA (2006) What To Do With the Resource Based View: A Few Suggestions for What Ails the RBV That Supporters and Opponents Might Accept, *Journal Of Management Inquiry* Vol 15, No 2. Pp. 135-144

Li D and Jin, J (2006) The Effect of Diversification on Firm Returns in Chemical and Oil Industries, *Journal of Accounting and Finance* Vol 5, No 1, accessed on line.

Lieberman M.B., and Montgomery D.A, (1998), First –Mover (Dis)Advantage: Retrospective and Link with the Resource-Based View, *Strategic Management Journal.*. Vol 19, No 12, pp. 1111-1125.

Liberman, M.B. and Dhawan, R., (2005) , Assessing the Resource Base of Japanese and US Auto Producers: A Stochastic Frontier Production Function Approach, *Management Science* Vol 51, No 7, pp.1060 -1075.

Lim, E N-K, Das, SS, and Das A (2009), Diversification Strategy, Capital Structure, and The Asian Financial Crisis (1997–1998): Evidence From Singapore Firms, *Strategic Management Journal,* Vol 30, No 6, pp. 577-594

Lin, Z, Yang, H and Arya, B (2009), Alliance Partners and Firm Performance: Resource Complementarity and Status Association, *Strategic Management Journal*, Vol 30, No 9, pp. 921-940

Lippman S.A., and Rumelt R.P., (1982), Uncertain Imitabilty: An Analysis of Interfirm Differences in Efficiency under Competition, *Bell Journal of Economics* Vol 13, No 2, pp.418-438.

Lippman, S.A. and Rumelt R.P, (2003), A Bargaining Perspective on Resource Advantage, *Strategic Management Journal* Vol 24, No 11, pp. 1069-1086.

Lippman, S.A. and Rumelt R.P, (2003a), The Payments Perspective : Micro Foundations of Resource Analysis, *Strategic Management Journal* Vol 24, No 10, pp. 903-927.

Lockett, A. and Thompson, S. (2001), The Resource Based View and Economics, *Journal of Management* Vol. 27. No 6, pp.723-754.

Lockett, A, Thompson, S and Morgenstern, U, (2009), The Development of the Resource-Based View of the Firm: A Critical Appraisal, *International Journal of Management Reviews,* Vol 11, No 1, pp. 9–28.

Lorenzoni, G., and Lipparini, A., (1999), The Leveraging of Interfirm Relationships As a Distinctive Organisational Capability: A Longitudinal Study, *Strategic Management Journal* Vol 20, No 4, pp. 317-338.

Lovelock, C.H. (1992) A Basic Tools Kit for Service Managers, pp.17-30 In Lovelock C.H., (1992) *Managing Services*, Prentice Hall.

Lovelock, CH and Yip, GS, (1996), Developing Strategies for Service Business, *California Management Review*, Vol 38, No “, pp.64-86.

McEvily, SK, Das, S and McCabe, K, (2000), Avoiding Competence Substitution Thorough Knowledge Sharing, *Academy of Management Review* Vol 25, No 2, pp. 294-311.

McGahan A.M. and Porter M.E., (1997) How Much Does Industry Matter, Really? *Strategic Management Journal,* Vol 18, Summer Special Issue, pp. 15-30.

McGrath, RG, MacMillan IC and Venkataraman, S, (1995), Defining and Developing Competence: A Strategic Process Paradigm, *Strategic Management Journal* Vol 16. No 4, pp.251-275.

Mahood, IP, Zhu,H and Zajac EJ (accepted article 2011), Where Can Capabilities Come From? Network Ties and Capability Acquisition in Business Groups, *Journal of Strategic Management,* Vol 23, No 8,

Mahoney J.T., (1995) The Management of Resources and the Resource of Management, *Journal of Business Research,* Vol 33, No 2, pp. 91-101

Mahoney J.T., and Pandian (1992) J R, The Resource-Based View within the Conversation of Strategic Management, *Strategic Management Journal* Vol 13, No 5, pp. 363-380.

Maijoor,S. and Van Witteloostuijn, A. (1996), An Empirical Test of The Resource Based Theory: Strategic Regulation in The Dutch Audit Industry, *Strategic Management Journal* Vol 17, No 7, pp.549-569.

Majumdar S.K, (1998), On the Utilisation of Resources: Perspectives From the U.S. Telecommunications Industry, *Strategic Management Journal* Vol 19, No 9, pp. 809-831.
Makadok, R. (2001), Toward a Synthesis of the Resource Based and Dynamic Capability View, *Strategic Management Journal* Vol 22, No 5, pp. 387?

Makadok, R, (2001a) A Pointed Commentary on Priem and Butler, *Academy of Management Review*, Vol 26, No 4, pp. 498-500.

Makadok, R. and Walker, G. (2000), Identifying a Distinctive Competence: Forecasting Ability in the Money Fund Industry, *Strategic Management Journal* Vol 21, No 8, pp. 853-864.

Makhija, M. (2003), Comparing the Resource Based and Market Based Views of the Firm: Empirical Evidence From Czech Privatisation, *Strategic Management Journal* Vol 24, No 5, pp. 433-451.

Maritan, C. A., and Brush, T.H. (2003), Heterogeneity and Transferring Practices: Implementing Flow Manufacturing In Multiple Plants, *Strategic Management Journal* Vol 24, No 10, pp. 945-959.

Maritan, CA and Peteraf MA (2011), Building a bridge between resource Acquisition and Resource Accumulation, *Journal of Management*, Vol. 37 No 5, p1374-1389

Markides, C.C, and Williamson, P.J, (1994) Related Diversification, Core Competences and Corporate Performance, *Strategic Management Journal,* Volume 15 No 15 pp. 149-165

Markides, C.C, & Williamson P.J, (1996) Corporate Diversification and Organisational Structure: A Resource Based View, *Academy of Management Journal,* Vol. 39, No. 2., pp. 340-337

Markides, C.C, (1997) *To Diversify or Not to Diversify,* Harvard Business Review, November-December, pp. 93-99.

Marcus, A. and Greffen, D. (1998), The Dialectics of Competency Acquisition: Pollution Prevention In Electric Generation, *Strategic Management Journal,* Vol 19, No 12, 1145-1168.

Mauri, A.J. and Michaels M.P. (1998) Firm and Industry Effects Within Strategic Management: An Empirical Examination, *Strategic Management Journal* Vol, 19, No 3, pp. 211-219.

Mayer, M. and Whittington, R. (2003), Diversification in Context: A Cross-National and Cross-Temporal Extension, *Strategic Management Journal* Vol 24, No 8, pp. 773-781.

Mehra, A., (1996) Resource and Market Based Determinants of Performance in the US Banking Industry, *Strategic Management Journal* Vol 17, No 4, pp. 307-322.

Merino, F., and Rodriguez D.R. (1997) A Consistent Analysis of Diversification Decisions with Non-Observable Effects*, Strategic Management Journal* Vol 18, No 9, p733-743

Miles, MB (1979) *Qualitative Data as an Attractive Nuisance: The Problem of Analysis*, Administrative Science Quarterly Vol, 24, No 4 pp. 590-601

Miles M.B., and Huberman, A.M., (1994), *Qualitative Data Analysis: An Expanded Sourcebook*, Sage Publications.

Miller, DJ (2006), *Technological Diversity, Related Diversification and Firm Performance,* Strategic Management Journal, Vol 27, No 7, pp. 601-619

Miller and Shamsie, (1996), The Resource Based View oft the Firm in Two Environments: The Hollywood Film Studios From 1936 to 1965, *Academy of Management Journal,* Vol 39, No 3, pp.519-543.

Mishina, Y. and Pollock T.G., and Porac J.F., (2004) Are More Resources Always Better for Growth? Resource Stickiness in Market and Product Expansion, *Journal of Strategic Management,* Vol 25, No 12, pp. 1179-1197.

Montgomery CA and Harihan S (1991), Diversified Expansion by Large Established Firms, *Journal Of Economic Behavior & Organization*, Vol 15, No 1, pp. 71-89

Montgomery, CA and Wernerfelt, B., (1991), Sources of Superior Market Performance: Marketshare versus Industry Effects in the US Brewing Industry, *Management Science* Vol 37, No 8, pp. 954-959.

Morgan, NA, Vorhies, DW and Mason CH, (2009), Market Orientation, Marketing Capabilities and Firm Performance, *Strategic Management Journal* Vol 30, No 8, pp.909-920

Morison, I, (1999), Strategy and Structure, pp. 86-100, in *Driving Strategic Change In Financial Services*, (1999), Woodhead Publishing

Morison, I, (1999a), The Impact of Technology and Globalization , pp. 64-74, in *Driving Strategic Change In Financial Services*, (1999), Woodhead Publishing

Morison, I, (1999b), Deregulation and Re-regulation, pp. 34-48, in *Driving Strategic Change In Financial Services*, (1999), Woodhead Publishing

Morison, I, (1999c), Changing Needs and Expectations , pp. 49-63, in *Driving Strategic Change In Financial Services*, (1999), Woodhead Publishing

Morrow, JL, Sirmon DG, Hitt MA and Holcomb TR (2007), Creating Value in the Face of Declining Firm performance: Firm Strategies and Organisational Recovery, *Strategic Management Journal,* Vol 28, No 3, pp. 271-283

Mosakowski, E. (1993), *A Resource Based Perspective on the Dynamic Strategy Performance Relationship: An empirical Examination of the Focus and Differentiation Strategies in Entrepreneurial Firms,* Journal of Management Vol19, No 4, pp. 819-840

Mosakowski, E., (1997), Strategy Making Under Causal Ambiguity: Conceptual Issues and Empirical Evidence, *Organizational Science* Vol 8, No 4, pp. 414-442.

Nayyar P.R., (1990) Information Asymmetries: A Source of Competitive Advantage for Diversified Service Firms, *Strategic Management Journal* Vol 11, No 7 pp. 513-519.

Nayyar P.R., (1992), On the Measurement of Corporate Diversification Strategy: Evidence From Large U.S. Service Firms, *Strategic Management Journal* Vol.13, No 3, pp. 219-235.

Nayyar P.R., (1993), Stock Market Reactions to Related Diversification Moves By Service Firms Seeking Benefits From Information Asymmetry and Economies Of Scope, *Strategic Management Journal* Vol 14, No 8 pp.569-591

Ndofor, HA, Sirmon, DG and He, X, (2011), Firm Resources, Competitive Actions and Performance: Investigating A Mediated Model With Evidence From the In-Vitro Diagnostics Industry, *Strategic Management Journal,* Vol. 32 No 6, p640-657.

Nelson, R.R., (1991), Why do Firms Differ and How Does It Matter? *Strategic Management Journal* Vol 12, Winter Special Issue pp. 61-74.

Nelson R.R. and Winter SG, (1982) *An Evolutionary Theory of Economic Change,* Harvard University Press

Newbert SL (2007) Empirical research on The Resource Based view of the Firm: An Assessment and Suggestions for Future Research*, Strategic Management Journal* Vol 28, No 2, pp.121-146.

Newbert SL (2008) Value, Rareness, Competitive Advantage, And Performance: A Conceptual-Level Empirical Investigation Of The Resource-Based View Of The Firm, *Strategic Management Journal*, Vol 29 No 7, pp.745-768

Ng DW (2007), A Modern Resource Based Approach to Unrelated Diversification, *Journal of Management Studies* Vol 44, No 8 pp. 1481-1502.

Oliver C., (1997) Sustainable Competitive Advantage: Combining Institutional and Resource-based Views, *Strategic Management Journal* Vol18, No 9, pp. 697-713.

Palepu K., (1985), Diversification Strategy, Profit Performance and the Entropy Measure, *Strategic Management Journal*, Vol. 6 No 6 pp.239-255.

Palich, L.E., Cardinal, L.B., and Miller, C.C. (2000), Curvilinearity in the Diversification performance-Performance Linkage: An Examination of Over Three Decades of Research, *Strategic Management Journal* Vol 21 No 2 , pp. 155-174

Parmigiani, A and Mitchel W (2009) Complementarity, Capabilities, and the Boundaries of the firm: The Impact of Within-Firm and Interfirm expertise on Concurrent Sourcing Of Complementary Components, *Strategic Management Journal,* Vol 30 No 10, pp.1065-1091

Park, C., (2003), Prior Performance Characteristics of Related and Unrelated Acquirers, *Strategic Management Journal* Vol 24, No 5, pp.471-480.

Pehrsson, A (2006) Business Relatedness and Performance: A Study of Managerial Perceptions, *Strategic Management Journal,* Vol 27, No 3, pp. 265-282

Pennings, JM, Lee, K, and Witteloostuijn, A. (1998) Human Capital, Social Capital, and Firm Dissolution, *Academy of Management Journal* Vol 41, No 4, pp. 425-440.

Penrose, E., (1995) The Theory of the Growth of the Firm, (OUP 3RD Edition) pp. 27-39, in Foss, NJ, (ed), (1997) *Resources, Firms and Strategies,* Oxford University Press

Peteraf, M.A, (1993) The Cornerstones of Competitive Advantage: A Resource Based View, *The Strategic Management Journal* Volume 14, No 3, pp.179-191.

Peteraf MA and Barney JB, (2003), Unravelling the Resource-Based Tangle, *Managerial and Decision Economics* Vol 24. No 4, p 309-323.

Peteraf MA and Bergen ME (2003) Scanning Dynamic Competitive Landscapes: A Market Based And Resource-Based Framework, *Strategic Management Journal,* Vol 24, No 10, pp. 1025 - 1041.

Pettus, ML (2001), The Resource Based View as A Developmental Growth Process: Evidence from the Deregulated Trucking Industry, *Academy of Management Journal* Vol 44, No 4, pp. 878-896.

Pisano, G., (1994) Knowledge, Integration, and the Locus of Learning: An empirical Analysis of Process Development, *Strategic Management Journal* Vol 15, Winter Special Issue, pp.85-100.

Porter, ME, (1987), From Competitive Advantage to Corporate Strategy, *Harvard Business Review,* Vol 5, No 3, pp. 43-59

Powell, T.C., (1996), How Much Does Industry Matter? An Alternative Empirical Test, *Strategic Management Journal* Vol 17, No 4, pp. 323-334.

Powell, T.C. (2001), Competitive Advantage: Logical and Philosophical Considerations*, Strategic Management Journal* Vol 22, No 9, pp. 875-888.

Powell, T.C., (2003), *Strategy Without Ontology,* Strategic Management Journal Vol 24, No 3, p285-91

Powell, T.C., and Caringal, D.L.C., (2006) Causal Ambiguity, Management Perception and Firm Performance, *Academy of Management Review* Vol 31 No 1, pp. 175-196

Powell, TC and Dent-Micallef A., (1997), Information Technology as Competitive Advantage: the Role of Human, Business and Technological Resources, *Strategic Management Journal* Vol 18, No 5, pp. 375-405.

Prahalad CK and Bettis RA, (1986) The Dominant Logic: a New Linkage Between Diversity and Performance. *Strategic Management Journal* Vol 7, No 6, pp. 485-501.

Prahalad CK and Hamel G (1990), The Core Competence of the Organization, *Harvard Business Review* June, pp. 79-91.

Priem, R.L., and Butler, J.E. (2001) Is the Resource Based 'View' a Useful Perspective for Strategic Management Research? *Academy of Management Review*. Vol 26, No 1, pp. 22-40.

Ramos-Rodriguez A-R., and Ruiz-Navarro J., (2004) Changes in the Intellectual Structure of Strategic Management Research: A Bibliometric Study of the Strategic Management Journal 1980-2000. *Strategic Management Journal* Vol 25, No 10 , pp. 981-1004.

Rao, H., (1994) The Social Construction of Reputation: Certification Contests, Legitimation, and The Survival of Organisations in the American Automobile Industry: 1895-1912, *Strategic Management Journal* Vol 15, Winter Special Issue. pp. 29-44.

Ray, G., Barney J.B. and Muhanna W.A. (2004) Capabilities, Business Processes, and Competitive Advantage: Choosing The Dependent Variable in Empirical Tests of The Resource Based View, *Strategic Management Journal* Vol 25, No 1, pp.23-37

Reed R., and DeFillippi, RJ (1990) Causal Ambiguity, Barriers to Imitation, and Sustainable Competitive Advantage, *Academy Of Management Review* Vol 15 No1, pp. 88-102

Reuer, J.J., and Koza, M.P., (2000) Asymmetric Information and Joint Venture Performance: Theory And Evidence For Domestic and International Joint Ventures, *Strategic Management Journal* Vol 21 No 1, pp. 81-88.

Rindova, V.P, and Fombrun, C.J. (1999), Constructing Competitive Advantage: The Role of Firm-Constituent Interactions, *Strategic Management Journal* Vol 20, No 8, pp. 691-710.

Robins, J., and Wiersema M. F., (1995), A Resource Based Approach to the Multi Business Firm: Empirical Analyses of Portfolio Interrelationships and Corporate Financial Performance, *Strategic Management Journal* Vol 16 No 4 , pp. 277-299.

Robins, J.A., and Wiersema M.F., (2003), The Measurement of Corporate Portfolio Strategy: Analysis of the Content Validity of Related Diversification Indexes*, Strategic Management Journal* Vol 24, No 1, pp.39-60

Rouse, M.J., and Daellenbach U.R.,(1999) R*esearch Note and Communications Rethinking Research Methods For The Resource Based Perspective: Isolating Sources of Sustainable Competitive Advantage,* Strategic Management Journal Vol 20, No 5, pp.487-495

Rouse M.J. and Daellenbach, U.S. (2002), *More Thinking on Research Methods for the Resource-Based Perspective,* Strategic Management Journal Vol 23, No 10, p963-967

Rugman A.M. and Verbeke A., (2002), Edith Penrose's Contribution to the Resource Based View of Strategic Management, *Strategic Management Journal*. Vol 23 No 8, pp. 769-780.

Rumelt R.P.,(1982) Diversification Strategy and Profitability, *Strategic Management Journal* Vol 3, No 4, pp. 359-369.

Rumelt, R. (1991) How Much Does Industry Matter? *Strategic Management Journal* Vol 12, No 3, pp. 167-185.

St.John, C.H., and Harrison, J.S., (1999), Manufacturing Based Relatedness, Synergy and Co-ordination, *Strategic Management Journal* Vol 20, No 2, pp. 129-145.

Sanchez, R and Henne A., (1997) Competence-Based Strategic Management: Concepts and Issues for Theory, Research, and Practice*,* pp.3-42 in Heene A, and Sanchez, R. *Competence-Based Strategic Management,* John Wiley.

Scandura, TA and Williams, EA, (2000) Research Methodology and Management: Current Practices, Trends and Implications For Future Research*, Academy of Management Journal* Vol 43, No 6, pp. 1248-1264

Scarbrough, H. (1998), Path(ological) Dependency? Core Competencies from an Organisational Perspective, *British Journal of Management,* Volume 9, No 3, pp.219-232.

Schlesinger L.A., and Heskett, J.L., (1991) Breaking the Cycle of Failure in Services, Sloan Management Review Spring 1991 Vol 32, No 3 , pp.17-28

Schoenecker, T.S., and Cooper, A.C. (1998) The Role Of Firm Resources and Organisational Attributes In Determining Entry Timing: A Cross -Industry Study, *Strategic Management Journal*. Vol 19, No 12, pp.1127-1143.

Schroeder, RG, Bates, KA, and Junttila, MA, (2002), A Resource Based View of Manufacturing Strategy and the Relationship to Manufacturing Performance, *Strategic Management Journal* Vol 23, No 2, pp. 105-117.

Shamsie, J, Martin, and Miller**,** D (2009) In With The Old, in With The New: Capabilities, Strategies, and Performance Among The Hollywood Studios. *Strategic Management Journal*, Vol. 30 Issue 13, p1440-1452.

Sharma A, and Kesner, IF, (1996), *Diversifying Entry: Some Ex Ante Explanations for Post Entry Survival and Growth,* Academy of Management Journal Vol 39, No, 3, p635-677

Sharma, S. and Vredenburg, H. (1998), *Proactive Corporate Environmental Strategy and The Development of Competitively Valuable Organisational Capabilities,* Strategic Management Journal Vol 19, No 8, pp.729-754

Shrivastava, P., (1987) *Rigor and Practical Usefulness of Research in Strategic Management,* Strategic Management Journal Vol 8 No. 1, p77-92

Silverman, B.S., (1999), *Technological Resources And The Direction Of Corporate Diversification: Towards And Integration Of The Resource Based View And Transaction Cost Economics,* Management Science, Vol 45, No 8, pp.1109-1124

Simonin, B.L., (1999) Ambiguity and the Process of Knowledge Transfer in Strategic Alliances, *Strategic Management Journal*, Vol. 20, No 7, pp. 595-623.

Sirmon, DG and Hitt, MA, (2009) Contingencies Within Dynamic Managerial Capabilities: Interdependent Effects Of Resource Investment And Deployment On Firm Performance, *Strategic Management Journal*, Vol 30, No 13, p1375-1394

Sirmon, D, Hitt MA Ireland R Duane (2007) Managing Firm Resources in Dynamic Environments to Create value: Looking inside the Black Box, *Academy of Management Review,* Vol 32, No 1, pp.273-292.

Sirmon, D, Hitt MA Ireland R Duane and Gilbert BA (2010), Resource Orchestration to Create Competitive Advantage: Breadth, Depth and Life Cycle Effects, *Journal of Management*, Vol. 37, No 5, p1390-1412

Skaggs, B.C. and Youndt, M. (2004), Strategic Positioning, Human Capital and Performance in Service Organisations: A Customer Interaction Approach, *Strategic Management Journal* Vol 25, No 4, pp.85-99

Snyder, A, and Ebeling, H.W Jr. (1992) Targeting a Company's Real Core Competences, *Journal of Business Strategy*, Volume 13, No. 6, pp. 26-32.

Spanos, Y.E. and Lioukas, S., (2001), An Examination into the Causal Logic of Rent Generation: Contrasting Porter's Competitive Strategy Framework and the Resource Based Perspective, *Strategic Management Journal* Vol 22, No 10, pp. 907-934.

Srivastava, RK, Fahey, L and Kurt Christensen, (2001), The Resource Based View and Marketing: The Role of Market-Based Assets in Gaining Competitive Advantage, *Journal of Management* Vol 27, No 6 , pp. 777-802.

Starbuck, WH, (1992), Learning By Knowledge-Intensive Firms, *Journal of Management* Studies Vol 29, No 6, pp. 713-740.

Starbuck, WH, (1993), Keeping a Butterfly and an Elephant in a House of Cards: The Elements of Exceptional Success, *Journal of Management Studies,* Vol 30, No 6, pp. 885-921.

Steensma, H.K, and Corley, K.G, (2001) Organisational Context as a Moderator of Theories on Firm Boundaries for Technology Sourcing, *Academy of Management Journal* Vol 45, No 2, pp. 271-291.

Stieglitz, N and Heine, K (2007), Innovations and the Role of Complementarities in a Strategic Theory of The Firm, *Strategic Management Journal*, Vol 28, No 1, pp. 1-15

Stimpert, J.L. and Duhaime I.M., (1997), In The Eyes Of The Beholder: Conceptualisations Of Relatedness Held By The Managers Of Large Diversified Firms, *Strategic Management Journal,* Vol, 18 No 2, pp. 111-125.

Szulanski, G., (1996), Exploring Internal Stickiness: Impediments to the Transfer of Best Practice Within the Firm, *Strategic Management Journal* Vol 17, Winter Special Edition, pp. 27-43.

Tailan, C (1994), *Trading In Strategic Resources: Necessary Conditions, Transaction Cost Problems, and Choice of Exchange Structure,* Strategic Management Journal, Vol, 15, No 4 pp. 271-290.

Tallman SB, (1991) Strategic Management Models and Resource Based Strategies Among MNEs in a Host Market, *Strategic Management Journal,* Vol 12, Summer , pp. 69-82

Taylor B, (1999) The Darwinian Shakeout in Financial Services pp. 13-33, Taylor B and Morison, I, (1999), *Driving Strategic Change in Financial Services,* Woodhead Publishing Ltd

Teece, DJ, (1980), Economies of Scope and the Scope of the Enterprise, Journal of Economic Behaviour and Organization 1 3 223 247 (1980) pp. 103-116 in Foss, NJ (ed) (1997) *Resources Firms and Perspectives: A Reader in the Resource Based Perspective*, Oxford University Press

Teece, DJ (1986), Profiting from Technological Innovation: Implications for Integration, Collaboration, Licensing, and Public Policy, *Research Policy,* Vol 15, No 6, pp. 285-305.

Teece, D.J., Pisano, G., and Shuen, A.(1997) Dynamic Capabilities and Strategic Management, *Strategic Management Journal,* Vol 18, No 7, pp. 509-533.

Thornton, CD, Hudson Smith M, and Howcroft JB (forthcoming), *An Operations Management Framework for Resource Identification,* Bam 2012

Tripsas, M. (1997), Unravelling the Process of Creative Destruction: Complementary Assets and Incumbent Survival in the Typesetter Industry, *Strategic Management Journal* Vol 18, Summer Special Edition, pp. 119-142.

Tripsas, M. and Gavetti, G. (2000), Capabilities, Cognition, and Inertia: Evidence form Digital Mapping, *Strategic Management Journal* Vol 21, No 10/11, pp. 1147-1161.

Tsoukas, H. (1989) The Validity of Idiographic Research Explanations, *Academy of Management Review,* Vol 14 No 4, p551-561

ul-Haq, R. and Howcroft, J.B., (2007) An Examination of Strategic Alliances and the Origins of International Banking in Europe, *International Journal of Service Industry Management*, Vol 18, No2, pp. 120-139.

Venkatraman. N and Grant JH, (1986) Construct Measurement In Organisational Strategy Research: A Critique And Proposal, *Academy of Management Review,* Vol 11, No 1. pp.71-87

Verona, G (1999) A Resource-Based View of Product Development, *Academy of Management Review* Vol 24, No 1, pp. 132-142.

Villalonga, B. and McGahan, A.M, (2005) The Choice Among Acquisitions, Alliances and Divestitures, *Strategic Management Journal* Vol 26, No 13, pp. 1183-1208.

Wan, WP, Hoskisson, RE Short, JC and Yiu, DW (2011), Resource-Based Theory and Corporate Diversification: Accomplishments and Opportunities, *Journal of Management,* published online 29 December 2010, Vol. 37 No 5, p1335-1368

Wang, HC He, J and Mahoney, JT, (2009), Firm-Specific Knowledge Resources And Competitive Advantage: The Roles Of Economic- And Relationship-Based Employee Governance Mechanisms, *Strategic Management Journal,* Vol 30, No 12, pp.1265-1285

Weigelt, C (2009), The Impact of Outsourcing New Technologies on Integrative Capabilities and Performance, *Strategic Management Journal, Vol* , 30, No6, pp. 595–616

Wernerfelt, B. (1984) A Resource Based View of the Firm. *Strategic Management Journal*, Vol 5, No 2, pp.171-180.

Wernerfelt, B. (1995) The Resource Based View of the Firm: Ten Years After, *Strategic Management Journal*, Vol 16, No 3 , pp. 171-174.

Wernerfelt, B. and Montgomery C. A., (1986) What is an Attractive Industry? *Management Science,* Vol 32, No 10 , pp. 1223-1230.

Wright, P.M., Dunford, B.B. and Snell, S.A. (2001), Human Resources And The Resource Based View of the Firm, *Journal of Management* Vol 27, No 6, pp. 701-721.

Wooldridge B, and Floyd S.W. (1990) *The Strategy Process, Middle Management Involvement, and Organisational Performance,* Strategic Management Journal Vol11, No 3, p.231-241,

Yeoh, P-L., and Roth, K. (1999), An Empirical Analysis of Sustained Advantage in the U.S. Pharmaceutical Industry: Impact of Firm Resources and Capabilities, *Strategic Management Journal* Vol.20, No 7, pp. 637-653.

Yin, RT, (1981) *The Cases Study Crisis Some Answers*, Administrative Science Quarterly, Vol 26, No 1, pp.58-65

Zahira SA, and George, G, (2002), Absorptive Capacity: A Review, Reconceptualization, and Extension, *Academy of Management Review*, Vol 27, No 2, pp. 185-203.

Zajac E.J. and Westphal, J.D. (1994), The Costs and Benefits of Managerial Incentives and Monitoring in Large U.S. Corporations: When is More Not Better?, *Strategic Management Journal*. Vol 15, Winter Special Issue, pp. 121-142.

Zhou Y M, (2011), Synergy, Coordination Costs, And Diversification Choices**,** *Strategic Management Journal,* Vol, 32, No 6, pp.624-639

Zollo, M. and Singh, H. (2004) Deliberate Learning in Corporate Acquisitions: Post-Acquisition Strategies and Integration Capability in US Bank Mergers, *Strategic Management Journal* Vol 25, No 13, pp. 1233-1256.

Professional Journals, Papers, Periodicals, Newspapers and Websites

Banker, December 1999

Banker, October 2004

British Bankers Association Annual Statistics 1997, and the Abstract of Banking Statistics 2001-5

BBC News
http://news.bbc.co.uk/1/hi/business/8240625.stm accessed 7.9.2009

http://news.bbc.co.uk/1/hi/business/7683576.stm accessed on 22.10.08

Cattles Pc Annual Report 2008

Cruickshank (2000), *Competition in UK Banking,* The Stationary Office

The Economist 2.10.1999 accessed on 28.11.11
http://web.ebscohost.com/ehost/detail?sid=01fae91f-72ab-499a-8607-40eb30e5ee81%40sessionmgr110&vid=8&hid=106&bdata=JnNpdGU9ZWhvc3QtbGl2ZQ%3d%3d#db=bth&AN=2327056

FT.Com
http://www.ft.com/cms/s/0/e8cbd9be-901f-11de-bc59-00144feabdc0.html#axzz1ezZOFJW3 accessed 24.8.09

http://www.ft.com/cms/s/0/14ef6dc6-df2b-11de-be8e-00144feab49a.html#axzz1ezZOFJW3 accessed 2.12.09

http://www.ft.com/cms/s/2/8f838d88-a9d0-11dd-958b-000077b07658.html#axzz1ezZOFJW3 accessed on 4.11.08

FT.com http://www.ft.com/cms/s/0/39aa84da-7d06-11dd-8d59-000077b07658.html#axzz1ezZOFJW3 accessed 8.9.09 was 7.9.08

FT.com http://www.ft.com/cms/s/0/a7d4f19e-56cb-11de-9a1c-00144feabdc0.html#axzz1ezZOFJW3 accessed 12.6.09 was 11.6.09

FT .com http://www.ft.com/cms/s/0/aedb9060-85ca-11dd-a1ac-0000779fd18c.html#axzz1ezZOFJW3 acessed 19.9.08

http://ftalphaville.ft.com/blog/2009/01/27/51690/cattles-gives-up-on-banking-licence/ accessed 27.1 09

Ft.com http://www.ft.com/cms/s/0/092fde28-1e90-11de-b244-00144feabdc0.html#axzz1ezZOFJW3 acessed 1.4.2009

http://www.ft.com/cms/s/0/5912d1be-bf01-11dd-ae63-0000779fd18c.html#axzz1ezZOFJW3 accessed 31.11.2008

http://www.ft.com/cms/s/0/d5e4d3c8-8dbe-11dd-83d5-0000779fd18c.html#axzz1ezZOFJW3 accessed 29.9.08

http://www.ft.com/cms/s/0/4c506250-8d8f-11dd-83d5-0000779fd18c.html#axzz1ezZOFJW3 accessed 29.9.08

Independent 14.10.2008

Independent Commission on Banking, Final Report Recommendations, September 2011 Crown, London

Llewellyn, DT (2006*), The Financial Services Environment in 2015,* Report Prepared of The Board and Management of Bank XXX

Morgan Staley website (http://www.morganstanley.com/about/press/articles/4984.html) accessed 12.11.09

ONS, Sic 2007 Summary Of Structure, accessed 19.5.2010 from ons.gov.uk

ONS*, Employee Jobs: Great Britain, accessed* from ons.gov.uk
28.5.2010

The Turner Review, A Regulatory Response to the Global Banking Crisis, FSA, London March 2009

Books

Barney, JB and Griffin, RW (1992), *The Management of Organizations: Strategy, Structure, Behavior,* Houghton Mifflin Company

Bryman, A (2004), *Social Research Methods*, Oxford University Press.
Buckle, M and Thompson, J (2004), *The UK Financial System: Theory and Practice,* Manchester University Press

Bums, A., and Bush, R. (2000), *Marketing Research*, Prentice Hall, New Jersey.

Canals, J (1993) *Completive Strategies in European Banking,* Clarendon Press

Churchill, G. A. (1995), *Marketing Research Methodological Foundation*, The Dryden Press, London.

Collis, J. and Hussey, R. (2003), *Business Research,* Palgrave Macmillan.

Cook TD and Campbell DT (1979) *Quasi Experimentation: Design and Analysis Issues of Field Setting*, Houghton Mifflin Company

Cresswell, JW, (2009), *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches,* Sage

Davis, SI, (2003), *Investment Banking: Addressing the Management Issues,* Palgrave Macmillan.

The Internet and Financial Services: A CSFI Report (1997), City and Financial Publishing

Danthine, J-P, Giavazzi, F, Vives, Xavier & Von Thadden, EL, (1999) *The Future of European Banking*, Centre for Economic Policy Research

Davis, SI, (2003), *Investment Banking: Addressing the Management Issues,* Palgrave Macmillan.

Easterby –Smith, M., Thorpe, R., and Lowe, A., (2003), *Management Research Methods: An Introduction*. Sage.

Easterby –Smith, M., Thorpe, R., and Jackson, P.R., (2008), *Management Research, Sage*.

Fitzsimmons, J.A. and Fitzsimmons, M.J. (1998) *Service Management: Operations, Strategy and Information Technology,* McGraw Hill.

Foss, NJ, (ed), (1997) *Resources, Firms and Strategies,* Oxford University Press.

Goddard, J, Molyneux, P and Wilson, J, (2001), *European Banking, Technology and Growth,* John Wiley and Sons Ltd

Grant, RM (2002), *Contemporary Strategy Analysis*, Blackwell Business

Gummesson, E (2000) *Qualitative Methods In Management Research,* Sage Publications.

Hamel G. (1991), *Competition for Competence and Inter-Partner Learning within International Strategic Alliances,* Strategic Management Journal, Vol 12, No S1, pp.83-103.

Hamel G., and Prahalad, C.K., (1994), *Competing for the Future,* Harvard Business School.

Hammersley, M. and Atkinson, P (1983) *Ethnography: Principles and Practice*, Tavistock Publications Ltd.

Hart, C. (1998), *Doing a Literature Review*, The Open University.

Heffernan, S. (2005), *Modern Banking*, Wiley.

Hitt, MA, Harrison, JS and Ireland RD, (2001a), *Mergers and Acquisitions,* Oxford University Press.

Howells, P and Bain, K, (2000) *Financial Markets and Institutions,* FT Prentice Hall

Hussey, J, and Hussey, R., (1997), *Business Research,* MacMillan Business.

Itami, H. and Roehl T.W., (1987) *Mobilizing Invisible Assets,* Harvard University Press.

Medidan A, Lewis, B., and Moutinho, L (1997) *Financial Services Marketing: A Reader,* The Dryden Press.

Parasuraman, A, (1991) *Marketing Research*, Addison-Wesley, Massachusetts.

Penrose, E.T.(1959), *The Theory of the Growth of the Firm.* Wiley.
PiIbeam K, (2005) *Finance and Financial Markets*, Palgrave MacMillan

Porter, ME, (1985) *Competitive Advantage: Creating and Sustaining Superior Performance,* Free Press.

Quinlan, C (2011), *Business Research Methods,* South-Western Cengage Learning

Rumelt R.P., (1974) *Strategy, Structure, and Economic Performance,* Harvard Business School.

Saunders, M., Lewis P., and Thornhill, A. (2000) *Research Methods for Business Students*, Prentice Hall.

Saunders, M., Lewis P., and Thornhill, A. (2003) *Research Methods for Business Students,* Prentice Hall.

Selznick P. Leadership in Administration: A Sociological Interpretation, pp.21-26 in Foss, NJ, (ed), (1997) *Resources, Firms and Strategies,* Oxford University Press.

Slack, N., Chambers, S., and Johnston, R., (2007) Operations Management, (5th Edition), FT Prentice Hall.

Stake, RE, (1997) *Case Study Methods in Educational Research: Seeking Sweet Water*, in Jaeger RM (eds) Complementary Research Methods in Education American Educational Research Association.

Taylor B and Morison, I, (1999), *Driving Strategic Change in Financial Services,* Woodhead Publishing Ltd

Travers M. (2001) Qualitative Research Through Case Studies, Sage Publications Ltd.

Vogt. W.P., (1998) *Dictionary of Statistics and Methodology: A Non Technical Guide for The Social Sciences*. Sage Publications.

Unpublished PhD

Elanain, HEMA, (2003) Staff perspectives of Service Quality in Egyptian Banks: An internal and External Perspective, Loughborough University

Others

Angwin, D (2004), conversation with Charles Thornton 7th October.

Hahn, P, (2011), email to Charles Thornton, 29th October.

Robinson, JN, (1992) conversations with Charles Thornton,

McGee, J (2004), conversation with Charles Thornton 7th September

Appendix One Developments in the Relevant Literature Since 2006

This appendix examines the relevant literature since June 2006 bringing the literature review upto date.

GRBV Literature

Author (s)	Main Findings or Analysis	Relevance
Newbert (2007) citing Powell (2001), Priem and Butler (2001), and Rouse and Daellenbach 2002).	RBV is 'one of the most widely accepted theoretical perspectives in the strategic management field' (p.121)	Relevance of RBV
Lockett, Thompson & Morgenstern (2009)	'Over the last 20 years, the resource-based view (RBV) has reached a pre-eminent position among theories in the field of strategy.' (p.9)	Relevance of RBV
Crook, Ketchen, Coombs and Todd (2008)	RBT (Resource Based Theory) is 'one of the most influential perspectives guiding strategic management research' (pp.1153)	Relevance of RBV
Martian and Peteraf (2010)	'One of the dominant perspectives in strategic management' (p.1)	Relevance of RBV
RBV has continued prominence in strategic management		
Helfat et al (2007)	Resource orchestration looking for a fit from search/selection and configuration/ deployment.	Resource Utlisation
Sirmon Hitt and Ireland (2007)	Resource management - structuring (acquiring, accumulating and divesting), bundling (incremental improvements, extending capabilities and creating new capabilities) and leveraging (stabilising, enriching and	Resource Utlisation

	pioneering) key to effective management	
Sirmon, Hitt, Ireland and Gilbert (2010)	Develop asset orchestration (Helfat et al, 2007) by combining it with resource management (Sirmon, Hitt and Ireland, 2007) to develop resource orchestration. They also add firm level variance from the breadth of the firms activities, its levels of hierarchy and stage in life cycle	Resource Utlisation
Newbert (2007) citing Sirmon et al (2007) and Lichentsien and Brush (2001) in Holcomb, Homes & Connelly (2009)	'resources may provide a performance advantage, realising this advantage depends on the way in which managers, bundle, deploy and synchronise resources'. (p.478).	Resource Utlisation
Ndofor, Sirmon and He (2011)	Found resources 'enable competitive actions' if actions leverage resources there is ensuing superior performance. The process of resources and performance largely unexplained. They combine RBV with competitive dynamics for awareness - motivation capability model and fit of resources with investment and capabilities	Resource Utlisation
Sirmon and Hitt (2009)	Performance suffers when investment moves from the norm but when deployment supports investment deviation generally enhances performance	Resource Utlisation
Hodgkinson and Hughes (2011)	Resource advantage - three key points for required for strategic resources which provide superior performance: 1) they must enable an offering that creates value, 2) they must be deployable and 3) human,	Resource Utlisation

	informational, relational and organisational capital together become strategic capital (Hughes and Morgan, 2007; Hunt, 2000) Also found high performers have greater levels of strategic capital	
Lockett, Thompson and Morgenstern (2009)	Resource functionality 'not the resource type *per se* that matters, it is the functionality and how it is employed' (p.13). Usage varied by subjective perceptions, cognitive bias, and bounded rationality (they cite Williamson, 1975 of bounded rationality), lack of time and attention Call for more work on functionality acknowledging Sirmon et al (2007)	Resource Utlisation
Lin, Yang and Arya (2009)	Not all firms utilise capabilities well.	Resource Utilisation
Several streams of RBV literature focus on how resources are utilised to obtain competitive advantage and sustainable competitive advantage. This adds significant detail to how resources are utilised to create value.		
Foss (2011)	Looking at the underlying factors at organisation level	Micro foundations
Felin and Hesterly (2007)	Individual heterogeneity may provide a better explanation of knowledge based heterogeneity than firm based	Micro foundations
Looking to gain great understanding of the building blocks of RBV		
Newbert (2008)	'Results suggest value and rareness are related to competitive advantage, that competitive advantage is related to performance, and that competitive advantage mediates the rareness-performance relationship' (p. 745) Also performance may increase without a resource based strategy.	Conceptual restatement and refinement of RBV.

Newbert (2007)	Interprets Barney (1991) as a three stage model with resource attributes (VR OR VRI) respectively leading to competitive and sustainable competitive advantage resulting in respectively performance or sustained performance. Found 53% of studies support RBV, he argues it is similar but higher than Transaction Cost Economics at 47% (David and Hahn, 2004) and other quantitative reviews of strategic management concepts citing (Campbell-Hunt, 2000; Dalton et al, 1998 and Ketchen et al, 1997)	Overall testing
Crook, Ketchen, Coombs and Todd (2008)	Using a meta analysis of 125 studies found strategic resources account for 22% of performance, if resources meet RBV criteria this increases to 26% and to 29% when potential value appropriation is removed. This makes RBT similar to configuration membership at 28%. They argue this makes support for RBT 'quite robust' (p.1153).	Overall testing
Continued interest with meta studies revealing RBV's performance is in line with other strategic management concepts.		
Holcomb, Homes, Connelly (2009)	Management ability affects resource productivity.	Resource identifcation
Concurs with early work on the importance of management		
Gruber, Heinemann, Brettel & Hungeling (2010)	Identify resource bundles in sales and distribution. They identify 4 configurations of which 2 deliver superior performance. These mix tangible and intangible resources.	Bundles
Holcomb, Homes & Connelly	They examine the way management bundle resources impacts on	Bundles

(2009)	bundles, with managers delivering performance advantage. They also contend that there is management in all bundles.	
Leiblein and Madsen (2009)	Innovation heterogeneity from differences in the incentives and abilities of large and small organisations.	Bundles
Morgan, Vorhies and Mason (2009)	Complementary marketing assets contribute to superior firm performance	Bundles
Lin, Yang and Arya (2009)	RBV efficiencies from resource combination, specifically specialist marketing capability and integration mediate product –market scope and performance ie combine resources with capabilities for sustainable competitive advantage.	Bundles
Adegbesan (2009)	Heterogeneous resources bundles if complementarity lead to greater surplus	Bundles
New resources bundles have been identified and the impact of differing bundles on performance has been assessed		
Lin, Yang and Arya (2009)	Resource bundles set in external environment	External environment
Lockett, Thompson and Morgenstern (2009)	Resource bundles vary depending on the markets	External environment
Pehrsson (2006)	List of resources include customer	External environment
Overall continued interest in the relevance of setting resources in their external environment		

Adegbesan (2009)	Adds a finer grained analysis by arguing that the value of resources in the market varies from firm to firm due to resource complementarity	Heterogeneity and factor markets
Martian and Peteraf (2010)	Two explanations of resource heterogeneity - resource acquisition through factor markets and internal resource accumulation. This requires and understanding of buying and building and the interplay between them	Heterogeneity
Bergh et al (2008)	If related to or primary assets of the core business then it is best to spin off due to the difficulty (for outsiders) to understand the assets, this would lead to low resale value. When secondary or unrelated assets current management may have less knowledge that buyers therefore sell off would result in a higher price.	Information asymmetry and boundaries
Shamsie, Martin and Miller (2009)	Firm build existing capabilities and develop new capabilities, this should involve both replication and renewal and be matched to demand and differentiate firms from their rivals.	Resource development
Continuing interest which have resulted in a greater understanding of heterogeneity		
Døving and Gooderham (2008)	HR skills as antecedent have direct impact on scope of services	Ex ante prediction
Continued Interest		
Wang, He and Mahoney (2009).	Human resources, typically requires staff commitment to gain specific skills also effective use of economic and relationship governance results in greater performance	Role of human resources

De Vita, Tekaya, and Wang (2011)	By combining RBV, relational exchange and transaction cost economics they identify new directions for research on asset specificity	Asset specificity
More detail and direction for research		
Cordingly, Christmann and King (2008)	Intermediate goals reduce linkage ambiguity	Causal ambiguity
Pehrsson (2006)	List of resources manufacturing only: production techniques, general management skills, end customers, brand recognition and type of , supply channel	Resource identification
More detail and continuing interest		
Kraaijenbrink et al (2010)	Eight critiques, three with some validity: • VRIN/O is not needed or not sufficient for sustainable competitive advantage, other factors are needed including external, understates role of external and the role of bundles. Argues for more focus on the role of individuals in value recognition. • Value issues create 'a trivial heuristic, an incomplete theory, or tautology' (p.360). Argues for different notions of value. Though the three step value sustainable competitive advantage rents approach is not examined as solution. • Unworkable resources definition - argues too broad could include low cost strategy, they argue for resources differences based on inputs and enablers. Also resources are treated the same in terms of	RBV critique

	impact on sustainable competitive advantage. Argue RBV needs to be more dynamic and incorporate other literature including Austrian economics. There are aspects of existing RBV resource development which are not examined	
Leiblein (2011)	Raises concerns over the definitions of aspects of resources that create value, how resource create value and competitive advantage. Focuses on the role of factor markets, dynamic capabilities and performance sets out detailed propositions, creating an agenda for further work.	RBV critique
RBV continues to be subject to critique, some debates are continuing such as tautology, the nature of resources, how they lead to competitive advantage and sustainable competitive advantage, the relationship with capabilities. Others open up areas less focused on such as factor markets.		
Overall The literature does not fill the gaps identified in chapter two from GRBV on resource heterogeneity and external environment though there is continued interest in both areas.		

DRBV Literature

Author (s)	Main Findings	Relevance
Wan, Hoskisson,	Corporate diversification is 'one of the most important areas in the field of business' (p.2) (Hoskisson and Hitt, 1990; Palich et al, 2000). 'RBT quickly emerged as the key theoretical	Continued importance

Short and Yiu (2010)	foundation that fuelled a thriving development of the diversification literature in strategic management'. (p.2)	
DRBV still has a key role in diversification, and therefore product diversification.		
Wan, Hoskisson, Short and Yiu (2010)	Concur on weak empirical support for inverted U shape.	Business performance
Li and Jin (2006)	Diversified firms 'have significantly higher returns than focused firms on both chemical and oil industries' (p.20) for returns used stock price	Business performance
Miller (2006)	Found multi business firms derive more value from technical diversity than single segment firms, diversified firms have better performance with greater technical diversity.	Business performance
Limited evidence suggests strong performance for related diversification		
Holcomb, Homes and Hitt (2006)	Concern too fast diversification expansion leads to Dierickx and Cool's (1989) time compression diseconomies. They outline the importance of feedback and learning as determinants of the time scales involved. They also argue, when diversifying into unfamiliar markets ability is needed to access information and other resources from external sources. These are different skills which it can be argued, not all diversifying organisations may have and without them arguably performance would be adversely affected.	Reasons for diversification performance
Wan, Hoskisson,	Found sharing from relatedness is counter balanced by resources being too complex or the business unrelated	Reasons for diversification

<table>
<tr><td>Short and Yiu (2010)</td><td></td><td>performance</td></tr>
<tr><td>Zhou (article accepted 2011)</td><td>Found synergy from related diversification is counter balanced by co-ordination costs.</td><td>Reasons for diversification performance</td></tr>
<tr><td>Levinthal and Wu (2010)</td><td>Some resources are highly fungible others are less fungible. Resources are scalable if value is not reduced due to the range of operations applied to. Hence:
<table>
<tr><td></td><td></td><td></td></tr>
<tr><td>High fung</td><td>E.g., team of auditors; power generation equipment</td><td>E.g., brand-name; computer operating system</td></tr>
<tr><td>Low fung</td><td>E.g., personnel with specific technical expertise; steel plant</td><td>E.g., patent; customer relationship</td></tr>
<tr><td></td><td>Non scale free (op cost)</td><td>Scale free (no op cost)</td></tr>
</table>
(p.783)
They argue fungibility is at core of why related out perform unrelated (Bettis, 1981; Markides and Williamson, 1984; Montgomery and Wernerfelt, 1988; Robins and Wiersema; 1995, and Rumelt, 1974). They further contend that resources with an opportunity cost should be allocated to one area, a constraint not experienced by those with no opportunity</td><td>Detail of resource application in diversification through fungibility and scalability</td></tr>
</table>

	cost. This work on the combination of scalability and opportunity cost adds detail on the nature of resource use in product diversification.	
Adds detail to the theory of poor performance of unrelated diversification and detail to the cost interactions in related diversification		
Pehrsson (2006)	List of aspects of relatedness: production techniques, general management skills, end customers, brand recognition and supply channel types. Found technology is the most important for a positive impact on profitability. Customer relatedness had no impact, similarly overall low relatedness, in contrast overall high relatedness had a negative impact on profits. Accordingly relatedness can be considered to be multi facetted but with priorities.	Relatedness
Holcomb, Homes and Hitt (2006)	Proper structuring of capabilities leads to synergies. More value is created than when managed separately. They also include an examination of centralisation and decentralisation and the role of experience in creating synergies citing (Winter, 2000 and Zollo and Winter, 2002).	Synergies
Adding detail to the debate on synergies and synergies		
Wan, Hoskisson, Short and Yiu (2010)	Weak construct of relatedness including resources, relatedness needs to be more precise	Relatedness
Lee and Lieberman	Using telecoms industry and looking at resource similarity from joint occurrence of products they examine relatedness rather than looking at underlying resources	Relatedness

(2010)		
Still of interest as knowledge of resource relatedness is weak. There is new work using limited measures which suggests a priority within relatedness. Relatedness is also examined from the point of view of products.		
Levinthal and Wu (2010)	Firms diversify when the market they are in become mature with firms trying to increase profit and size but not necessarily returns	Reasons for diversification
Adds to the range of reason for diversification		
Parmigiani and Mitchel (2009)	'Complementarity arises when doing more of one activity increases the returns from doing another activity' (p.1068) (citing Milgrom and Roberts, 1995), encompasses synergy which can result in efficiencies leading to cost savings. It is often the basis for what appears to be unrelated diversification, they cite Rumelt (1982) and Campbell et al (1995).	Resource Combinations
Hess and Rothaermel (2011)	Link different parts of the value chain, they examine star scientist and strategic alliances, it would have been interesting to see more detail are training and recruitment part of same part of the value chain ie HR. Substitute 'if doing more of an activity reduces marginal benefit of another' (p.7) (Arora and Ceccagnoli, 2006 and Cassiman and Veugelers, 2006) found some support better performance when complementary	Resource Combinations
Stieglitz and Heine (2007)	'Assets or activities are complementary if the marginal return of an activity increases in the level of the other activity' (p.3) leads to synergy Not using complementary assets results in a loss in value creation sales and profits as an organsiation fails to reach full potential. They are therefore identifying an implementation issue.	Resource Combinations

Same line of argument on complementary as in the literature review		
Holcomb, Homes and Hitt (2006)	Apply Sirmon et al's (2007) resource management to diversification ie structure of resource portfolio, bundling to capabilities and how the resources are leveraged (combined into bundles). They also examine levels of centralisation and the role of experience (citing Winter, 2000 and Zollo and Winter, 2007)	Implementation and utlisation
Extension into DRBV adding detail to implementation		
Holcomb, Homes and Hitt (2006)	Need to set in external environment 'with few exceptions, however, the authors of prior studies have assumed away the environmental conditions within which diversification is pursued' (p. 556). They cite Wan and Hosiksson (2003) and Khan and Palepu (1997). They further argue macro economic changes or government regulation could impact on the supply of resources and way they are utilised and call for more work on impact when diversifying into 'highly heterogeneous market segments'.	External environment
Adds detail to the importance external environment setting into DRBV and identifies a weakness in the literature		
Holcomb, Homes and Hitt (2006)	Argue for improved measurement of resources	Resource Measurement
Echoes existing concerns in this case it is derived directly from criticisms in the GRBV literature.		
<u>DRBV Gaps</u> The literature review identifies DRBV gaps in the testing of a resource similarity/difference continuum and posits the existence of an inverted J shaped performance curve. There has been continuing interest in both areas though no new literature the author could find proposed either the continuum or the inverted J shaped curve. It also ? resource bundles?		

On Gap from combined CRBV and DRBV literature
Pehrsson (2006) finds technical resource relatedness produce strong business performance with customer relatedness having no impact, this supporting the suggestion that resources may be of differing value in product diversification. He does not look individually at other resources, or at the differing impact of a set of resource differences on a diversification. There is interest in the area but the gap remains.

DRV in Banking

Author (s)	Main Analysis/Findings	Relevance
Sirmon and Hitt (2009)	Resource investment and deployment:	Banks
Weiglitz (2009)	For US banks outsourcing has a negative impact on performance, though it is less harmful for banks with previous experience with similar technology.	Banks
Kim and Finklestein (2009)	Look at complementarity, market, strategic, strategic focus and out of market acquisition experience (later geographical) in US commercial banking 1989-2001. Findings suggested an important prerequisite acquisition performance is complementary resources	Banks
Nothing on Diversification		

Overall RBV conclusion

In short, many of the same debates continue, there has been a significant advance in the understanding of resource utlisation and fungibilty, greater detail in resource bundling, the gap remains for fine grained DRBV single industry DRBV studies, work on the

business performance of related diversification remains largely stalled leaving the question unresolved. There is continuing interest in the areas of the gaps though none have been filled.

Research Methods

Author(s)	**Summary of Argument/Research Methods Used/Area of Study**	**Aspect Of Research Methods**
Sirmon et al (2009)	Single ratios - service sophistication measured using commercial lending to total loans. HR capital measured by cost per employee and weighting based on titles at VP level.	Proxies
Miller (2006)	Combine patents and SIC codes to improve patent measures	Proxies
Hess and Rothaermel (accepted 2011)	Weighted drug count citations	Proxies
Ndofor and Sirmon (accepted article 2010)	Adjusted patent counts - acknowledge weakness but used it	Proxies
Mahoud, Zhu and Zajac (2001)	Improve resource measures inputs and outputs, for example R and D expenditure for input and patent count for output	Proxies

Lockett, Thompson and Morgenstern (2009)	'Much empirical work in the field [RBV] still tends to use the (otherwise discredited) single equation, …. design.' (p.18)	Critique of proxies
Wan, Hoskisson, Short and Yiu (2010)	Call for stronger construct development to give greater precision to relatedness (including resource relatedness) in the diversification literature to make the judgement of relatedness more subjective.	Critique of existing measures of relatedness
Work continues on developing proxies to measure new resources such as Sirmon et al (2009), to improve the measurement of resources already measured for example Ndofor and Sirmon (2010) and develop the sophistication of measurement (Miller, 2006; Mahoud, Zhu and Zajac (2001). The weakness of some proxies is still recognised.		
Lin, Yang and Arya (2009)	Use SIC codes for resources complementarity, in support they cite Villalonga and McGahan (2005)	SIC Codes
Lim, Das and Das (2009)	Multi industry study using SIC codes	SIC Codes
Mahoud, Zhu and Zajac (2011)	Use sales and SIC codes for product diversification	SIC codes
Wu (2009) in Levinthal and Wu (2010).	Even within SIC codes at 4 digit level there can be different demands. 8 different markets in cardiovascular medical device are in two 4 digit codes 3841 and 3845	SIC codes
Bergh et al (2008)	Used SIC codes for asset relatedness and Rumelt's	A range of methods to measure of

	(1974) classification for diversification of business lines together with entrophy.	diversification
Continued use and critique		
Døving and Gooderham (2008)	A single industry product diversification study small Norwegian accounting practices. Looks at antecedents to growth, they examine staff skills and income through 254 questionnaires and found dynamic capital HR skills have a marked impact on the range of services offered	Single industry study
Shamsie, Martin and Miller (2009)	Single industry study of capability development	Single industry study
Zhou (article accepted 2011)	Single industry study of the role of co-ordination cost in diversification	Single industry study
Sirmon et al (2009)	Resource investment and deployment	Single industry study
Lin, Yang and Arya (2009)	Alliances	Multi-industry study
Bergh et al (2008)	Restructuring diversified firms	Multi-industry study
Miller (2006)	Related diversification	Multi-industry study
Morgan, Vorhies and Mason (2009)	Multi industry which found a single resource, marketing, contributes to firm performance	Multi industry study
Vorhies, Morgan & Autry (2009)	Use single industry and multi industry again to examine the role of resources in firm performance	Combined single and multi industry

Lockett, Thompson and Morgenstern (2009)	'much empirical work in the field [RBV] still tends to use the (otherwise discredited) …cross-sectional design.' (p.18) Single industry studies allow more detailed resource specification than intra industry.	Critique of cross sectional methods Benefits of single industry studies for heterogeneous resources
Continued use in RBV of multi industry studies and single industry studies as well as combined. A limited number of single industry studies no examining the impact of resource gaps on performance.		
Gruber Heinemann, Brettel, & Hungeling (2010)	Survey	Qualitative
Weigelt: (2009)	Survey of senior executives	Qualitative
Hodgkinson and Hughes (2011)	Single informants	Qualitative
Lin, Yang and Arya (2009)	Alliances	Quantitative
Zhou (article accepted 2011)	Variety of databases (focus on inputs)	Quantitative
Shamsie, Martin and Miller (2009)	Capabilities strategies and performance	Quantitative
Miller (2006)	Related diversification	Quantitative
Sirmon et al (2009)	Resource investment and deployment	Quantitative
Zhou (2011)	Single industry diversification study of business lines and inputs	Quantitative
Pehrrsson (2006)	Relatedness	Qualitative and quantitative
Morgan, Vorhies and Mason	A single resource marketing assets contribute to firm	Qualitative and quantitative

(2009)	performance	
Vorhies, Morgan & Autry (2009)	Use single industry and multi industry again to examine the role of resources in firm performance	Qualitative and quantitative
Bergh et al (2008)	Restructuring diversified firms	Quantitative and qualitative
Morrow, Sirmon, Hitt and Holocamb (2007)	Creating value in firms in declining performance Panels, qualitative and quantitative data	Quantitative and qualitative
Continued mixed use		
Lockett, Thompson and Morgenstern (2009)	'Resources which *can* easily be identified and measured are unlikely to be of great interest to RBV researchers. Such resources, however, are commonly the focus of empirical studies largely because they can be measured, not because they are necessarily important. Consequently, a significant body of empirical research on the RBV has parallels with the proverbial drunk looking under the street light for his keys. When asked where he had lost his keys he responded, 'somewhere over there in the dark, but can't see a thing over there so I'm looking under the light instead.' A further consequence of the resource identification problem is that researchers have used an extremely varied set of proxies for key capabilities	Resource measurement Role of single industry studies

	and resources, making systematic comparisons across the empirical literature more difficult.' (p.17) They also argue, large sample studies have problems allowing for resource heterogeneity they therefore advocate the use of some single industry studies	
Leiblein (2011)	Utilise case studies and field studies wary of meta reviews. Greater precision for testing.	Advocates fine grained studies
Continued debate over resource measurement and advocacy of studies with smaller numbers of organisations and greater detail per organisation. This would better accommodate resource heterogeneity but could be expected to lead to further proliferation of proxies exasperating comparison issues		
<u>Overall research methods</u> Continuing debate on SIC codes and proxies, used for ease but their limitations are recognised. There have been some adjustments in SIC codes and development of proxies. Qualitative methods have been used in a single industry diversification study examining antecedents to growth and GRBV. Concerns have been expressed over resource measurement, multi industry studies and resource heterogeneity. A variety of methods still used. The call for finer grained studies is still being made. There has been no use of Annual Report comments to identify resource bundles in a diversification study. The case for using fine single industry studies to assess the use of resources in product diversification is extant.		

Appendix Two - Proxy and Performance Indicator Means by Organisation, Group and Sector

This does not contain data for the proxies removed from RQ 1 and 2 these are available if needed.

Largest asset as % of total assets

B/Soc M & S	B/Soc M, S & GI	B/Soc, M, S, GI + FA								
Hinckley	Progressive	Leek	Scarborough	Chelsea	Coventry	Derby	Leeds	Yorkshire		
0.79	0.78	0.77	0.78	0.77	0.81	0.76	0.79	0.77		
B/Soc M, S, GI FA & CB		B/Soc M,S, GI, FA, CB & PB		B/Soc Multiple						
Portman	West Bromwich	Britannia	Nationwide	Skipton						
0.72	0.69	0.67	0.70	0.73						
Consumer Credit	Mortgage Providers			Retail	Private bank					
Cattles	A&L	N/Rock	Paragon	Co-op	C Hoare					
0.88	0.60	0.63	0.86	0.54	0.50					
Broad Investment Banks				UK Niche Investment						
G/Sachs	LB	ML	MS	Aberdeen	3i	Rathbone				
0.31	0.32	0.16	0.25	0.40	0.54	0.66				
Combined Banks										
Barclays	Close Bros									
0.48	0.36									
B/Soc M & S		B/Soc M, S & GI		B/Soc M, S, GI & FA		B/Soc M, S, GI, FA & CB		B/Soc M, S, GI, FA, CB & PB	B/Soc Multiple Diversification	mean b/soc
0.79		0.78		0.78		0.70		0.68	0.73	0.74
Consumer Credit		Mortgage Providers		Retail		Private bank	mean retail bank			
0.88		0.70		0.54		0.50	0.65			
Broad Investment banks		Niche Investment Banking		mean inv banking	Combined Banking					
0.26		0.53		0.40	0.42					

Largest liability as % of total assets

B/Soc M & S	B/Soc M, S & GI	B/Soc, M, S, GI + FA								
Hinckley	Progressive	Leek	Scarborough	Chelsea	Coventry	Derby	Leeds	Yorkshire		
0.87	0.85	0.80	0.84	0.84	0.81	0.80	0.79	0.77		
B/Soc M, S, GI FA & CB		B/Soc M,S, GI, FA, CB & PB		B/Soc Multiple						
Portman	West Bromwich	Britannia	Nationwide	Skipton						
0.83	0.80	0.71	0.76	0.78						
Consumer Credit	Mortgage Providers			Retail	Private bank					
Cattles	A&L	N/Rock	Paragon	Co-op	C Hoare					
0.56	0.50	0.38	0.91	0.50	0.51					
Broad Investment Banks				Niche Investment						
G/Sachs	LB	ML	MS	Aberdeen	3i	Rathbone				
0.14	0.39	0.21	0.25	0.34	0.65	0.60				
Combined Banks										
Barclays	Close Bros									
0.27	0.28									
B/Soc M & S		B/Soc M, S & GI		B/Soc M, S, GI & FA		B/Soc M, S, GI, FA & CB		B/Soc M, S, GI, FA, CB & PB	B/Soc Multiple Diversfication	mean b/soc
0.87		0.85		0.81		0.82		0.74	0.78	0.81
Consumer Credit		Mortgage Providers		Retail		Private bank	mean retail bank			
0.56		0.59		0.50		0.51	0.54			
Broad Investment banks		Niche Investment banking		mean inv banking	Combined Banking					
0.25		0.53		0.39	0.28					

Cost of Staff To Operating Expenses

B/Soc M & S	B/Soc M, S & GI	B/Soc, M, S, GI + FA								
Hinckley	Progressive	Leek	Scarborough	Chelsea	Coventry	Derby	Leeds	Yorkshire		
0.52	0.50	0.56	0.47	0.51	0.48	0.44	0.52	0.52		
B/Soc M, S, GI FA & CB		B/Soc M,S, GI, FA, CB & PB		B/Soc Multiple						
Portman	West Bromwich	Britannia	Nationwide	Skipton						
0.53	0.54	0.48	0.42	0.52						
Consumer Credit	Mortgage Providers			Retail	Private bank					
Cattles	A&L	N/Rock	Paragon	Co-op	C Hoare					
0.22	0.30	0.47		0.41	0.62					
Broad Investment Banks				Niche Investment						
G/Sachs	LB	ML	MS	Aberdeen	3i	Rathbone				
0.68	0.71	0.63	0.57	0.42	1.00	0.55				
Combined Banks										
Barclays	Close Bros									
0.58	0.64									
B/Soc M & S		B/Soc M, S & GI		B/Soc M, S, GI & FA		B/Soc M, S, GI, FA & CB		B/Soc M, S, GI, FA, CB & PB	B/Soc Multiple Diversfication	mean b/soc
0.52		0.50		0.50		0.53		0.45	0.52	0.50
Consumer Credit		Mortgage Providers		Retail		Private bank	mean retail bank			
0.22		0.38		0.41		0.62	0.41			
Broad Investment Banks		Niche Investment Banking		mean inv banking	Combined Banking					
0.65		0.66		0.65	0.61					

Staff Costs to Total Income

B/Soc M & S	B/Soc M, S & GI	B/Soc, M, S, GI + FA								
Hinckley	Progressive	Leek	Scarborough	Chelsea	Coventry	Derby	Leeds	Yorkshire		
0.34	0.27	0.38	0.31	0.25	0.25	0.32	0.25	0.28		
B/Soc M, S, GI FA & CB		B/Soc M,S, GI, FA, CB & PB		B/Soc Multiple						
Portman	West Bromwich	Britannia	Nationwide	Skipton						
0.28	0.34	0.30	0.26	0.38						
Consumer Credit	Mortgage Providers			Retail	Private bank					
Cattles	A&L	N/Rock	Paragon	Co-op	C Hoare					
0.15	0.18	0.15		0.26	0.48					
Broad Investment Banks				Niche Investment						
G/Sachs	LB	ML	MS	Aberdeen	3i	Rathbone				
0.49	0.51	0.50	0.40	0.36	0.39	0.40				
Combined Banks										
Barclays	Close Bros									
0.36	0.39									
B/Soc M & S		B/Soc M, S & GI		B/Soc M, S, GI & FA		B/Soc M, S, GI, FA & CB		B/Soc M, S, GI, FA, CB & PB	B/Soc Multiple Diversfication	mean b/soc
0.34		0.27		0.29		0.31		0.28	0.38	0.31
Consumer Credit		Mortgage Providers		Retail		Private bank	mean retail bank			
0.15		0.17		0.26		0.48	0.26			
Broad Investment banks		Niche Investment banking		mean inv banking	Combined Banking					
0.47		0.38		0.43	0.37					

Cost per Employee

B/Soc M & S	B/Soc M, S & GI	B/Soc, M, S, GI + FA								
Hinckley	Progressive	Leek	Scarborough	Chelsea	Coventry	Derby	Leeds	Yorkshire		
0.022	0.024	0.023	0.019	0.027	0.021	0.023	0.019	0.022		
B/Soc M, S, GI FA & CB		B/Soc M,S, GI, FA, CB & PB		B/Soc Multiple						
Portman	West Bromwich	Britannia	Nationwide	Skipton						
0.024	0.027	0.022	0.023	0.021						
Consumer Credit	Mortgage Providers			Retail	Private bank					
Cattles	A&L	N/Rock	Paragon	Co-op	C Hoare					
0.020	0.025	0.017		0.027	0.067					
Broad Investment Banks				UK Niche Investment						
G/Sachs	LB	ML	MS	Aberdeen	3i	Rathbone				
0.244	0.181	0.125		0.072	0.101	0.044				
Combined Banks										
Barclays	Close Bros									
0.047	0.077									
B/Soc M & S		B/Soc M, S & GI		B/Soc M, S, GI & FA		B/Soc M, S, GI, FA & CB		B/Soc M, S, GI, FA, CB & PB	B/Soc Multiple Diversfic ation	mean b/soc
0.022		0.024		0.022		0.026		0.022	0.021	0.023
Consumer Credit		Mortgage Providers		Retail		Private bank	mean retail bank			
0.020		0.021		0.027		0.067	0.034			
Broad Investment Banks		Niche Investme nt Banking		mean inv banking	Combined Banking					
0.183		0.073		0.128	0.062					

Net Operating Income to Net Interest Income

B/Soc M & S	B/Soc M, S & GI	B/Soc	M'tges	Savings	General	Insurance	+ Financial	Advice		
Hinckley	Progressive	Leek	Scarborough	Chelsea	Coventry	Derby	Leeds	Yorkshire		
0.02	0.15	0.19	0.33	0.10	0.23	0.19	0.31	0.30		
B/Soc M, S, GI	FA & CB	B/Soc M,S, GI,	FA, CB & PB	B/Soc Multiple						
Portman	West Bromwich	Britannia	Nationwide	Skipton						
0.28	0.44	0.41	0.21	1.84						
Consumer Credit		Mortgage Providers		Retail	Private bank					
Cattles	A&L	N/Rock	Paragon	Co-op	C Hoare					
	0.71	0.39	0.30	0.49	0.56					
	Broad Investment Banks				Niche Investment					
G/Sachs	LB	ML	MS	Aberdeen *	3i	Rathbone				
8.38	7.43	5.36	6.16	88.15	0.31	6.60				
Combined	Banking			Sign changed						
Barclays	Close Bros									
0.85	2.19									
B/Soc M & S		B/Soc M, S & GI		B/Soc M, S, GI & FA		B/Soc M, S, GI, FA & CB		B/Soc M, S, GI, FA, CB & PB	B/Soc Multiple Diversfication	mean b/soc
0.02		0.15		0.24		0.36		0.31	1.84	0.49
Consumer Credit		Mortgage Providers		Retail		Private bank	mean retail bank			
		0.47		0.49		0.56	0.50			
Broad Investment banks		Niche Investment banking		mean inv banking	Combined Banking					
6.83		31.69		19.26	1.52					

Gross income from top source/income second top source

B/Soc M & S	B/Soc M, S & GI	B/Soc	M'tges	Savings	General	Insurance	+ Financial	Advice		
Hinckley	Progressive	Leek	Scarborough	Chelsea	Coventry	Derby	Leeds	Yorkshire		
44.18	20.27	12.29	11.38	23.34	17.67	18.79	12.11	18.75		
B/Soc M, S, GI	FA & CB	B/Soc M,S, GI,	FA, CB & PB	B/Soc Multiple						
Portman	West Bromwich	Britannia	Nationwide	Skipton						
15.12	14.15	13.56	19.77	2.54						
Consumer Credit		Mortgage Providers		Retail	Private bank					
Cattles	A&L	N/Rock	Paragon	Co-op	C Hoare					
	4.14	10.53		3.28						
	Broad Investment Banks				Niche Investmen t					
G/Sachs	LB	ML	MS	Aberde en	3i	Rathbone				
					5.27	1.67				
Combined	Banking									
Barclays	Close Bros									
2.89										
B/Soc M & S		B/Soc M, S & GI		B/Soc M, S, GI & FA		B/Soc M, S, GI, FA & CB		B/Soc M, S, GI, FA, CB & PB	B/Soc Multiple Diversfication	mean b/soc
44.18		20.27		16.33		14.64		16.66	2.54	19.10
Consumer Credit		Mortgage Providers		Retail		Private bank	mean retail bank			
		7.34		3.28			5.31			
Broad Investment banks		Niche Investmen t banking		mean inv banking	Combined Banking					
		3.47		3.47	2.89					

Cost Income Ratio

B/Soc M & S	B/Soc M, S & GI	B/Soc	M'tges	Savings	General	Insurance	+ Financial	Advice		
Hinckley	Progressive	Leek	Scarborough	Chelsea	Coventry	Derby	Leeds	Yorkshire		
66.18	54.73	68.44	65.44	47.99	51.21	71.54	48.26	54.81		
B/Soc M, S, GI	FA & CB	B/Soc M,S, GI,	FA, CB & PB	B/Soc Multiple						
Portman	West Bromwich	Britannia	Nationwide	Skipton						
52.01	62.57	62.35	61.71	73.05						
Consumer Credit		Mortgage Providers		Retail	Private bank					
Cattles	A&L	N/Rock	Paragon	Co-op	C Hoare					
	58.66	33.11	40.27	64.58	78.44					
	Broad Investment Banks				UK Niche Investme nt					
G/Sachs	LB	ML	MS	Aberdeen	3i	Rathbone				
72.35	72.49	80.38	69.39	85.07	40.85	73.13				
Combined	Banking									
Barclays	Close Bros									
61.35	61.07									
B/Soc M & S		B/Soc M, S & GI		B/Soc M, S, GI & FA		B/Soc M, S, GI, FA & CB		B/Soc M, S, GI, FA, CB & PB	B/Soc Multiple Diversfication	mean b/soc
66.18		54.73		58.24		57.29		62.03	73.05	61.92
Consumer Credit		Mortgage Providers		Retail		Private bank	mean retail bank			
		44.01		64.58		78.44	62.34			
Broad Investment Banks		Niche Investme nt Banking		mean inv banking	Combine d Banking					
73.65		66.35		70.00	61.21					

Assets per employee

B/Soc M & S	B/Soc M, S & GI	B/Soc	M'tges	Savings	General	Insurance	+ Financial	Advice		
Hinckley	Progressive	Leek	Scarborough	Chelsea	Coventry	Derby	Leeds	Yorkshire		
4.39	6.23	3.32	4.25	7.74	6.74	5.30	5.08	6.01		
B/Soc M, S, GI	FA & CB	B/Soc M,S, GI,	FA, CB & PB	B/Soc Multiple						
Portman	West Bromwich	Britannia	Nationwide	Skipton						
5.93	5.12	4.80	5.47	1.65						
Consumer Credit		Mortgage Providers		Retail	Private bank					
Cattles	A&L	N/Rock	Paragon	Co-op	C Hoare					
0.26	4.06	6.31	4.12	1.73	3.65					
	Broad Investment Banks				UK Niche Investmen t					
G/Sachs	LB	ML	MS	Aberdee n	3i	Rathbone				
11.38	12.44	5.57		0.79	6.92	0.58				
Combined	Banking									
Barclays	Close Bros									
4.36	1.85									
B/Soc M & S		B/Soc M, S & GI		B/Soc M, S, GI & FA		B/Soc M, S, GI, FA & CB		B/Soc M, S, GI, FA, CB & PB	B/Soc Multiple Diversficatio n	mean b/soc
4.39		6.23		5.49		5.53		5.13	1.65	4.74
Consumer Credit		Mortgage Providers		Retail		Private bank	mean retail bank			
0.26		4.83		1.73		3.65	2.62			
Broad Investment banks		Niche Investmen t Banking		mean inv banking	Combined Banking					
9.80		2.76		6.28	3.11					

Staff Per Branch/Office

B/Soc M & S	B/Soc M, S & GI	B/Soc	M'tges	Savings	General	Insurance	+ Financial	Advice		
Hinckley	Progressive	Leek	Scarborough	Chelsea	Coventry	Derby	Leeds	Yorkshire		
10.01	12.63	13.20	27.97	22.48	20.21	13.23	13.51	14.89		
B/Soc M, S, GI	FA & CB	B/Soc M,S, GI,	FA, CB & PB	B/Soc Multiple						
Portman	West Bromwich	Britannia	Nationwide	Skipton						
12.39	14.23	18.29	19.72	48.19						
Consumer Credit		Mortgage Banks		Retail	Private bank					
Cattles	A&L	N/Rock	Paragon	Co-op	C Hoare					
9.96	30.08	57.47		43.08						
	Broad Investment Banks				Niche Investment					
G/Sachs	LB	ML	MS	Aberdeen	3i	Rathbone				
4869.08	319.36			35.20	25.86	61.04				
Combined	Banking									
Barclays	Close Bros									
27.77	76.15									
B/Soc M & S		B/Soc M, S & GI		B/Soc M, S, GI & FA		B/Soc M, S, GI, FA & CB		B/Soc M, S, GI, FA, CB & PB	B/Soc Multiple Diversification	mean b/soc
10.01		12.63		17.93		13.31		19.00	48.19	20.18
Consumer Credit		Mortgage Banks		Retail		Private bank	mean retail bank			
9.96		43.78		43.08			32.27			
Broad Investment banks		Niche Investment banking		mean inv banking	Combined Banking					
394.22		40.70		217.46	51.97					

Assets Per Branch Or Office

B/Soc M & S	B/Soc M, S & GI	B/Soc	M'tges	Savings	General	Insurance	+ Financial	Advice		
Hinckley	Progressive	Leek	Scarborough	Chelsea	Coventry	Derby	Leeds	Yorkshire		
43.67	83.71	46.69	120.54	177.01	138.61	70.56	70.00	90.31		
B/Soc M, S, GI	FA & CB	B/Soc M,S, GI,	FA, CB & PB	B/Soc Multiple						
Portman	West Bromwich	Britannia	Nationwide	Skipton						
75.81	74.00	88.46	109.59	74.93						
Consumer Credit		Mortgage Providers		Retail	Private bank					
Cattles	A&L	N/Rock	Paragon	Co-op	C Hoare					
2.44	123.36	383.46		80.10						
	Broad Investment Banks				UK Niche Investme nt					
G/Sachs	LB	ML	MS	Aberdeen	3i	Rathbone				
5480.67	3881.81			35.56	176.20	35.15				
Combined	Banking									
Barclays	Close Bros									
152.94	140.84									
B/Soc M & S		B/Soc M, S & GI		B/Soc M, S, GI & FA		B/Soc M, S, GI, FA & CB		B/Soc M, S, GI, FA, CB & PB	B/Soc Multiple Diversificatio n	mean b/soc
43.67		83.71		101.96		74.90		99.02	74.93	79.70
Consumer Credit		Mortgage Providers		Retail		Private bank	mean retail bank			
2.44		253.41		80.10			111.99			
Broad Investment Banks		Niche Investme nt Banking		mean inv banking	Combine d Banking					
4681.24		82.30		2381.77	146.89					

Loan Losses To Equity Capital

B/Soc M & S	B/Soc M, S & GI	B/Soc	M'tges	Savings	General	Insurance	+ Financial	Advice		
Hinckley	Progressive	Leek	Scarborough	Chelsea	Coventry	Derby	Leeds	Yorkshire		
-0.0006	-0.0015	0.0006	0.0084	-0.0005	0.0060	-0.0002	0.0199	0.0067		
B/Soc M, S, GI	FA & CB	B/Soc M,S, GI,	FA, CB & PB	B/Soc Multiple						
Portman	West Bromwich	Britannia	Nationwide	Skipton						
0.0084	-0.0029	0.0102	0.0125	0.0119						
Consumer Credit		Mortgage Banks		Retail	Private bank					
Cattles	A&L	N/Rock	Paragon	Co-op	C Hoare					
0.2843	0.0308	0.0273	0.0621	0.1279	0.0015					
	Broad Investment Banks				Niche Investmen t					
G/Sachs	LB	ML	MS	Aberdee n	3i	Rathbone				
0.000	0.000	0.000	0.045	0.000	0.000	0.002				
Combined	Banking									
Barclays	Close Bros									
0.0663	0.0382									
B/Soc M & S		B/Soc M, S & GI		B/Soc M, S, GI & FA		B/Soc M, S, GI, FA & CB		B/Soc M, S, GI, FA, CB & PB	B/Soc Multiple Diversificati on	mean b/soc
-0.00057		-0.00152		0.00584		0.00272		0.01135	0.01188	0.004 95
Consumer Credit		Mortgage Banks		Retail		Private bank	mean retail bank			
0.28433		0.04006		0.12791		0.00149	0.11345			
Broad Investment banks		Niche Investmen t banking		mean inv banking	Combined Banking					
0.01125		0.00075		0.00600	0.05223					

Loan Losses to Balance Sheet

B/Soc M & S	B/Soc M, S & GI	B/Soc	M'tges	Savings	General	Insurance	+ Financial	Advice		
Hinckley	Progressive	Leek	Scarborough	Chelsea	Coventry	Derby	Leeds	Yorkshire		
-0.00003	-0.00008	0.00004	0.00032	-0.00003	0.00029	-0.00001	0.00107	0.00037		
B/Soc M, S, GI	FA & CB	B/Soc M,S, GI,	FA, CB & PB	B/Soc Multiple						
Portman	West Bromwich	Britannia	Nationwide	Skipton						
0.00043	-0.00014	0.00053	0.00066	0.00058						
Consumer Credit		Mortgage Providers		Retail	Private bank					
Cattles	A&L	N/Rock	Paragon	Co-op	C Hoare					
0.06735	0.00137	0.00107	0.00409	0.00736	0.00011					
	Broad Investment Banks				Niche Investme nt Banks					
G/Sachs	LB	ML	MS	Aberdeen	3i	Rathbone				
0.00000	0.00000	0.00000	0.00198	0.00000	0.00000	0.00044				
Combined	Banking									
Barclays	Close Bros									
0.00259	0.00552									
B/Soc M & S		B/Soc M, S & GI		B/Soc M, S, GI & FA		B/Soc M, S, GI, FA & CB		B/Soc M, S, GI, FA, CB & PB	B/Soc Multiple Diversification	mean b/soc
-0.00003		-0.00008		0.00029		0.00015		0.00059	0.00058	0.00025
Consumer Credit		Mortgage Providers		Retail		Private bank	mean retail bank			
0.06735		0.00218		0.00736		0.00011	0.01925			
Broad Investment Banks		Niche Investme nt banking		mean inv banking	Combined Banking					
0.00049		0.00015		0.00032	0.00406					

Loan Losses To Pre Tax Profit

B/Soc M & S	B/Soc M, S & GI	B/Soc	M'tges	Savings	General	Insurance	+ Financial	Advice		
Hinckley	Progressive	Leek	Scarborough	Chelsea	Coventry	Derby	Leeds	Yorkshire		
-0.007	-0.014	0.011	0.058	-0.002	0.048	-0.003	0.152	0.067		
B/Soc M, S, GI	FA & CB	B/Soc M,S, GI,	FA, CB & PB	B/Soc Multiple						
Portman	West Bromwich	Britannia	Nationwide	Skipton						
0.052	-0.002	0.094	0.111	0.064						
Consumer Credit		Mortgage Providers		Retail	Private bank					
Cattles	A&L	N/Rock	Paragon	Co-op	C Hoare					
0.790	0.107	0.103	0.243	0.552	0.021					
	Broad Investment Banks				Niche Investme nt					
G/Sachs	LB	ML	MS	Aberdeen	3i	Rathbone				
0.000	0.000	0.000	0.189	0.000	0.000	0.007				
Combined	Banking									
Barclays	Close Bros									
0.283	0.178									
B/Soc M & S		B/Soc M, S & GI		B/Soc M, S, GI & FA		B/Soc M, S, GI, FA & CB		B/Soc M, S, GI, FA, CB & PB	B/Soc Multiple Diversfication	mean b/soc
-0.007		-0.014		0.047		0.025		0.102	0.064	0.036
Consumer Credit		Mortgage Providers		Retail		Private bank	mean retail bank			
0.790		0.151		0.552		0.021	0.379			
Broad Investment banks		Niche Investme nt banking		mean inv banking	Combined Banking					
0.047		0.002		0.025	0.230					

Equity to Assets

B/Soc M & S	B/Soc M, S & GI	B/Soc	M'tges	Savings	General	Insurance	+ Financial	Advice		
Hinckley	Progressive	Leek	Scarborough	Chelsea	Coventry	Derby	Leeds	Yorkshire		
6.24	5.35	6.35	3.73	4.96	4.80	5.33	5.39	5.59		
B/Soc M, S, GI	FA & CB	B/Soc M,S, GI,	FA, CB & PB	B/Soc Multiple						
Portman	West Bromwich	Britannia	Nationwide	Skipton						
4.77	5.37	5.21	5.15	5.04						
Consumer Credit		Mortgage Providers		Retail	Private bank					
Cattles	A&L	N/Rock	Paragon	Co-op	C Hoare					
24.19	4.99	4.01	6.50	5.80	8.48					
	Broad Investment Banks				UK Niche Investme nt					
G/Sachs	LB	ML	MS	Aberdeen	3i	Rathbone				
5.52	4.02	5.48	4.36	28.15	64.86	18.42				
Combined	Banking									
Barclays	Close Bros									
3.90	14.50									
B/Soc M & S		B/Soc M, S & GI		B/Soc M, S, GI & FA		B/Soc M, S, GI, FA & CB		B/Soc M, S, GI, FA, CB & PB	B/Soc Multiple Diversfication	mean b/soc
6.24		5.35		5.17		5.07		5.18	5.04	5.34
Consumer Credit		Mortgage Providers		Retail		Private bank	mean retail bank			
24.19		5.16		5.80		8.48	10.91			
Broad Investment Banks		Niche Investme nt Banking		mean inv banking	Combined					
4.84		37.14		20.99	9.20					

Capital to Assets

B/Soc M & S	B/Soc M, S & GI	B/Soc	M'tges	Savings	General	Insurance	+ Financial	Advice		
Hinckley	Progressive	Leek	Scarborough	Chelsea	Coventry	Derby	Leeds	Yorkshire		
6.41	5.35	6.35	5.27	5.89	5.09	6.29	5.47	6.30		
B/Soc M, S, GI	FA & CB	B/Soc M,S, GI,	FA, CB & PB	B/Soc Multiple						
Portman	West Bromwich	Britannia	Nationwide	Skipton						
5.52	6.42	6.76	5.74	5.99						
Consumer Credit		Mortgage Providers		Retail	Private bank					
Cattles	A&L	N/Rock	Paragon	Co-op	C Hoare					
24.19	6.56	7.37	6.50	8.59	8.48					
	Broad Investment Banks				UK Niche Investme nt					
G/Sachs	LB	ML	MS	Aberdeen	3i	Rathbone				
5.63	4.97	5.58	4.59	28.15	65.55	18.42				
Combined	Banking									
Barclays	Close Bros									
6.15	16.83									
B/Soc M & S		B/Soc M, S & GI		B/Soc M, S, GI & FA		B/Soc M, S, GI, FA & CB		B/Soc M, S, GI, FA, CB & PB	B/Soc Multiple Diversfication	mean b/soc
6.41		5.35		5.81		5.97		6.25	5.99	5.96
Consumer Credit		Mortgage Providers		Retail		Private bank	mean retail bank			
24.19		6.81		8.59		8.48	12.02			
Broad Investment Banks		Niche Investme nt Banking		mean inv banking	Combined Banking					
5.19		37.37		21.28	11.49					

Liquid Assets To Short-Term Funding

B/Soc M & S	B/Soc M, S & GI	B/Soc	M'tges	Savings	General	Insurance	+ Financial	Advice		
Hinckley	Progressive	Leek	Scarborough	Chelsea	Coventry	Derby	Leeds	Yorkshire		
21.55	20.61	23.01	19.79	23.97	20.24	24.21	20.35	22.75		
B/Soc M, S, GI	FA & CB	B/Soc M,S, GI,	FA, CB & PB	B/Soc Multiple						
Portman	West Bromwich	Britannia	Nationwide	Skipton						
23.27	20.92	28.59	20.84	23.00						
Consumer Credit		Mortgage Providers		Retail	Private bank					
Cattles	A&L	N/Rock	Paragon	Co-op	C Hoare					
2.67	11.72	13.63	44.99	37.77	50.67					
	Broad Investment Banks				Niche Investme nt					
G/Sachs	LB	ML	MS	Aberdeen	3i	Rathbone				
396.58	686.50	135.20	238.55		113.45	101.32				
Combined	Banking									
Barclays	Close Bros									
32.85	63.28									
B/Soc M & S		B/Soc M, S & GI		B/Soc M, S, GI & FA		B/Soc M, S, GI, FA & CB		B/Soc M, S, GI, FA, CB & PB	B/Soc Multiple Diversfication	mean b/soc
21.55		20.61		22.04		22.10		24.71	23.00	22.34
Consumer Credit		Mortgage Providers		Retail		Private bank	mean retail bank			
2.67		23.45		37.77		50.67	28.64			
Broad Investment banks		Niche Investme nt banking		mean inv banking	Combined Banking					
364.21		107.39		235.80	48.06					

Net Loans to Total Assets

B/Soc M & S	B/Soc M, S & GI	B/Soc	M'tges	Savings	General	Insurance	+ Financial	Advice		
Hinckley	Progressive	Leek	Scarborough	Chelsea	Coventry	Derby	Leeds	Yorkshire		
79.43	79.31	78.17	78.67	76.47	80.61	76.50	80.24	77.69		
B/Soc M, S, GI	FA & CB	B/Soc M,S, GI,	FA, CB & PB	B/Soc Multiple						
Portman	West Bromwich	Britannia	Nationwide	Skipton						
77.36	78.37	72.41	79.09	75.84						
Consumer Credit		Mortgage Providers		Retail	Private bank					
Cattles	A&L	N/Rock	Paragon	Co-op	C Hoare					
87.53	72.81	78.40	88.95	53.71	41.88					
	Broad Investment Banks				Niche Investme nt					
G/Sachs	LB	ML	MS	Aberdeen	3i	Rathbone				
0.00	0.00	7.07	3.87			9.67				
Combined	Banking									
Barclays	Close Bros									
49.07	39.57									
B/Soc M & S		B/Soc M, S & GI		B/Soc M, S, GI & FA		B/Soc M, S, GI, FA & CB		B/Soc M, S, GI, FA, CB & PB	B/Soc Multiple Diversification	mean b/soc
79.43		79.31		78.34		77.86		75.75	75.84	77.75
Consumer Credit		Mortgage Providers		Retail		Private bank	mean retail bank			
87.53		80.05		53.71		41.88	65.79			
Broad Investment banks		Niche Investme nt banking		mean inv banking	Combined Banking					
2.74		9.67		6.20	44.32					

Net Profit Margin

B/Soc M & S	B/Soc M, S & GI	B/Soc	M'tges	Savings	General	Insurance	+ Financial	Advice		
Hinckley	Progressive	Leek	Scarborough	Chelsea	Coventry	Derby	Leeds	Yorkshire		
1.56	1.32	1.57	1.24	1.43	1.12	1.23	1.26	1.07		
B/Soc M, S, GI	FA & CB	B/Soc M,S, GI,	FA, CB & PB	B/Soc Multiple						
Portman	West Bromwich	Britannia	Nationwide	Skipton						
1.33	1.27	1.18	1.52	1.38						
Consumer Credit		Mortgage Providers		Retail	Private bank					
Cattles	A&L	N/Rock	Paragon	Co-op	C Hoare					
	2.30	1.43	3.27	4.41	2.69					
	Broad Investment Banks				Niche Investme nt					
G/Sachs	LB	ML	MS	Aberdeen	3i	Rathbone				
0.70	0.43	1.04	0.80	-29.49	3.09	4.08				
Combined	Banking									
Barclays	Close Bros									
1.98	4.56									
B/Soc M'tge & savings		B/Soc M, S & GI		B/Soc M, S, GI & FA		B/Soc M, S, GI, FA & CB		B/Soc M, S, GI, FA, CB & PB	B/Soc Multiple Diversification	mean b/soc
1.56	0.24	1.32	0.05	1.27		1.30		1.35	1.38	1.36
Consumer Credit		Mortgage Providers		Retail		Private bank		Mean retail bank		
		2.34		4.41		2.69		3.14		
Broad Investment Banks		Niche Investme nt Banking		Mean Investme nt Banking	Combined Banking					
0.74		-7..44		-3.35	3.27					

ROAA

B/Soc M & S	B/Soc M, S & GI	B/Soc	M'tges	Savings	General	Insurance	+ Financial	Advice		
Hinckley	Progressive	Leek	Scarborough	Chelsea	Coventry	Derby	Leeds	Yorkshire		
0.38	0.48	0.38	0.39	0.56	0.44	0.30	0.52	0.42		
B/Soc M, S, GI	FA & CB	B/Soc M,S, GI,	FA, CB & PB	B/Soc Multiple						
Portman	West Bromwich	Britannia	Nationwide	Skipton						
0.52	0.41	0.45	0.44	0.66						
Consumer Credit		Mortgage Banks		Retail	Private bank					
Cattles	A&L	N/Rock	Paragon	Co-op	C Hoare					
7.51	0.99	0.77	1.53	0.97	0.61					
	Broad Investment Banks				Niche Investme nt					
G/Sachs	LB	ML	MS	Aberdeen	3i	Rathbone				
0.86	0.61	0.68	0.81	-0.08	2.05	4.03				
Combined	Banking									
Barclays	Close Bros									
0.71	2.70									
B/Soc M & S		B/Soc M, S & GI		B/Soc M, S, GI & FA		B/Soc M, S, GI, FA & CB		B/Soc M, S, GI, FA, CB & PB	B/Soc Multiple Diversfication	mean b/soc
0.38		0.48		0.43		0.46		0.44	0.66	0.47
Consumer Credit		Mortgage Banks		Retail		Private bank	mean retail bank			
7.51		1.10		0.97		0.61	2.55			
Broad Investment banks		Niche Investme nt banking		mean inv banking	Combined Banking					
0.74		2.00		1.37	1.70					

ROAE

B/Soc M & S	B/Soc M, S & GI	B/Soc	M'tges	Savings	General	Insurance	+ Financial	Advice		
Hinckley	Progressive	Leek	Scarborough	Chelsea	Coventry	Derby	Leeds	Yorkshire		
5.94	8.81	6.01	10.27	11.07	9.09	5.42	9.72	7.44		
B/Soc M, S, GI	FA & CB	B/Soc M,S, GI,	FA, CB & PB	B/Soc Multiple						
Portman	West Bromwich	Britannia	Nationwide	Skipton						
10.58	7.63	8.52	8.34	13.18						
Consumer Credit		Mortgage Banks		Retail	Private bank					
Cattles	A&L	N/Rock	Paragon	Co-op	C Hoare					
30.45	19.65	19.04	24.19	17.23	7.30					
	Broad Investment Banks				Niche Investme nt					
G/Sachs	LB	ML	MS	Aberdeen	3i	Rathbone				
16.05	15.47	12.48	17.99	-4.43	3.17	21.85				
Combined	Banking									
Barclays	Close Bros									
17.93	18.66									
B/Soc M & S		B/Soc M, S & GI		B/Soc M, S, GI & FA		B/Soc M, S, GI, FA & CB		B/Soc M, S, GI, FA, CB & PB	B/Soc Multiple Diversfication	mean b/soc
5.94		8.81		8.43		9.10		8.43	13.18	8.98
Consumer Credit		Mortgage Banks		Retail		Private bank	mean retail bank			
30.45		20.96		17.23		7.30	18.98			
Broad Investment banks		Niche Investme nt Banking		mean inv banking	Combined Banking					
15.50		6.86		11.18	18.29					

Balance Sheet Growth

B/Soc M & S	B/Soc M, S & GI	B/Soc	M'tges	Savings	General	Insurance	+ Financial	Advice		
Hinckley	Progressive	Leek	Scarborough	Chelsea	Coventry	Derby	Leeds	Yorkshire		
8.09	11.49	5.55	12.83	14.23	11.75	8.53	11.57	9.03		
B/Soc M, S, GI	FA & CB	B/Soc M,S, GI,	FA, CB & PB	B/Soc Multiple						
Portman	West Bromwich	Britannia	Nationwide	Skipton						
18.91	14.74	9.80	13.14	11.67						
Consumer Credit		Mortgage e Providers		Retail	Private bank					
Cattles	A&L	N/Rock	Paragon	Co-op	C Hoare					
29.78	10.94	15.34	21.27	10.95	7.47					
	Broad Investment Banks				UK Niche Investme nt					
G/Sachs	LB	ML	MS	Aberdeen	3i	Rathbone				
16.70	12.41	11.80	16.32	36.42	2.62	24.24				
Combined	Banking									
Barclays	Close Bros									
12.79	18.16									
B/Soc M & S		B/Soc M, S & GI		B/Soc M, S, GI & FA		B/Soc M, S, GI, FA & CB		B/Soc M, S, GI, FA, CB & PB	B/Soc Multiple Diversfication	mean b/soc
8.09		11.49		10.50		16.82		11.47	11.67	10.01
Consumer Credit		Mortgage Providers		Retail		Private bank	mean retail bank			
29.78		15.85		10.95		7.47	16.01			
Broad Investment banks		Niche Investme nt Banking		mean inv banking	Combined Banking					
14.31		21.09		17.70	15.47					

Note On Proxies

Data inputted

Where there is additional years data beyond Bankscope is available it is only used where it results in a resource proxy eg there is staff numbers data for Goldman Sachs 1999-1997 which is unusable without other data for the time period.

Assets and Liabilities

The largest asset and liability excluded any settlement figures as these are generic and could relate to any underlying asset or liability or other business transaction.

Assets

The rationale behind the proxy is to examine the breadth of types of assets an organisation offers to give an indication of the range of services they have to manage, it follows that the larger the range of assets the larger the range of skills (resources) an organisation needs. Dominant Logic (Prahalad and Bettis: 1986 and Bettis and Prahalad: 1995) argues that there is a limit to how diverse a range of activities a top management team can manage, too diverse and the organisation will not be managed effectively. The range of dominant logic can vary, there can be differences in managerial willingness to change Maritan and Brush (2003) also the level of absorptive capacity can vary Lenox and King (2004). It is possible for successful organisations to be ambidextrous and embrace contradictions (Tripsas and Gavetti: 2000 citing Tushman and O'Reilly: 1996) – this suggests a different wider type of dominant logic. Furthermore product diversification requires parenting one aspect of which is absorptive capacity (Harrison et al: 2001).

There are issues in data availability and judgement of what is an asset.

Firstly, there is restricted data, for example, two organisations have limited data on Bankscope - A & L and Paragon, in both case only loans, for the former there is more detail in the Annual Reports enabling mortgages to be used for the later no more detail. Yet the B/soc all have data on mortgages (even down to different types residential and others) as does the other mortgage provider Northern Rock (from its Annual Reports).

There are two possible approaches:

Firstly, to a ‘lowest common denominator’ approach this would have loans as the largest asset for all B/Soc, mortgage providers, consumer credit, retail and one of the combined. This approach would show little difference between them even though there would be a wide range of loans in some organisations eg Barclays and a very tight range for the focused B/soc eg Hinckley and Progressive.

Secondly, a judgment call could be made the dominant logic of an industry ie the key asset they are used to managing, with the organisation being less used to managing other assets as they are outside the dominant logic and select the largest asset accordingly. This results in:

- B/Soc and Mortgage Providers - residential mortgages, where data available
- Retail – loans and advances to customers
- Private – loans and advances customers or deposits with other banks
- Consumer credit - either loans or HP/instalment credit (though the later is higher than the former, I am checking this out with Bankscope)
- Combined – customer loans or deposits with other banks
- Broad Investment - securities borrowed under agreements to resell, Securities borrowed, principal transactions trading or reverse repos
- Niche Investment - equity investments, bank deposits and placings or goodwill.

This approach is more fine grained but more judgmental, enabling more detailed examination and was therefore used.

Liabilities

The largest liability was judged on two criteria retail or wholesale and time or sight. Firstly, retail deposits being high volume low value and often branch based whereas wholesale deposits are low volume high value and typically treasury based. Secondly, time are managing more stable savings accounts which pay interest and have no money transmission attached and the more volatile sight transaction account which do have money transmission attached, can have borrowing facilities and if the pay interest it is very low.

For the b/soc there is no ability to differentiate deposits by time or sight but for the vast majority these are savings accounts whether time or sight, only two B/soc are classified as having personal banking where there would be some transactional accounts in sight deposits there would also be some instant access savings accounts. As members of the retail industry sector have a more fine grained approach which differentiated between sight and time, it was decided to use B/soc customer deposits as for all except two these would be savings accounts.

Appendix Three Resource Difference Data

Due to space constraints each of the columns on the main tables have been numbered see below for the numbers used:

1	**Employees**
2	Cost of staff / Number of staff (ie cost per member of staff)
3	Cost of staff / Total income
4	Cost of staff / Operating expenses - Overheads
5	Mean
6	**Balance sheet reliant services**
7	Largest asset / Balance Sheet
8	Largest liability / Balance Sheet
9	Mean
10	**Income streams**
11	Other operating income / Net interest income
12	Gross income from top source / gross income from second top source
13	Mean
14	**Efficiency**
15	Cost Income ratio %
16	Assets per employee
17	Mean
18	**Risk**
19	Capital funds to Total assets
20	Equity to Total Assets
21	Mean
22	**Losses**
23	Impairment losses / Balance Sheet
24	Impairment loses / Total capital
25	Impairment losses / Pre tax profit
26	Mean
27	**Liquidity**
28	Net Loans/ total assets
29	Liquid assets/ Deposits and short term funding
30	Mean
31	**Networks**
32	Assets per branches/offices
33	Staff per Office Or Branch
34	Mean
35	**Mean of the Differences of Resource Means**
36	**Business Performance Indicators**
37	ROAE (Return On Average Equity)
38	ROAA (Return on Average Assets)
39	Net profit margin - net % margin
40	Balance Sheet Growth
41	Mean

Including Non B/Soc - One

	B/Soc M, S, GI, FA, CB, + PB	*Difference*	Mortgage Providers	B/Soc M, S, GI, FA, CB, + PB	*Difference*	Retail	Consumer Credit	*Difference*	Retail
1									
2	1.47	*0.84*	0.63	1.47	*2.68*	4.15	0.00	*4.15*	4.15
3	39.65	*33.72*	5.93	39.65	*5.23*	34.42	0.00	*34.42*	34.42
4	52.87	*15.16*	37.71	52.87	*9.98*	42.89	0.00	*42.89*	42.89
5	31.33	16.57	14.76	31.33	5.96	27.15	0.00	27.15	27.15
6									
7	68.76	*2.16*	70.92	68.76	*23.79*	44.97	100.00	*55.03*	44.97
8	78.84	*22.59*	56.25	78.84	*38.46*	40.37	51.14	*10.77*	40.37
9	73.80	12.37	63.58	73.80	31.12	42.67	75.57	32.90	42.67
10									
11	0.92	*0.51*	1.43	0.92	*0.57*	1.49			1.49
12	33.93	*22.40*	11.53	33.93	*32.14*	1.79			1.79
13	17.42	11.45	6.48	17.42	16.35	1.64			1.64
14									
15	52.34	*52.34*	0.00	52.34	*7.40*	59.73	-127.87		59.73
16	51.09	*3.16*	47.92	51.09	*35.66*	15.43	0.00	*15.43*	15.43
17	51.71	27.75	23.96	51.71	21.53	37.58	-63.93	15.43	37.58
18									
19	3.28	*1.74*	5.02	3.28	*7.29*	10.57	59.04	*48.47*	10.57
20	1.03	*0.03*	0.99	1.03	*1.93*	2.96	59.90	*56.95*	2.96
21	2.15	0.89	3.01	2.15	4.61	6.77	59.47	52.71	6.77
22									
23	1.00	*2.34*	3.34	1.00	*10.03*	11.03	100.00	*88.97*	11.03
24	4.50	*10.04*	14.54	4.50	*40.78*	45.28	100.00	*54.72*	45.28
25	14.52	*6.06*	20.58	14.52	*55.93*	70.46	100.00	*29.54*	70.46
26	6.67	6.15	12.82	6.67	35.58	42.25	100.00	57.75	42.25
27									
28	86.11	*5.08*	91.19	86.11	*25.99*	60.12	100.00	*39.88*	60.12
29	6.10	*0.35*	5.75	6.10	*3.61*	9.71	0.00	*9.71*	9.71
30	46.10	2.71	48.47	46.10	14.80	34.91	50.00	24.80	34.91
31									
32	2.06	*3.30*	5.36	2.06	*0.40*	1.66	0.00	*1.66*	1.66
33	2.35	*6.45*	8.80	2.35	*6.27*	8.62	0.00	*8.62*	8.62
34	2.21	4.87	7.08	2.21	3.34	5.14	0.00	5.14	5.14
35		*10.35*			*16.66*			*30.84*	
36									
37	10.15	*51.13*	61.27	10.15	*-35.89*	46.03	100.00	*53.97*	46.03
38	0.93	*9.19*	10.12	0.93	*-7.38*	8.31	100.00	*91.69*	8.31
39	74.20	*8.33*	82.53	74.20	*-25.80*	100.00	62.80		100.00
40	17.93	*19.65*	37.58	17.93	*-2.30*	15.63	100.00	*-84.37*	15.63
41		*22.07*			*-17.84*			*20.43*	

Including Non B/Soc - Two

	Mortgage Providers	*Difference*	Retail	Retail	*Difference*	Combined banking	Niche Investment banking	*Difference*	Broad investment banks
1									
2	0.63	*3.52*	4.15	4.15	*21.69*	25.84	32.20	*67.80*	100.00
3	5.93	*28.49*	34.42	34.42	*32.81*	67.23	70.09	*27.21*	97.31
4	37.71	*5.18*	42.89	42.89	*46.79*	89.68	100.00	*2.08*	97.92
5	14.76	12.40	27.15	27.15	33.76	60.91	67.43	32.36	98.41
6									
7	70.92	*25.94*	44.97	44.97	*18.94*	26.04	44.42	*44.42*	0.00
8	56.25	*15.87*	40.37	40.37	*35.46*	4.91	46.01	*46.01*	0.00
9	63.58	20.91	42.67	42.67	27.20	15.47	45.22	45.22	0.00
10									
11	1.43	*0.06*	1.49	1.49	*3.28*	4.76	100.00	*78.48*	21.52
12	11.53	*9.74*	1.79	1.79	*0.94*	0.85	2.25		-6.09
13	6.48	4.90	1.64	1.64	2.11	2.81	51.12	78.48	7.72
14									
15	0.00	*59.73*	59.73	59.73	*9.78*	49.95	64.89	*21.21*	86.10
16	47.92	*32.49*	15.43	15.43	*14.43*	29.86	26.22	*73.78*	100.00
17	23.96	46.11	37.58	37.58	12.11	39.91	45.56	47.49	93.05
18									
19	5.02	*5.55*	10.57	10.57	*9.00*	19.57	100.00	*100.00*	0.00
20	0.99	*1.97*	2.96	2.96	*10.53*	13.49	100.00	*100.00*	0.00
21	3.01	3.76	6.77	6.77	9.76	16.53	100.00	100.00	0.00
22									
23	3.34	*7.68*	11.03	11.03	*4.89*	6.13	0.33	*0.52*	0.85
24	14.54	*30.73*	45.28	45.28	*26.48*	18.80	0.79	*3.67*	4.46
25	20.58	*49.88*	70.46	70.46	*40.03*	30.42	2.09	*5.56*	7.65
26	12.82	29.43	42.25	42.25	23.80	18.45	1.07	3.25	4.32
27									
28	91.19	*31.07*	60.12	60.12	*11.07*	49.04	8.18	*8.18*	0.00
29	5.75	*3.96*	9.71	9.71	*2.85*	12.56	28.96	*71.04*	100.00
30	48.47	17.51	34.91	34.91	6.96	30.80	18.57	39.61	50.00
31									
32	5.36	*3.70*	1.66	1.66	*1.43*	3.09	1.71	*98.29*	100.00
33	8.80	*0.18*	8.62	8.62	*2.31*	10.93	8.00	*92.00*	100.00
34	7.08	1.94	5.14	5.14	1.87	7.01	4.85	95.15	100.00
35		*17.12*			*14.70*			*55.19*	
36									
37	61.27	*15.24*	46.03	46.03	*4.35*	50.38	3.76	*35.23*	38.99
38	10.12	*1.81*	8.31	8.31	*10.27*	18.59	22.75	*-17.64*	5.11
39	82.53	*-17.47*	100.00	100.00	*-9.56*	90.44	0.00	*69.06*	69.06
40	37.58	*-21.94*	15.63	15.63	*20.24*	35.87	61.05	*-30.39*	30.66
41		*-5.59*			*6.32*			*14.06*	

Including Non B/Soc - Three

	Retail	*Difference*	Broad Investment banks	Private bank	*Difference*	Niche Investment banking	Broad Investment banks	*Difference*	Combined banking
1									
2	4.15	*95.85*	100.00	28.73	*3.47*	32.20	100.00	*74.16*	25.84
3	34.42	*62.89*	97.31	100.00	*29.91*	70.09	97.31	*30.08*	67.23
4	42.89	*55.04*	97.92	91.48	*8.52*	100.00	97.92	*8.25*	89.68
5	27.15	71.26	98.41	73.40	13.97	67.43	98.41	37.50	60.91
6									
7	44.97	*44.97*	0.00	39.42	*5.00*	44.42	0.00	*26.04*	26.04
8	40.37	*40.37*	0.00	42.07	*3.95*	46.01	0.00	*4.91*	4.91
9	42.67	42.67	0.00	40.74	4.47	45.22	0.00	15.47	15.47
10									
11	1.49	*20.03*	21.52	1.71	*98.29*	100.00	21.52	*16.76*	4.76
12	1.79		-6.09			2.25	-6.09		0.85
13	1.64	20.03	7.72	1.71	98.29	51.12	7.72	16.76	2.81
14									
15	59.73	*26.37*	86.10	100.00	*35.11*	64.89	86.10	*36.15*	49.95
16	15.43	*84.57*	100.00	35.55	*9.33*	26.22	100.00	*70.14*	29.86
17	37.58	55.47	93.05	67.78	22.22	45.56	93.05	53.14	39.91
18									
19	10.57	*10.57*	0.00	10.22	*89.78*	100.00	0.00	*19.57*	19.57
20	2.96	*2.96*	0.00	11.25	*88.75*	100.00	0.00	*13.49*	13.49
21	6.77	6.77	0.00	10.73	89.27	100.00	0.00	16.53	16.53
22									
23	11.03	*10.18*	0.85	0.28	*0.05*	0.33	0.85	*5.28*	6.13
24	45.28	*40.81*	4.46	1.05	*0.26*	0.79	4.46	*14.34*	18.80
25	70.46	*62.81*	7.65	4.40	*2.31*	2.09	7.65	*22.78*	30.42
26	42.25	37.93	4.32	1.91	0.87	1.07	4.32	14.13	18.45
27									
28	60.12	*60.12*	0.00	46.17	*37.99*	8.18	0.00	*49.04*	49.04
29	9.71	*90.29*	100.00	13.28	*15.69*	28.96	100.00	*87.44*	12.56
30	34.91	75.20	50.00	29.72	26.84	18.57	50.00	68.24	30.80
31									
32	1.66	*98.34*	100.00			1.71	100.00	*96.91*	3.09
33	8.62	*91.38*	100.00			8.00	100.00	*89.07*	10.93
34	5.14	94.86	100.00			4.85	100.00	92.99	7.01
35		*50.53*			*36.56*			*39.35*	
36									
37	46.03	*-7.05*	38.99	5.52	*-1.76*	3.76	38.99	*11.39*	50.38
38	8.31	*-3.20*	5.11	3.31	*19.45*	22.75	5.11	*13.48*	18.59
39	100.00	*-30.94*	69.06	85.53	*-85.53*	0.00	69.06	*21.38*	90.44
40	15.63	*15.03*	30.66	0.00	*61.05*	61.05	30.66	*5.21*	35.87
41		*-6.54*			*-1.70*			*12.86*	

B/Soc Diversifications – One

	B/Soc M & S	*Difference*	B/Soc M, S + GI	B/Soc M, S + GI	*Difference*	B/Soc M, S, GI and FA		B/Soc M, S, GI and FA	*Difference*	B/Soc M,S GI, FA, & CB
1										
2	1.47	*0.84*	2.30	2.30	*0.94*	1.36		1.36	*2.24*	3.60
3	58.09	*20.66*	37.44	37.44	*5.52*	42.96		42.96	*4.83*	47.79
4	68.39	*4.75*	63.64	63.64	*0.85*	64.49		64.49	*7.73*	72.22
5	42.65	8.75	34.46	34.46	2.44	36.27		36.27	4.93	41.20
6										
7	85.67	*1.09*	84.58	84.58	*0.13*	84.45		84.45	*12.18*	72.27
8	100.00	*2.60*	97.40	97.40	*6.74*	90.66		90.66	*1.22*	91.88
9	92.84	1.85	90.99	90.99	3.43	87.55		87.55	6.70	82.07
10										
11	0.00	*0.42*	0.42	0.42	*0.28*	0.70		0.70	*0.39*	1.09
12	100.00	*57.43*	42.57	42.57	*9.45*	33.13		33.13	*4.07*	29.06
13	50.00	28.92	21.50	21.50	4.86	16.91		16.91	2.23	15.08
14										
15	64.39	*33.25*	31.14	31.14	*10.19*	41.33		41.33	*2.77*	38.56
16	43.27	*19.36*	62.62	62.62	*7.77*	54.85		54.85	*0.36*	55.21
17	53.83	26.30	46.88	46.88	8.98	48.09		48.09	1.56	46.88
18										
19	3.78	*3.30*	0.48	0.48	*1.44*	1.92		1.92	*0.49*	2.41
20	4.33	*2.77*	1.55	1.55	*0.56*	0.99		0.99	*0.30*	0.69
21	4.06	3.04	1.02	1.02	1.00	1.46		1.46	0.39	1.55
22										
23	0.07	*0.07*	0.00	0.00	*0.55*	0.55		0.55	*0.22*	0.33
24	0.33	*0.33*	0.00	0.00	*2.57*	2.57		2.57	*1.09*	1.48
25	0.86	*0.86*	0.00	0.00	*7.65*	7.65		7.65	*2.75*	4.90
26	18.03	0.42	20.77	20.77	3.59	27.69		27.69	1.35	1.68
27										
28	90.45	*0.14*	90.31	90.31	*1.14*	89.16		89.16	*0.56*	88.60
29	5.22	*0.26*	4.96	4.96	*0.40*	5.36		5.36	*0.01*	5.37
30	47.84	0.20	47.63	47.63	0.77	47.26		47.26	0.29	46.99
31										
32	0.88	*0.86*	1.74	1.74	*0.39*	2.13		2.13	*0.58*	1.55
33	0.01	*0.68*	0.70	0.70	*1.38*	2.07		2.07	*1.20*	0.87
34	0.30	0.77	9.62	9.62	0.88	31.70		31.70	0.89	20.55
35		*8.78*			*3.25*				*2.29*	
36										
37	0.00	*-11.69*	11.69	11.69	*1.54*	10.15		10.15	*-2.74*	12.90
38	0.00	*-1.43*	1.43	1.43	*0.67*	0.76		0.76	*-0.46*	1.22
39	75.99	*2.04*	73.95	73.95	*0.38*	73.56		73.56	*-0.20*	73.76
40	2.82	*15.23*	18.05	18.05	*-4.47*	13.58		13.58	*28.35*	41.93
41		*1.04*			*-0.47*				*6.24*	

B/Soc Diversifications – Two

	B/Soc M, S, GI and FA	*Difference*	B/Soc Multiple Diversfication	B/Soc M,S GI, FA, & CB	*Difference*	B/Soc M,S GI, FA, CB & PB	B/Soc M,S GI, FA, & CB	*Difference*	B/Soc Multiple Diversfication
1									
2	1.36	*0.45*	0.91	3.60	*2.13*	1.47	3.60	*2.68*	0.91
3	42.96	*26.08*	69.04	47.79	*8.14*	39.65	47.79	*21.25*	69.04
4	64.49	*3.87*	68.37	72.22	*19.36*	52.87	72.22	*3.86*	68.37
5	36.27	10.13	46.11	41.20	9.88	31.33	41.20	9.26	46.11
6									
7	84.45	*7.86*	76.59	72.27	*3.51*	68.76	72.27	*4.33*	76.59
8	90.66	*4.35*	86.31	91.88	*13.04*	78.84	91.88	*5.57*	86.31
9	87.55	6.10	81.45	82.07	8.27	73.80	82.07	4.95	81.45
10									
11	0.70	*5.06*	5.77	1.09	*0.17*	0.92	1.09	*4.67*	5.77
12	33.13	*33.13*	0.00	29.06	*4.87*	33.93	29.06	*29.06*	0.00
13	16.91	19.10	2.88	15.08	2.52	17.42	15.08	16.87	2.88
14									
15	41.33	*43.02*	84.35	38.56	*13.78*	52.34	38.56	*45.79*	84.35
16	54.85	*40.34*	14.51	55.21	*4.12*	51.09	55.21	*40.70*	14.51
17	48.09	41.68	49.43	46.88	8.95	51.71	46.88	43.24	49.43
18									
19	1.92	*0.56*	2.48	2.41	*0.87*	3.28	2.41	*0.07*	2.48
20	0.99	*0.39*	0.61	0.69	*0.33*	1.03	0.69	*0.09*	0.61
21	1.46	0.47	1.54	1.55	0.60	2.15	1.55	0.08	1.54
22									
23	0.55	*0.43*	0.97	0.33	*0.66*	1.00	0.33	*0.64*	0.97
24	2.57	*2.11*	4.69	1.48	*3.02*	4.50	1.48	*3.21*	4.69
25	7.65	*2.05*	9.69	4.90	*9.63*	14.52	4.90	*4.80*	9.69
26	27.69	1.53	9.16	1.68	4.44	19.78	1.68	2.88	9.16
27									
28	89.16	*2.95*	86.22	88.60	*2.49*	86.11	88.60	*2.39*	86.22
29	5.36	*0.26*	5.62	5.37	*0.72*	6.10	5.37	*0.25*	5.62
30	47.26	1.61	45.92	46.99	1.61	46.10	46.99	1.32	45.92
31									
32	2.13	*0.58*	1.55	1.55	*0.52*	2.06	1.55	*0.00*	1.55
33	2.07	*7.88*	9.95	0.87	*1.48*	2.35	0.87	*9.08*	9.95
34	31.70	4.23	-43.94	20.55	1.00	34.81	20.55	4.54	-43.94
35		*10.61*			*4.66*			*10.39*	
36									
37	10.15	*-19.38*	29.54	12.90	*2.75*	10.15	12.90	*-16.64*	29.54
38	0.76	*-3.15*	3.91	1.22	*0.29*	0.93	1.22	*-2.69*	3.91
39	73.56	*-0.92*	74.49	73.76	*-0.43*	74.20	73.76	*-0.72*	74.49
40	13.58	*5.26*	18.84	41.93	*-24.00*	17.93	41.93	*-23.09*	18.84
41		*-4.55*			*-5.35*			*-10.79*	

B/Soc Diversifications – Three

	B/Soc M,S GI, FA, CB & PB	*Difference*	B/Soc Multiple Diversfication
1			
2	1.47	*0.56*	0.91
3	39.65	*29.39*	69.04
4	52.87	*15.50*	68.37
5	31.33	15.15	46.11
6			
7	68.76	*7.83*	76.59
8	78.84	*7.47*	86.31
9	73.80	7.65	81.45
10			
11	0.92	*4.85*	5.77
12	33.93	*33.93*	0.00
13	17.42	19.39	2.88
14			
15	52.34	*32.01*	84.35
16	51.09	*36.57*	14.51
17	51.71	34.29	49.43
18			
19	3.28	*0.80*	2.48
20	1.03	*0.42*	0.61
21	2.15	0.61	1.54
22			
23	1.00	*0.02*	0.97
24	4.50	*0.18*	4.69
25	14.52	*4.83*	9.69
26	19.78	1.68	9.16
27			
28	86.11	*0.11*	86.22
29	6.10	*0.47*	5.62
30	46.10	0.29	45.92
31			
32	2.06	*0.51*	1.55
33	2.35	*7.60*	9.95
34	34.81	4.06	-43.94
35		*10.39*	
36			
37	10.15	*-19.39*	29.54
38	0.93	*-2.98*	3.91
39	74.20	*-0.29*	74.49
40	17.93	*0.91*	18.84
41		*-5.44*	