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Regulation of Mergers by the UK Competition Authorities: the Effects on Shareholder Value and Management Motivations for Mergers.

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ABSTRACT

The UK competition authorities are responsible for regulating company mergers that were originally considered to have adverse effects that were "against the public interest", or presently that could result in a "substantial lessening of competition". The research in this thesis examines wider economic side effects of this regulatory policy that fall outside the remit of the competition authorities. Data on 63 merger cases that were subject to the merger regulatory process by the UK competition authorities between 1989 and 2002 are studied for effects on two economic aspects, shareholder value and managers' motivations to undertake mergers.

Some previous studies have suggested that competition regimes can destroy shareholder value. The research in this thesis confirms the finding from earlier studies of greater gains to shareholders in target rather than bidding companies, but does not find evidence supporting overall loss of shareholder value to target company shareholders when a merger is prohibited. It finds evidence that when the regulatory regime is stable and well understood the capital market behaves efficiently in response to new information. However, for a sub group of the mergers involving companies with a new regulatory regime, of which industry and the market had little or no experience with respect to mergers, the capital market operated less efficiently.

A number of studies have also considered the motivation of managers to follow a merger strategy. Apparently, none has looked at the influence of competition regulation on merger motives using stock market data and event study techniques. This research examined data for the stock market's perceptions of what motivated managers to pursue their initial merger bid. The findings suggest that Synergy and Hubris dominate as motivations for mergers and that, unintentionally, competition policy may help to reduce the number of mergers motivated by Managerialism

Keywords:
Competition policy, event study, privatised industries, synergy, hubris, managerialism.

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Chapter 6 draws on research first published in Arnold and Parker (2007), and Chapter 7 draws on research first presented as a peer reviewed conference paper “Does Scrutiny by the Competition Authorities Influence the Motives for Merger in the UK” at the British Academy of Management Conference 2006 in Belfast. Thanks go to numerous reviewers of those papers for their helpful feedback, amongst them Dr Richard Schoenberg, Prof Mike Wright, Sir Derek Morris, Prof Paul Geroski, Prof Nigel Driffield, Dr Graham Leask, and the anonymous members of the peer review processes.

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1 Introduction.

1.1 Background to the Research

For many decades mergers have been a popular strategic choice of managers looking to improve the position of a company in a short time. Mergers between two firms offer opportunities such as improved access to markets, increased scale of operations, acquisition of particular expertise or intangible assets, and rapid entry into foreign markets. Such potential advantages promise rapid growth for the business. While these potential advantages suggest mergers are a successful method of growing a business, the empirical evidence of success shows a less certain picture. In addition mergers can, in certain circumstances, reduce competition in an industry and lead to adverse economic effects, which are judged not to be in the best interests of the economy.

Researchers have used profitability, productivity and impact on share prices to measure the success of mergers. Meeks (1977) studied the effects of mergers on profitability in UK firms and concluded between half and two-thirds of the firms in the UK sample suffered a fall in profits following a merger. Sirower (1997) studied stock market prices in US mergers. He found strong support for a negative relationship between the level of premium paid and the acquiring firm's performance. A flow of studies have concluded around half or more of acquiring companies fail to create additional shareholder value, with acquirers only achieving increased value of around 1%. However for target companies the position is much better with target company shareholders receiving much higher returns in order to convince them to sell their shares. A considerable literature has grown as aspects of performance are examined (for a review of earlier studies, see Chiplin and Wright, 1988, pp. 66-73; for later studies, see Sirower, 1997, Appendix A, pp. 145-166). This literature is examined in greater depth in Chapter 2. With such evidence of actual outcomes not approaching the pre-bid promises, why do managers pursue an option where risks of failure are high? To answer this question researchers have investigated relationships between merger performance and many theoretical and practice factors that may affect merger outcomes.

Not only do mergers raise concerns about shareholder value impact and profitability performance, but also some mergers have the potential to reduce competition within an industry. A company may be able to increase its market power and have a dominant effect on prices in their industry by acquiring their competitors and thereby reducing competitive forces. For this reason, over several decades, the UK has developed a competition policy to support and encourage fair trade. Part of this policy involves the control of some mergers where the combination is judged to be "against the public interest". More recently, the test has been changed to identify mergers causing "a substantial lessening of competition". If any merger causes concern on competition grounds to the statutory competition regulator, the Office of Fair Trading (OFT), UK policy requires that it be investigated, and remedies provided when the inquiry finds evidence of adverse effects. These inquiries are carried out on a case-by-case basis using a tribunal-based approach. Originally the Monopolies and Mergers Commission (MMC) carried out these inquiries. More recently this has become known as the Competition Commission (CC). This regime has considerable powers and can apply remedies to the merger if it is possible to neutralise the adverse effects or, if not, to prohibit the merger completely. If the merger deal has been closed before the regulatory process is completed, an adverse effects decision can still require action to be taken even though the merger deal has been completed. Remedies can be applied, or if the merger is prohibited, it could be required for the deal to be unwound to restore the pre-merger competitive position.

The UK merger regulation regime is concerned wholly with competition issues and does not have any responsibility or remit relating to shareholders and managers. However, the regulatory process and decisions may have an effect on shareholder value and managers' motivation for mergers. For example, an MMC/CC inquiry may announce a decision based on the identification of adverse effects. If the companies involved are quoted on a stock exchange, investors in the market react to the news by buying or selling shares, and the traded prices would change to reflect the new position of both companies (and their competitors). Although the OFT and MMC/CC do not have a responsibility for shareholder value effects, their decisions nevertheless can result in value changes.

Managers' motivations at the planning stage of a merger can also be influenced by the existence of the merger regulation regime. Managers should be aware of the competition legislation governing mergers and incorporate their judgements on competition issues into their proposed merger plans. If they deal with competition issues correctly and comprehensively in their announcement of the bid, they will be judged more favourably by investors in the capital markets than if they apparently ignore competition issues or appear overly optimistic about what the merger can achieve.

The MMC/CC inquiry process has the effect of slowing down the deal while the inquiry is undertaken, and asking searching questions about the nature and purpose of the merger. Managers are aware of the possibility of their deal being referred and scrutinised in detail by a powerful external body. The risk of having the deal exposed to this scrutiny increases with the severity of the concerns of adverse competition issues. The larger the issues, the greater the risk of a merger being referred for inquiry. It could therefore be expected that managers proposing mergers with probable adverse competition effects would exercise greater care in preparing their deal in an attempt to minimise the amount of regulatory involvement. Expected increases in the care exercised during preparation of the bid could also be expected to improve the overall performance of the merger subsequently for shareholders. The inquiry process and the preparation for the inquiry can also offer time and an opportunity for managers to review the merger. On reflection they may decide that it would be wiser not to proceed, and being referred for inquiry may allow an opportunity to withdraw from a deal.

In summary, this thesis investigates the interactions between two aspects of mergers and the UK merger regulation regime. The impact of the UK policy on shareholder value and managers' motivation for mergers are coincidental to the main purpose of the competition regulatory regime, and are side-effects of the policy. It is important to know the extent to which any side-effects of policies exist and whether there are any unintended benefits or detriments arising as a result.

The remainder of chapter develops the research question and then looks at the benefits of the research, the outline methodology, the organisation and content of the following chapters. Some specific terms are also defined for use throughout the thesis, and finally limitations that have been chosen to apply to the research are explained and justified.

1.2 The Research Problem and its Contributions

The purpose of this thesis is to examine evidence of effects that the UK merger regulation regime has on shareholder value and managers' motivations for mergers. As discussed in section 1.1 above, the UK merger regulatory regime does not have any responsibility for these aspects, they are side-effects of the UK policy. However knowledge of them makes an important contribution to understanding the complete impact of the UK competition policy and regime on UK society.

1.2.1 The research question

The problem addressed by this research can be encapsulated in the question: -

> *What effect does the regulation of mergers by the competition authorities in the UK have on shareholder value and managers' motivations for undertaking mergers?*

The research finds values of bidding and target companies do change at each step in the regulatory process, updating the valuations after each decision announcement, as uncertainties are replaced by specific outcomes. However, when considering a merger deal from initial bid to completion including the regulatory steps, broadly there is no adverse shareholder cost due to the regulatory process. This is discussed fully in Chapter 8.

Market efficiency plays an important role in this process. It is concluded from the research that the capital market was less efficient when dealing with companies in what, for convenience, have been called “privatised industries” in this thesis, namely those industries, having their own industry specific regulators working in tandem with the OFT for mergers, than for companies in other industries where the OFT is the only regulator.

For managers, the research concludes that the managerial motivation to pursue mergers is mainly to gain synergistic benefits. However there is also evidence of errors, due to hubris and overconfidence, which cause some value reductions. The research finds only a small amount of evidence of managerialist behaviour, where managers pursue mergers to increase their welfare rather than create shareholder value. This is in contrast to findings in some US studies (see Berkovitch and Narayanan, 1993; Seth et al., 2000), where stronger evidence of managerialism was found.

The research concludes that there is an inverse relationship between the degree of synergy seeking and the degree of regulatory intervention. By contrast there is a direct relationship between evidence of error-prone mergers and the degree of regulatory intervention by the competition authorities.

1.2.2 Contributions made by the research

Answering the research question in section 1.2.1 above provides contributions to empirical knowledge, theory, methodology and policy and practice areas. These are discussed fully in Chapter 8, but in summary this thesis makes contributions in the following areas: -

- Understanding the impact of merger regulation on shareholder returns
- Comparisons with similar work in the US and the UK
- Aspects of methodology used
- Findings of the effects of regulatory scrutiny on managers’ motivations for mergers.

The in-depth discussion in Chapter 8 categorises and details over 20 contributions into four groups, covering contributions to Theory, Empirical Findings, Methodology and Policy and Practice. These contributions include new findings and developments, confirmation, or otherwise, of previous findings.

1.3 Justification for the Research

The conclusions from this research improve knowledge in four main areas listed below. The results, conclusions and contributions to knowledge gained in these areas are the justifications for this research.

1.3.1 Knowledge gaps

The Literature Review (Chapter 2) identifies that there has been relatively little research into the side-effects of UK merger regulation. Franks and Harris (1993) and Forbes (1994) researched the shareholder value aspects of UK merger policy from 1965 to around 1990, but there has been relatively little work post-1990, particularly looking at any shareholder value effects of the mergers in the privatised, ex-nationalised utility industries which were using the tandem regulator model.

There has not been research into the relationship between the merger regulatory regime and evidence of managers' motives for undertaking mergers. While some studies in the US have looked at managers' motivation for mergers in general, and for cross-border mergers, there have not been any similar studies in the UK.

1.3.2 Understanding of unintentional aspects of merger policy

Over the period 1989 to 2002 a total of 9872 mergers were completed in the UK[1]. Only a small fraction of 1.6% were referred for investigation[2] and adverse effects were found in only 0.7%[3]. While these figures are very small they demonstrate policing actions will

[1] Source: Office of Fair Trading Annual Reports
[2] Source: Office of Fair Trading Annual Reports
[3] Source: Competition Commission: Website http://www.competition-commission.org.uk/inquiries

be undertaken by the UK competition authorities to enforce the UK competition policy. This policing action is an important signal to companies, indicating that: -

- The competition authorities act to seek out merger cases giving rise to competition concerns and
- Where adverse effects of mergers are judged to exist appropriate remedies are enforced.

This research helps complete the understanding of how the UK policy operates with respect to side-effects of the policy and the impact on shareholders and the managers. This is essential for a complete understanding of policy, so the impact of side-effects can be considered to be either to the benefit or detriment of the main purpose of the policy.

1.3.3 Use of event study methodology to identify the impact of specific stages in the regulatory process

The methodology based on event studies, covered in Chapters 4 and 5, is adopted to study particular intervals during the merger regulatory process. This allows direct measurements to be taken relating to specific decision announcements in the regulatory process. It also underpins the evidence of motives prior to the referral decision, allowing both completed and uncompleted cases to be compared. No other methodology could adequately and precisely address these issues because they do not have the ability to target specific events.

1.3.4 Wider understanding of the regulatory regime effects for practice and policy

This research provides useful information on UK merger regulation for investors, managers and policy makers. It provides investors with an updated review of the shareholder value changes occurring at the different steps in the regulatory process. It also provides empirical evidence on the tandem regulatory approach for privatised industries and evidence of reduced market efficiency for early privatisation mergers.

Managers will receive insights about how the capital market perceives their motives for pursuing mergers. A comparison of value reducing motivations between error prone decisions involving hubris and managerialist behaviour gives a measure of their relative importance. This has important connotations for aspects of Corporate Governance practice.

Policy makers will gain a more complete overall understanding of the operation of the UK merger regulation regime by understanding the wider coincidental side-effects in conjunction with the main effects of the regulatory process. This will allow them to understand better whether these coincidental effects benefit or hinder the principal aims of the policy and have wider social impacts.

1.4 Methodology

The research in this thesis investigates empirical evidence of the effect of UK merger regulation on shareholder value and managers' motivations. The research methodology appropriate for measurement of shareholder value is of a quantitative nature and in the traditions of the financial economics literature. Broadly these methodologies are based either on share price data when companies are quoted on a public stock exchange, or on profitability and balance sheet data contained in publicly filed accounting statements. Within these two broad categories many methodological alternatives exist for measuring value and value changes over time. These alternative approaches are discussed fully in Chapter 4 - Methodology, and Chapter 5 - Research Data and Methods, and this introductory discussion is only in outline.

Part of the research question relates to the effects of merger regulation on managers' motives, which would appear to be suitable for a wide range of methodologies including both qualitative and quantitative techniques. This second part of the research question involves a fundamental choice between two methods. Data can either be collected from the managers involved in the mergers, or from historic data generated by "third-party observers" about the mergers. While the option of collecting data from managers involved in the mergers has some advantages, it does also have some practical problems. Recalling details and reasons for events that occurred up to 15 or more years earlier can be unreliable, particularly as many records may have been lost. Tracing, contacting and gaining the agreement of key managers to take part can also be difficult and lead to patchy data on a few cases. An alternative of studying mergers in progress is equally fraught with the difficulties of identifying mergers at the highly confidential planning stage and seeking to gain the agreement of key managers who are operating in secretive processes and under considerable time pressures. Even if mergers can be identified before announcement, outsiders will not be welcome for workload and commercial confidentiality reasons. Even if all of these problems were overcome key managers are unlikely to admit to managerialist behaviour or behaving arrogantly or over-confidently, and are likely to give answers that will not reflect badly on them today, whatever the original outcome of the merger. The difficulty of extracting accurate and truthful accounts of why they initially pursued the merger is significant and should not be underestimated, particularly as managers may have received significant personal benefits for executing the merger.

By contrast, the use of historic public records of the mergers overcomes these difficulties. Although the historic data may not be as rich in detail as that collected directly from the managers involved in the mergers, it avoids the problem of fading personal recollections, while the adoption of information from third parties removes personal subjectivity and provides a more objective view of events. For these reasons the daily stock market records and the press releases associated with events throughout the progress of each merger have been used in an event study methodology in this thesis. A set of propositions relating to patterns of price movements are then used to categorise motivations as perceived by capital market investors. Motivations discovered through this process represent the collective perceptions of stock market investors about the merger deal. This approach eliminates many of the difficulties of obtaining suitable, accurate and objective data about the mergers. The approach also strongly aligns with and complements the event study approach used to measure shareholder value for the first part of the research question.

The chosen methodology is positivistic and uses a hypothetico-deductive approach. The details of methodology, the data and methods used are contained in Chapters 4 and 5.

1.5 Outline of the Thesis

The remaining sections of this chapter cover definitions of a few specific terms used throughout the following chapters, which have a special significance to the work. These definitions will clarify the specific meanings of particular words used in the context of this thesis and differentiate that meaning from their common usage. This allows repetitious clarifications to be largely avoided in later chapters.

Finally this chapter will outline the chosen limitations applied to the research, and gives the reasons and justification for them. These chosen limits, or delimitations, apply restrictions to the scope of the research for several reasons and are additional and in contrast to the limitations imposed by the choice of methodology.

The Literature Review (Chapter 2) reviews the existing knowledge surrounding the area of the research question. Earlier research is discussed in the key disciplines of Financial Economics, Regulatory Policy and Practice, Theories of the Firm, and Corporate Governance and examines previous contributions impinging on the research question in section 1.2 above. The chapter identifies both the wider published knowledge and the gaps in knowledge relating to the specific research question.

Chapter 3 - Mergers and Merger Regulation in the UK - outlines commercial and regulatory merger practice and where concerns of potential lessening of competition can arise. The development of the regulatory framework is described together with the role of the competition authorities (OFT, MMC and CC) and the regulatory process followed by them. The merger regulatory arrangement for privatised industries, having their own industry specific regulators, is also briefly described.

The choice of an appropriate methodology is discussed in detail in Chapter 4. The chapter examines possible methodologies for the research question, and gives the reasons and justification for the choices made.

Data and the methods used for the analysis are explained in Chapter 5. The chapter gives a detailed insight into the data selected and the methods used to produce the results. Choices of data sources are explained and justified. The method used to process the data, and the propositions and tests used are detailed.

Results are presented in the next two chapters. Chapter 6 presents the results appropriate to shareholder value aspects of the research question, while Chapter 7 deals with the results of managers' motivations for pursuing mergers. These two chapters taken together present the findings of the research addressing the research question.

The results presented in Chapters 6 and 7 are considered in relation to the research question in Chapter 8. Conclusions are drawn from this discussion and the limitations of the research are discussed together with the contribution the research makes to knowledge.

Finally as an aid to the reader, Appendix 1 brings together the concepts associated with managers' motivations for mergers. It discusses the practical manifestations of these ideas, together with looking at how some specific practical merger situations fit into this conceptual framework.

1.6 Definitions

For the most part, terms used throughout this thesis take the meanings in common English language usage, and in the English language literature covering the subject areas. However the words listed below have a more specific context in this thesis in addition to their common English language meaning. In order to avoid repetitious explanations and confusion about which meanings apply in each case, a convention has been adopted. Common usage meaning is attached to the word when it begins with a lowercase letter. When the word begins with an upper case letter the specific meanings associated with this thesis, as defined below, are intended. The specifically defined terms are as follows: -

- **Manager** - means a senior manager, within a company planning or implementing mergers, who is part of the small team of decision makers driving the merger process and is one of the key decision makers. This meaning can only apply to a limited number of corporate managerial roles, typically being Chief Executive Officer (CEO), Chairman and Chief Financial Officer (CFO). This definition excludes managers in other functional or operational roles within the company, as they will not normally be key decision-makers and drivers of the mergers, even though they may be involved in specialist support activities for planning and implementation.

- **Synergy** - means being motivated by synergy seeking behaviour. This motivation is associated with the principles expressed by Penrose (1959) in "*The Theory of the Growth of the Firm*". It involves activities aimed only at seeking opportunities for maximisation of profitability from the firm's assets.

- **Managerialism** - means being motivated by managerial self-interest while also adopting a strategy that it is sufficient to just satisfy shareholders needs. This meaning adopts the concepts and principles used by Jensen and Meckling (1976) in their paper "*Theory of the Firm: Managerial Behaviour, Agency Costs and Ownership Structure*". It considers maximisation of self-interest to be the heuristic adopted by Managers, as they act in an agent / principal relationship with shareholders.

- **Hubris** - means being motivated by the intention to seek synergistic benefits but key valuation decisions are affected by hubris. These decisions are based on overconfident or arrogant assumptions by Managers. This hubris leads to error-prone evaluations which appear as over-valuations in bids. This definition is associated with the concepts and principles expressed by Roll (1986) in his paper "*The Hubris Hypothesis of Corporate Takeovers*".

All other terms used in this thesis are intended to have the common English language usage.

1.7 The Delimitation of Scope

This section reviews choices made that impose limitations on the scope of the research. These choices create additional limitations to those arising from the choice of methodology, which are discussed in Chapters 4 and 5. The delimitations limit the research to the UK regulatory regime, over a study period from 1989 to 2002, and study side effects of policy on shareholders and managers' motivations. These delimitations are explained and justified below.

1.7.1 UK merger regulation policy and regime

The research question formulated in section 1.2.1 above limits the scope of this research to the UK economy. However the same question could be asked about other economic regions. There are significant differences between these regions, and the UK has been chosen for a number reasons, mainly relating to the longstanding development of competition regulation, and the legal framework and processes employed. Its longstanding evolution makes it the second oldest effective competition regulatory regime in the world after the US regime. It also has a long, well-documented continuous historic record of events and data relating to public companies.

Today many countries and regions of the world have adopted competition legislation to encourage fair trade practices in their nations. However each country or region develops their particular approach to encouraging competition in a form most suitable for their nation. This is influenced by the political and legal systems of each country and the cultural values and norms of the nations. While the broad principles of upholding an encouraging competition lie at the basis of national policies, the details of legislation, processes of implementation and enforcement can be very different between countries. In addition, the periods over which regimes have operated vary widely, and the public records of company events may not always be reliable and continuous. These differences can make inter-country comparisons difficult, and data relating to individual national regimes needs to be carefully considered before, for example, regime data could be consolidated or compared.

Data is available to allow study of the UK merger regulatory regime from as early as 1965 to the present. Over this period the basic principles of the UK merger regulation process have remained largely unchanged. The UK system has always relied on a case-by-case approach, with each investigation judged on its own particular merits by a tribunal-based system of inquiries carried out by the Monopolies and Mergers Commission (MMC) from 1965 to 31st March 1999. From 1st April 1999 the MMC was replaced by the Competition Commission (CC), though its role with respect to merger regulation remained substantially unchanged. This inquiry process allows the competition aspects of each case to be judged by Commissioners appointed for their knowledge of competition law and economics, business or the particular industry involved. By contrast the rather older US system bases its approach on the US Sherman Act of 1890 and the Clayton Act of 1914, and uses the courts to judge on antitrust behaviour. This thesis has therefore chosen to look at one national regime. The UK provides a well-established and stable study model for which reliable data is available. Some earlier research by Franks and Harris (1993) and Forbes (1994) have looked at shareholder value aspects for the period 1965 to around 1990, and this thesis extends the knowledge to 2002.

1.7.2 Study period from 1989 to 2002

The study period (1989 to 2002) was chosen to allow a comparison between the first and second halves of the period of UK merger regulation policy since 1965, since the earlier period from 1965 to around 1990 was studied by Franks and Harris (1993) and Forbes (1994). The chosen period also covered the phase in British political history when nationalised state utilities were privatised by the Thatcher and Major Conservative

Governments from 1979 to 1997. This privatisation programme brought competition to previously monopoly industries, and introduced a series of industry specific regulators to foster and encourage competition in these industries. Their purpose was to protect smaller competitors and new entrants from the power of the incumbent operators, and to encourage rapid growth of competition in the industry. These industry specific regulators also worked in tandem with the UK competition regulator, the OFT, on certain matters such as mergers and disputes related to license terms and conditions. The chosen study period is of particular interest as it gives a period for comparison of merger regulation between privatised and non-privatised industries. This provides an opportunity to investigate and compare aspects of the modified regulatory approach involving tandem regulators over a comparable period.

The point chosen to end the study period is marked by the introduction of the Enterprise Act 2002. The 2002 Act introduced several changes to the regulatory process. Powers to regulate mergers on competition grounds were previously reserved to the politically elected Secretary of State, who was advised by the OFT and the MMC/CC. The 2002 Act devolved these powers to the OFT and CC removing some opportunities for political discretion to be introduced into decisions. It is too early to assess in detail what effect this 2002 Act would have on the research question, but the 2002 Act does mark the introduction of an interesting new regulatory phase to UK competition policy and a fruitful topic for future research.

The research period from 1989 to 2002 therefore represents a period over which a stable UK regime can be investigated and compared with mergers carried out in the newly formed privatised industries. It also allows comparisons with the earlier research studies covering 1965 to around 1990. The basis of the merger regulation regime remained substantially unchanged over the period 1965 to 2002, even though other aspects of the UK competition regime had steadily evolved over the same period.

1.7.3 Side-effects of policy on shareholder value and Managers' motivation

Mergers have effects on shareholder value and managerial motivations, as well as employee welfare and create wider economic and social effects. The primary purpose of the UK competition regime is to consider the economic and social effects. This aim is central to the test used by the competition authorities between 1965 and 2002, namely that the merger should be "in the public interest" (the so-called "public interest" test). The UK merger regulation policy covers the direct effects of mergers on the market and the economy, which includes customers. Since 2002 the new "substantial lessening of competition" test has further restricted the scope of competition policy. These direct effects, and the effectiveness of UK policy has been researched elsewhere (for example, see Clarke et al., 1998) and is not investigated in this thesis.

This thesis has chosen only to examine evidence of the side-effects of UK policy on shareholders and managers' motivations. Employees are also affected by mergers, and the nature of the effects can be wide ranging, covering such issues as job security, pension entitlements, economic impacts from earnings, disruption to family life and possible need to relocate, stress and motivational effects. Although mergers affect employees of the merging companies in many different ways, the research in this thesis only examines the effects on employees when they are also a shareholder and / or a senior Manager. The methodology used in this thesis is chosen to examine the relationship between regulatory policy and shareholder value and Managers' motivations for mergers, and is not appropriate to examine wider effects of mergers on employees. The wider effects of mergers on employees are therefore excluded from this research.

1.8 Conclusions.

This chapter has presented the background to the research and the structure and content of the thesis. It has addressed the following points: -

- Established the basic issues and background to the research problem.

- Established the research question.
- Justified the need for the research.
- Discussed in outline possible methodologies and why the chosen approach was selected.
- Explained the structure and content of the thesis.
- Defined specific terms used throughout the thesis to ensure uniformity and avoid repetitious explanations.
- Identified and explained the delimitations to the research imposed by choice (by contrast to limitations of the methodology) with regards to study of the UK regime, the study period and the parties studied, and justified the selection of these choices.

2 Literature Review.

2.1 Introduction

In Chapter 1 the background to the research was discussed and the main area to be researched identified. The question *"What effect does the regulation of mergers by the competition authorities in the UK have on shareholder value and managers' motivations for undertaking mergers?"* was developed to define the area of interest. This chapter explores the literature available in the three key study domains of Financial Economics, Strategic Management and Industrial Organisation, which encompass the area of research interest.

The literature of the Financial Economics, Strategic Management and Industrial Organisation domains overlap. Within this large combined area of literature there are a number of key subject areas, which have a direct bearing on the field of research interest. The key subject areas are Market Behaviour, Event Studies, Merger Performance, Regulation and Theories of the Firm and Corporate Governance.

This chapter outlines the key areas of literature relevant to this thesis and examines the development of research themes in these subject areas, including the relevant discussions and debates. It concludes by summarising what is known and where the gaps in the knowledge of the chosen research area lie.

2.2 Overview and relationship of the key disciplines to the area of research interest

Chapter 1, in the introduction to the research, identified the key disciplines as Financial Economics, Strategic Management and Industrial Organisation. The overlapping relationship between these key literatures domains is shown diagrammatically in Figure 2-1 below.

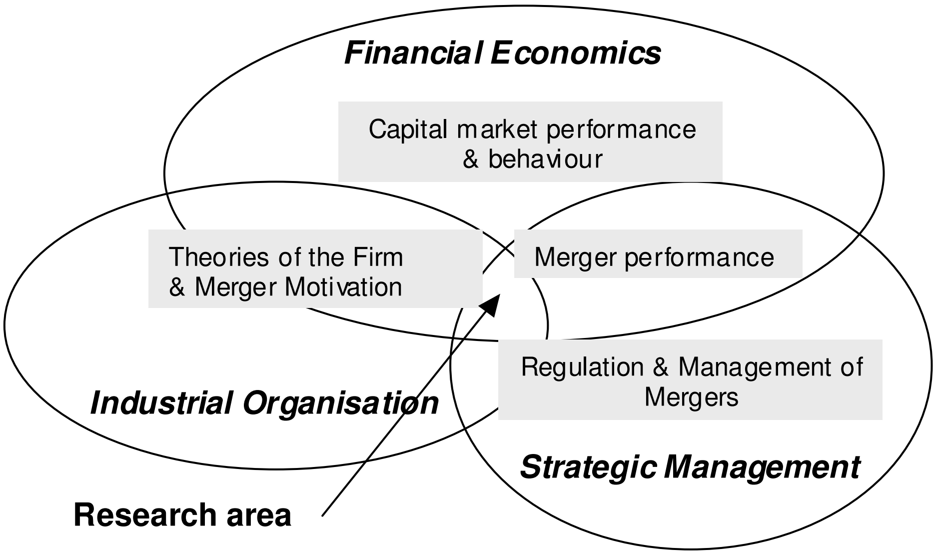

Figure 2-1 Diagrammatic relationships of the literature and key subject areas

The Strategic Management literature deals with the use of mergers as a strategic tool. This view of mergers is considered to place the acquiring company in an improved strategic position in the industry regarding access to larger markets, reduced operational and supplier costs, increased access to scare resources and assets, and to achieve financial improvements. The Financial Economics literature relating to mergers covers what financial factors lead to financial success of mergers. This often investigates factors such as the success of mergers overall, which types of mergers are most successful and the most effective methods for structuring the financial elements of the deal. In particular, literature on the financial performance of mergers that were subject to competition regulation is of great interest to this research. The USA anti trust authorities and the UK competition regulation process are amongst the oldest and most researched merger regulatory regimes, while, for example, studies of the EU merger regulation authority provides evidence from younger regimes. Finally the Industrial Organisation literature deals with assessing the role, impact, economics and performance of industrial and organisational structures and the understanding of corporate governance practices on the running of companies.

Within this combined and overlapping literature there are a number of specific subject areas that have a direct relationship to the research question. These key subject areas are briefly outlined below. The subject of merger performance tries to answer the question "are mergers and acquisitions successful?" It looks at the various metrics and issues possibly involved as well as concluding as to whether mergers are successful or not based on various definitions but normally centred on profitability. The subject of regulation is essentially about controlling and limiting commercial activities for the greater public benefit. In the case of mergers, competition regulation seeks to avoid the reduction of competition and the building of monopolistic powers by companies. This literature also discusses the success, or otherwise, of regulatory approaches in achieving and maintaining public benefits. Capital market performance and behaviour lies at the heart of understanding shareholder value changes and is central to the methods used in this research. The subject covers the behaviour of markets, their response to information, and the econometric and statistical techniques and discussions around the subject of event studies. Finally theories of the firm and merger motivation lie at the heart of trying to understand why managers continue to carryout mergers when the success rate is well documented as poor and the activity classed as risky in terms of having a predictable outcome.

Below we look briefly at each key area in overview before going on to review them in more depth.

2.2.1 Merger performance

This body of literature studies the performance of mergers, from financial and strategic perspectives. It examines factors and circumstances that impact on the performance of mergers and draws conclusions about the overall performance, and the impact of various factors on merger outcomes. Not only does this area cover the measurement and metrics used when assessing overall merger performance, but covers the study of financial and strategic factors influencing merger outcomes and adds to our knowledge of empirical evidence of how mergers perform in the short and long term under differing conditions.

2.2.2 Capital market performance and behaviour

This body of literature covers the way in which financial markets work and behave and is central to Financial Economics. The concept of the Efficient Market Hypothesis (EMH) is the basis for many of financial models, studies and measurement approaches including event study techniques. The concept of a market being efficient in its response to new information is central to event study methodology, and therefore to much of the research in this thesis.

The EMH has been proposed as a basis for studying the way competitive financial markets operate, but there has been considerable academic discussion about whether the EMH is an appropriate model, to what extent financial markets are efficient, and the precise form of the EMH to best serve as a working hypothesis. This work is central to measurement of market value changes of companies and is therefore an important theoretical foundation for the research in this thesis.

2.2.3 Merger regulation

Literature on merger regulation covers the effects of merger regulation policy and competition regimes. It considers both the social welfare benefits and the financial implications of public policy. The research in this thesis is primarily interested in the effects of UK merger regulation on shareholders and managers and, while this is not of primary interest in the regulation literature, which is concerned with social welfare, it is important when considering the overall benefits of competition regulation on all stakeholders. The wider aspects of EU and USA merger regulation will be considered so the UK position can be seen in the context of other administrations.

2.2.4 Theories of the firm and merger motivation

Studies on theories of the firm and manager motivations are central to the Industrial Organisation and Strategic Management literatures. The relevant studies cover knowledge of models of the firm and research into how aspects of management behaviour influence outcomes. This literature also draws on Corporate Governance research and investigates how internal governance activity in a firm can influence managerial behaviour.

2.3 Merger performance

This section of the literature deals with how well mergers have performed. Its origins date back to studies in the late 1960's and early 1970's when interest in merger performance started to grow. Early researchers were initially interested in waves of merger activity, and identification of their characteristics in an attempt to explain the phenomenon (for example, see the review by Sudarsanam, 2003, ch 2). An awareness of a high failure rate of mergers grew through the 1970's, and the associated literature began to develop distinct research themes. For example Mandelker (1974) considered whether the market for acquisitions is competitive and Jaffe (1974) examined the subject of insider trading and privileged information adding to the knowledge of price movements in merger cases. Initially the methods used to assess performance and the criteria used to judge success were specific to each study, with researchers taking different approaches and using differing metrics. Many of the early studies measured performance in terms of operating performance and profitability (e.g. Meeks, 1977) and were based on empirical studies of company reported accounting data. Around the late 1960's, as interest developed in the behaviour of capital markets (for example see Fama, 1965; Fama et al., 1969; Fama, 1970), researchers began to investigate the effects mergers had on share prices (for example, see Jaffe, 1974; Mandelker, 1974). The degree to which mergers were judged to be successful to some extent depended on the precise research method adopted, but, overall, the results suggested that around a half or more of mergers failed. A comprehensive summary of the Financial Economics literature covering merger performance is given by Sudarsanam (2003, see ch 4, pp 63-94) which reviews a number of UK, US and EU performance studies using short run announcement returns methods, long run event study methods, and approaches using operating performance. His conclusions are discussed in para. 2.3.1 below.

As research studies continued to confirm the evidence of a high merger failure rate, interest increased in the reasons for failure and what could be done to improve performance. However, Schoenberg (2006) has reported that while there is broad agreement in the literature on the percentage of successful merger cases, there is little agreement on the criteria used to assess the success of mergers. As a result, he suggests that a wide selection of metrics should be used in studies of merger performance to take account of the varying perspectives involved in judging success.

The literature divides into several threads. Financial research has investigated financial factors relating to performance. Strategic Management and Industrial Organisation researchers have looked at the strategic and industry structure factors influencing performance. We examine these threads next.

2.3.1 Financial performance of mergers

A flow of studies has produced evidence that while around half or more mergers fail to produce the economic synergies predicted by the managers, shareholders of target companies benefit more than shareholders of bidding companies. Meeks (1977) studied the effects of mergers on profitability and efficiency in the UK. He concluded that: -

1. There seems to be financial incentives to managers, having little or no ownership interest in the firm, to pursue growth at the expense of profitability.
2. Proposed efficiency gains cannot be relied upon post-merger and evidence suggests that efficiency declined post-merger.
3. Financial constraints and investment criteria appear to work less tightly for mergers and takeovers than for investments in assets, resulting in companies demonstrating rapid growth by takeover but being unremarkable in terms of their profitability.

Much of the research into mergers has concentrated on the effects on firm performance, measured mainly in terms of profitability, productivity and the impact on share prices. Profitability studies tend to show negative effects from mergers, while productivity and event studies tend to show more positive effects. For example, Meeks (1977) studied the effects of mergers in the UK on firm profitability, and concluded between a half and two-thirds of the firms in his sample suffered a fall in profits after a merger (for a review of the earlier literature, see Chiplin and Wright, 1988, pp. 66-73).

Later work by Sirower (1997) studied stock market prices in US mergers. He found strong support for a negative relationship between the level of premium paid by the acquiring firm and performance. He argues that this is because bidders may overpay for the economic gains available from a merger, in the form of the level of premium they pay to shareholders of the target firm to win their acceptance of the takeover bid. Sirower did not provide the reasons for the overpayment, but noted that once an overpaid deal has been completed it is not usually possible to recover from the damage done to asset value (see Sirower, 1997, Appendix A, pp. 145-166 for a review of later studies).

Finance researchers have been actively searching for links between specific financial or organisational factors in mergers and performance outcomes. This work has focused on such factors as the methods of payment used for the deal, and whether a friendly bid (i.e. agreed between the companies) or a hostile bid (i.e. bidder makes an offer directly to the target firm's shareholders) is more successful(for example, see Sudarsanam and Mahate, 2003; 2006).

Sudarsanam (2003, ch 4) reviews the literature on merger performance in the UK, USA and EU on the basis of the different measurement criteria and benchmarking that features in the studies. Short run performance measures use announcement returns to identify market price performance of bidder and target companies in the deal period. By comparison, long run return performance measures use market returns over various periods of up to several years post deal to identify the acquirer's performance. The review by Sudarsanam concludes that on short and long run performance: -

- *Shareholder value is created in the short term, but almost all of it goes to the target firms' shareholders.*
- *Acquirers' shareholders suffer significant wealth loss in the long term, more so in mergers than in tender offers (purchase of the target assets) where a distinction can be made.*

Operating performance studies were also reviewed by Sudarsanam (2003, ch 4). He concludes: -

"Profitability based assessments indicate that a merger either performs as well as benchmarks or it experiences significant profit decline, though there are some indications of distorting influences of accounting policies and rules."

2.3.2 Strategy and Management related to merger performance

The strategy literature approaches mergers through their ability to change the strategic position of a company, usually relatively quickly, in terms of gaining benefits from revenue enhancement opportunities, changed competition and markets, and from economies of scale. These sources of benefits can be divided further, but it is agued that the overall value of these benefits needs to exceed the price paid for the merger before any value has been created. Simply providing benefits is not sufficient for success if the acquirer has been overburdened by the costs of achieving them (see Sirower, 1997 for a full discussion).

Over the last three decades strategic management researchers have been seeking empirical evidence of a relationship between merger performance and diversification strategies. There is considerable popular support in the management world for the concept that mergers involving relatedly diversified companies perform better than mergers involving unrelatedly diversified companies. This is based on relatedly diversified companies having more shared assets and knowledge, leading to economies of scale and scope. It is argued that this leads to greater potential synergistic benefits in mergers when a related diversification strategy is followed. However, the empirical evidence for this popular view is actually mixed and inconsistent. Initially, work by Rumelt (1974; 1982) suggested that relatedly diversified companies outperformed unrelatedly diversified companies, but this was challenged, for example by Bettis (1981) and Montgomery (1982), who were unable to find a clear relationship and Christiansen and Montgomery (1981), who found only a marginal difference. This later work was based on a methodology measuring cross-sectional performance related to categories of diversification. More research work by Palich et al. (2000) has suggested that company performance reaches a maximum with related limited diversification, but performance declines when companies are either undiversified or when they have extensive unrelatedly diversification.

More direct assessments of merger performance against relatedness have been carried out on shareholder returns using event study analysis. The result is conflicting evidence. For example, Lubatkin (1987), Chatterjee (1986), Lubatkin and O'Neill (1987), Singh and Montgomery (1987), and Seth (1990a; 1990b) have found no significant differences in returns to shareholders of acquiring firms based on relatedness. Other researchers, for example Agrawal et al. (1992) have found conglomerate (i.e. unrelated) mergers outperform non-conglomerate (i.e. related) mergers.

Overall, the empirical evidence on the relationship between performance and relatedness is confused and inconsistent. In spite of the popular belief that the concept of relatedness is an important strategic determinant of merger performance, at present it is not supported by clear empirical evidence.

One area of debate is the effect of merger regulation and the degree of regulation that is appropriate. This is central to this thesis and is covered more fully in section 2.5 below.

2.4 Capital market performance and behaviour

This section looks at the research that has been carried out on the behaviour of stock markets and stock market prices. This knowledge forms the basis for key assumptions in this research. Event studies are used to measure share price changes. This section examines the literature relating to event studies as a method of measurement of merger performance and the methodological issues involved.

2.4.1 Market behaviour

Attempts to understand the behaviour of market prices of financial securities in a modern economic context date back to the early 1960s. Researchers were initially concerned with the statistical nature of share price changes, which do not conform to a Gaussian description. Fama (1965) reviewed the early research into the nature of share prices and changes. He concluded price changes followed a Paretian statistical distribution, which had statistical implications due to the large variance and erratic nature of the data. Following that initial work on the nature of security prices, research expanded into what factors drove security price changes. The Efficient Market Hypothesis (EMH) was proposed by Fama et al. (1969), in which they argued that a capital market is efficient in pricing securities when new information becomes available.. The hypothesis was based on the concept of rational economic man trading on the stock market. For example, when new favourable information became available its value impact on companies was quickly and accurately assessed by the capital market. If a company was re-valued as a result of new favourable information, securities would be bought if their price was below the new estimated price. This arbitrage buying would continue, creating demand and raising the price, until the price of the security reached the new valuation price. At this point demand for the security would disappear because there was no further opportunity to make a profit. Similarly prices may fall when unfavourable news becomes available. The equilibrium price would remain at the new level until any further new information was received when the market arbitrage process cycle would repeat, allowing the market to readjust to the new information.

Some debate took place over the following decades about the precise form of the EMH. The forms that emerged were referred to as the *strong form*, the *semi-strong form* and the *weak form*. Fama (1970) investigated the evidence in support of these three forms, which can be defined as: -

- Strong form – market prices fully reflect all information, whether publicly available or not.
- Semi-strong form – market prices fully reflect all obviously publicly available information.
- Weak form – market prices fully reflect all past information.

He concluded that there was strong evidence to support the weak and semi-strong forms, but evidence was weaker in support of the strong form, which involves traders with monopolistic access to information (i.e. corporate managers and market analysts). The debate continues regarding the most realistic or appropriate form of the EMH for given circumstances.

In spite of the debate about the EMH and its precise form, a number of issues and paradoxes in financial economics remained unanswered. Amongst these issues were subjects of material significance to financial economists. For example, EMH alone could not explain the mechanisms associated with market volatility and the phenomenon of market price bubbles, when prices keep rising above underlying economic value, until without warning the prices suddenly begin to fall as the so-called bubble bursts. Another example is the puzzle of the closed-end fund. The closed-end fund is a mutual fund that holds shares in publicly traded companies. It issues a fixed number of shares that are traded on the stock market. To liquidate a holding in the fund investors sell to other investors rather than redeem shares with the fund itself. The empirical finding is that shares in these funds typically sell at prices that are not equal to the per share market value of the underlying assets held by the fund. The shares sell typically at a discount, but sometimes at a premium.

Interest in such phenomena lead to the development of behavioural finance, which incorporates some “irrational” elements of human behaviour into the model of stock market trading. Almost two decades after Fama (1965) first carried out his examination of the behaviour of share prices, Shiller et al. (1984) reported their initial research in this area looking at share prices in the context of social dynamics. Shiller (1987; 1989) continued to research behavioural finance with wider studies of stock market, bond market and homes market volatility. This work developed our understanding and established the concept of financial market models based on a mix of rational and irrational investors. Later work, for example by Schleifer (2000) and Shiller (2001), built on these models to develop the understanding of conditions in which market bubbles form. As the models of behavioural finance theory have developed, the adoption of complex systems approaches have been explored, for example in research by Sornette (2003), which has helped to identify critical factors in market price data, enabling market bubble price peaks to be predicted.

In essence the assumptions underlying the EMH are relaxed and widened in the behavioural finance literature. For example, the EMH concept of rational economic man, who makes trading decisions on a rational basis using all available information and who is able to accurately assess the value impact of new information on a company, is replaced by three groups of investors. Firstly, arbitrage traders seek opportunities to trade by selling one group of shares and immediately buy the same shares, or an alternative with identical risk, at a lower price. These professional traders operate with rapid access to the latest prices and information, and behave in a similar manner to rational man in the EMH. A second group of traders, referred to as "noise traders", behave differently. Their buying and selling decisions are based on rumour, speculation and personal sentiment. Consequently, they tend to buy when prices are rising and sell when prices fall, in contrast to the arbitrage trader, who buys low and sells high. A third group of investors are passive investors who hold stock, but are not actively trading. At any time these three types of investors are operating in the stock market, but over time, the ratio of these groups changes in relationship to one another.

As the ratio of these investor groups change, the characteristics of the market change in response. When the arbitrage traders predominate, markets act in a stable way with prices quickly settling to a new equilibrium price after the receipt of new information. As more noise traders enter the market, and their ratio increases relative to other groups, arbitrage traders influence the equilibrium price to a reduced degree. Complex models of market behaviour, based on the mix and behaviour of these three types of investors have been developed, and they help to explain some of the phenomena not explained by the EMH. However, while these models go some way to explain some of the market phenomena, there are some practical problems in their application. The theory of behavioural finance is still developing and as yet all the factors affecting market behaviour are not fully understood. In addition, some of the key factors are internal to the models and not currently observable in stock market data. Some researchers (e.g. see, Sornette, 2003) have attempted to identify key patterns in price movements to predict future critical phases in market behaviour, in an analogous way to detecting seismic movements prior to earthquake events. Behavioural finance can give insights that were previously not possible, and we are now able to say that there is evidence that markets do not behave in a wholly rational way at all times, though identifying the degree of irrationality at any time still remains a significant challenge.

The debate about the EMH is still open. Fama (1991; 1998) has responded to critical points in the debate around the EMH and the challenges from behavioural finance. He has concluded that no other theory manages to provide a viable replacement for the EMH. At the time of this research, the state of the debate about the EMH could be summarised as follows: -

- The EMH can be considered to be an approximation of real market behaviour (where trading by noise traders is either considered to not be present, or cancels out on average, leaving only arbitrage trading in the market).
- The real market can be considered to operate both rationally and irrationally at different times and in different circumstances, though it is very difficult at any moment to determine the degree of irrationality that applies to the market.
- The assumption that markets are fully informationally efficient is probably an oversimplification of reality at many points in time.
- Rejection of the assumption of market efficiency leaves us with no alternative model at this point, which could replace the EMH.

In short, in studying the financial markets the EMH may not be perfect, but neither is it possible to replace it at present with a better hypothesis.

2.4.2 Event studies

Event studies have been used from the late 1960's for research into security prices and market behaviour (see for example Fama, 1965; Fama et al., 1969). They have been used principally for two purposes, firstly in empirical investigations of market efficiency and tests of the EMH. Their second use has been to measure abnormal share price returns occurring in response to specific events and management decisions. Event studies are used in this thesis to measure share price changes resulting from specific announcements during the progress of a merger deal. The event study methodology used in the research is explained in Chapter 4 and 5.

While event studies have been accepted in principle, there has been discussion in the event studies literature about methodology and econometric issues. We first discuss the literature relating to the econometric issues, and following this, the literature on the wider subject of event study methodology.

2.4.2.1 Econometric aspects.

Event studies have grown from the first study of stock splits by Fama et al (1969) to be the predominant methodology for determining the impact of an event on capital market security returns. Over this period a number of econometric concerns have been discussed and addressed by researchers. Fama (1965) noted that the statistical distribution of security price data was not normally distributed (i.e. not a Gaussian distribution). The statistical regression techniques used in event study (and for other applications such as the determination of betas for the Capital Asset Pricing Model (CAPM)) assumes normally distributed residuals. The use of non-normal data results in non-normal regression residuals and therefore raises questions regarding the validity of coefficients and the standard errors produced by the regression. Non-normality observation applied to both the price data and the first difference of the price data. For example, Fama (1965) suggested that share price data had a stable Paretian distribution with infinite variance. This raised the question of how regression techniques could be used with such data, and how valid were the regression coefficients and associated test statistics. Scholes and Williams (1977) identified the distribution of daily share price data was considerably more non-normal than monthly price data for the same securities. As the availability and use of daily data increased, Scholes and Williams (1977) identified another issue arising from the non-synchronous trading of the stocks being studied and the benchmark index or portfolio used in the event study. In particular, the distribution of price data was dependent on the frequency with which the security was traded and the distribution of the price data was most severely affected for infrequently traded (thinly traded) securities. Thin trading results in days when the stock is not traded and hence a new price is not recorded, or price changes do not occur (i.e. the first difference is zero). As a result, a large number of zeros appear in the daily returns producing highly leptokurtic data. Scholes and Williams proposed new formulae for estimators used to calculate betas for the CAPM, which corrected for the nature of the data in an attempt to overcome this problem.

Work by Dimson (1979) led to another proposed solution to the problem. Based on a multiple regression model with leading and lagged data. By 1980 event study usage had increased significantly and Brown and Warner (1980) set about trying to evaluate the many approaches that had been adopted by individual researchers. They compared methodologies and, using simulation techniques, examined probabilities of Type I and Type II errors. They concluded there was little evidence to justify complex methodologies (see Brown and Warner, 1980 pp 249, para 9.4): -

> *A "bottom line" that emerges from our study is this: beyond a simple one-factor market model, there is little evidence that more complicated methodologies convey any benefit. In fact, we have presented evidence that more complicated methodologies can actually make the researcher worse off, both compared to the market model and to even simpler methods, like Mean Adjusted Returns, which make no explicit risk adjustment. This is not to say that existing techniques cannot be improved; indeed, our results have led us to suggest a number of ways in which such improvements can be made. But even if the researcher doing an event study has a strong comparative advantage at improving existing methods, a good use of his time is still in reading old issues of the Wall Street Journal to more accurately determine event dates.*

The issue of using non-normal data and daily stock returns was addressed again by Brown and Warner (1985). Using simulation techniques, they investigated the interaction of daily return data, with its non-normal and non-synchronous characteristics, on ordinary least squares regression and alternative techniques used by researchers in event studies. Their conclusions reinforced their earlier findings in that the use of daily data with OLS regression was suitably specified, and that no improvement in the power of tests was found when using more complex techniques. In particular they noted that the procedures suggested by Scholes and Williams (1977) and Dimson (1979) did seem to reduce bias in OLS estimates of betas due to non-synchronous data. However, they produced similar specification and power of tests of abnormal performance to that obtained with the OLS market model over a range of trading frequencies. A caution was provided about the possibility of non-synchronous data inducing autocorrelation and the need for possible additional care; though they felt further research was needed on this.

From the mid 1980s research attention broadened to include other econometric issues in addition to the non-normality of the data. Autocorrelation of the data, intertemporal and contemporaneous correlation between individual abnormal returns when summed over an event window, and event induced variance were also discussed, in addition to the use of the data involving thinly traded securities. Salinger (1992) investigated the effect of intertemporal and contemporaneous correlation on the summed abnormal returns over event periods. He showed that the correlation of residuals leads to underestimates of standard errors and proposed two procedures to control for this. Other researchers reported that events can result in both abnormal returns and changes to the risk of the security (for example, see Brown et al., 1988). The change of risk is reflected in a change in variance during the event window. This change in variance raises the issue of how the changed variance should be considered when calculating test statistics for the event. Boehmer et al. (1991) found that event study methods too frequently reject a null hypothesis of zero abnormal performance when the event causes additional variance in the event period returns. They proposed an easy-to-use solution, by using normalised event returns and applying cross-sectional tests to these standardised residuals.

Research on event studies with thinly traded stock by Maynes and Rumsey (1993), Bartholdy and Riding (1994), Cowan and Sergeant (1996), and Kallunki (1997), investigated the nature of returns to events on firms listed on small stock markets. In general, they concluded tests already existed for most situations and confirmed that event studies could be validly used for thinly traded stocks.

2.4.2.2 Event study methodology

Researchers have tailored the event study method to suit their specific research projects, and this has involved making mainly choices relating to the timing and width of the event window to be used. Event studies were being used in new fields, and increasingly for assessing the impact of management decision-making. In many cases researchers needed to investigate abnormal market returns over longer periods following a major event. This interest had the effect of pushing event windows wider to periods of up to a year or more.

McWilliams and Siegel (1997) investigated methodological issues and the accuracy of event studies. They found that there had been inadequate attention to theoretical and research design issues. In particular, the research design for long event windows gave cause for concern because of the possibility of drawing false inferences. McWilliams and Siegel (1997) recommend that the reasons for the choice of an event window should be carefully considered and the event window kept as short as possible, with an event window over two days needing justification. Brown and Warner (1980; 1985) had shown that increasing the event window width could severely reduce the statistical power of test statistics used, leading to false inferences. In addition, evidence suggests that the market price fully adjusts to unanticipated information quickly. Estimates range, for example, from 15 minutes by Dann et al. (1977), within one hour by Jain (1988) to 90 minutes by Mitchell and Netter (1989). A further reason for keeping event windows short is to improve control over confounding events (i.e. events that occur during the event window, which have a market price effect but are not related to the event being studied). After reviewing 29 event studies and finding event windows of up to 181 days that included a disturbing number of confounding events, McWilliams and Siegel (1997) made a set of recommendations to help researchers avoid problems in their research design (see McWilliams and Siegel, 1997, p. 652). Their recommendations are: -

Steps for Implementing an Event Study. ***(from McWilliams and Siegel, 1997, p. 652)***

Step 1. Define an event that provides new information to the market.

Step 2. Outline a theory that justifies a financial response to this new information.

Step 3. Identify a set of firms that experience this event and identify the event dates.

Step 4. Choose an appropriate event window and justify its length if it exceeds two days.

Step 5. Eliminate or adjust for firms that experience other relevant events during the event window

Step 6. Compute abnormal returns during the event window and test their significance.

Step 7. Report the percentage of negative returns and the binomial Z or Wilcoxon test statistic.

Step 8. For small samples, use bootstrap methods and discuss the impact of outliers.
Step 9. Outline theory that explains the cross-sectional variation in abnormal returns and test this theory econometrically.
Step 10. Report firms' names and event dates in a data appendix.

2.5 Merger regulation

This thesis is concerned with developing understanding of how merger regulation interacts with shareholder value and Managers' motivations to undertake mergers. The methodology for examining these relationships depends on using event studies to measure corporate value changes in response to merger events being announced. Important studies examining issues closely related to this research are those by Eckbo (1983), Stillman (1983), Wier (1983), Franks and Harris (1993), Forbes (1994), Brady and Feinberg (2000), Aktas, de Bodt and Roll (2001), and Duso, Nevan and Roeller (2003), which are now reviewed.

In 1983 Eckbo argued that where a merger was anticompetitive, industry prices for goods and services would be expected to rise following the merger and reduced competition. This would lead to not only the bidder's share price rising on the merger being announced, but also the competitors' share prices would rise. Conversely he argued if the merger brought synergistic benefits without being anticompetitive, the bidder share price would rise on announcement of the merger while the competitors' share prices would fall, reflecting the threat of increased competition and downward pressure on product prices. He carried out event studies on a sample of 259 horizontal and vertical mergers in the USA, of which 79 were challenged by the government's anti-trust agencies and investigated the share price movements of the merging firms and their competitors. He found that there was no statistical evidence from rival company share price movements to support a collusive behaviour hypothesis for horizontal mergers. From this he concluded that horizontal mergers challenged by regulators had been based on cost saving efficiencies and not market power, and they were no more damaging to competition than vertical mergers. In the same year Stillman (1983) carried out a similar study of 11 horizontal mergers involving US companies between 1964 and 1972 which were challenged by the antitrust enforcement agencies. His results were consistent with those of Eckbo (1983). Both found a lack of statistical evidence to support referral to the anti-trust authorities on competition grounds. However, Fridolfsson and Stennek (2000) identified what they termed the “in play effect”, where following an unsuccessful merger bid event studies may not see a fall to pre-bid values of a target firm. This effect could be explained by the market considering the target firm as being in play for another bid. Such effects make it difficult for event studies to identify specific anti-competitive mergers.

Research closer to the study in this thesis is that by Wier (1983). Wier looked at the costs of defending mergers challenged by the US anti-trust enforcement agencies. Again using event studies, she considered the effects on market capitalisation measured by abnormal returns at key events in the regulatory process. Her finding was that, on average, merger complaint announcements occasion abnormal losses and large costs, in the order of 3% of market value, which are born by shareholders of target firms if proposed mergers are cancelled. Wealth gains earned at the time of the bid announcement were cancelled out by losses by the time the competition inquiry ended. But she concluded that the effects on share prices will also be influenced by the ability of investors to accurately predict competition policy outcomes.

The relevant studies for the UK are those by Franks and Harris (1993) and Forbes (1994). Using event studies and data from a sample of 159 UK mergers referred to the Monopolies and Mergers Commission (MMC) between 1965 and 1990, Franks and Harris (1993) examined evidence of shareholder value changes to bidder and target companies in mergers. They identified substantial losses to shareholders when the MMC rejected merger bids. In addition, they found that negative value returns occurred on referral and on the announcement of an adverse public interest finding by the MMC. Announcement of a favourable decision had a small positive effect. The value effects were greater and statistically significant for the target company, while the effects on bidder company returns were smaller and statistically insignificant. They also found that a MMC rejection of a merger led to a substantial reduction in the gains to the target company’s shareholders that had been recorded at the date of the merger bid.

Forbes (1994) investigated the value impact of MMC references using event studies of 53 mergers in the period 1976 to 1990, although for bidding companies only. Abnormal returns were calculated for the initial announcement of the merger, announcement of referral to the MMC by the Minister, and the Commission's decision. The value effects were found to be broadly consistent with those in Franks and Harris (1993). Bidder returns were again small and not statistically significant.

More recently there has been an attempt to look at the impact on shareholder value of EU competition regulation. Brady and Feinberg (2000) examined 20 mergers from 1991 to 1995 subjected to EU competition investigation, after the introduction of the EU's merger regulations in 1990. This was the first time that the EU had taken formal powers to challenge mergers. They looked for evidence of regime effects (relating to cases grouped by EU member state and by industry sectors) and individual case effects of regulatory decisions on shareholder value. They found that the regime effects were weak. However, for individual cases enforcement of the merger regulations could have a substantial effect on individual company share prices. They also discovered that findings by the European Commission of "serious doubts" or the announcement of a "suspension" decision adversely affected the share price. In this case, the fact that investors seem to have had difficulty predicting inquiry outcomes, as reflected in share price movements, probably related to the fact that the merger regime in the EU was new. Another study, by Aktas, de Bodt and Roll (2001), looking at whether EU competition policy was biased against mergers involving non-EU firms, found clear confirmation that investors anticipate regulatory intervention. Hence, abnormal returns around the bid announcement date must be interpreted in the light of the probability and cost of regulatory intervention. Duso, Nevan and Roeller (2003) discovered a similar effect on competitors' share prices, drawing on the method proposed by Eckbo (1983) and Stillman (1983). They posited an anti-competitive merger would reduce competitive market forces within an industry and reduce downward pressure on prices and profit margins, which would be viewed positively by industry investors resulting in increased share prices for competitors. Hence a positive movement in competitors' share prices is interpreted as a view in the capital market that the merger is anti-competitive. From this they identified instances where the European Commission's findings on mergers may have been in error.

2.6 Theories of the firm and merger motivation

Several research studies have looked at mergers in terms of management and organisational changes, with a view to predicting the type of internal restructuring that should take place post merger if economic gains are to be maximised. A review of this literature was carried out by Schweiger and Goulet (2000) and covered research identifying the best approaches, both pre and post deal completion, to ensure the merger integration is as successful as possible. They reviewed research on a range of factors in the post merger integration process that are considered to impact on a successful outcome. These include cultural aspects, autonomy of the firms, learning, communications, incentives structures, speed of integration, and the integration decision process. They concluded that the accumulated evidence suggested cultural aspects and management of the integration process played important roles in influencing outcomes, including financial performance. However, in general the research reviewed was not sufficiently systematic to be linked into a comprehensive theory, and unanswered questions still remained for most of the factors reviewed. While "best practice" integration can maximise the outcome of a merger deal, it cannot make a success of a merger when the acquirer has over-paid for the target firm, and so integration success can only partly explain success or failures of mergers over the longer term.

Other researchers have examined why firms may become involved in mergers and various explanations have been proposed. Berkovitch and Narayanan (1993) and later Seth et al. (2000) examined groups of merger cases using event studies on market based data for evidence of motivations. Their general conclusion was that the Synergy hypothesis had the strongest evidence to support it. However they also found evidence supporting both the Hubris and Managerialism hypotheses. The research addressed the part played by these three hypotheses of motivation in US firms involved in domestic and cross-border mergers. The work on motivation in this thesis follows the method used by Berkovitch and Narayanan (1993) and Seth et al. (2000), and we look at these three theories of the firm in more detail below.

The Synergy hypothesis proposes that managers are motivated to create value. Mergers take place when the value of the combined firm is greater than the sum of the values of the individual firms (e.g. see Singh and Montgomery, 1987; Bradley et al., 1988; Seth, 1990b). This increase in value is shared between the owners of the acquiring firm and the target firm. As competition for ownership of the target firm increases, the target receives an increasingly large proportion of the value because its share price is bid up. When all the benefits of merging are captured by the owners of the target, the acquiring firm has presumably no incentive to undertake the merger. Under this hypothesis, the bidder is able accurately to judge the value of the combined firm and withdraws from the merger when the merger will no longer create additional value for the bidder's shareholders. The additional value of the combined firm can arise from various sources, including improved asset utilisation including intellectual property, improved efficiency of operations, access to new and possibly global markets, increased market power, or from financial re-engineering and other efficiency gains (Seth, 1990a).

Underlying the Synergy hypothesis is the general explanation for firm growth provided by Penrose (1959). Penrose viewed the firm as a collection of productive assets and proposed that the long run profitability of the firm is closely associated with the ability to use its tangible and intangible assets more efficiently. The search for productive opportunities leads the firm to seek new products and markets in which it can grow and so maintain or increase its marginal revenues. The Synergy hypothesis assumes that the firm is unique and specialised resources are not acquired without cost. However, transfer of assets is only done when value can be created, and value-destroying transfers are not carried out. The Synergy hypothesis explains the motivation of bidding firms to undertake value-creating mergers, but research has shown that a significant number of mergers either fail to create or may even destroy value, as reviewed in section 2.3 above. While around a half or more of mergers may fail to achieve the expected economic synergies, shareholders in target firms are likely to benefit more than shareholders in bidding firms. This is because a bidder may overestimate the economic gains from a merger, and pays an excessive premium to shareholders in the target firm to win their acceptance of the takeover bid. Whether this overpayment is done knowingly or in error (Seyhun, 1990), the Managerialism and Hubris hypotheses were proposed to explain the motivation for mergers where value is not created.

The Managerialism hypothesis[4] suggests Managers knowingly overpay in takeovers. Managers embark on mergers to maximise their own utility, such as remuneration, job security and perquisites, at the expense of their shareholders. Managers often try to achieve this by seeking an increase in size of the firm, without seeking genuine synergistic benefits and increased profitability. Gains to shareholders are judged to be just sufficient to avoid a shareholder challenge to the Manager's plans. Jensen and Meckling (1976) proposed a modified theory of the firm incorporating agency costs in their seminal model of governance. They proposed that the firm should be viewed as a nexus of contracts between the parties involved in the business. Managers represent one of these parties and their remuneration contracts, involving rewards and benefits for taking actions, may not necessarily align with the best interests of the owners or shareholders as a group.

Later studies have supported the view that managerial behaviour often results in seeking growth rather than shareholder returns. Grinstein and Hribar (2004) investigated CEO bonuses for completing merger deals. CEO's who had more power to influence the Board received larger bonuses, but they were related to measures of effort rather than deal performance. They also found that CEO's with more power tended to engage in larger deals relative to their own firm's size. The method of comparing CEO's power was based on four governance factors; 1) whether the CEO and Chairman roles were combined or separate, 2) the number of Board members, 3) the ratio of outside to inside Board members, and 4) whether the CEO is part of the Board committee that appoints new Board members. Wright et al. (2002) found that in firms with active monitoring of the CEO, the CEO's compensation was related to return from mergers, but in firms with

[4] The Managerialism hypothesis is sometimes called the Agency hypothesis. The latter name is based on the concept of a firm being a nexus of contracts and the problems that arise from the use of agents with differing forms of contract and the associated incentives involved. Managers are viewed as one of the groups of agents contracted by the firm where, unless effectively incentivised, they pursue their own best interests, which do not necessarily align with those of the shareholders or owners.

inactive monitoring CEO compensation was explained by increased firm size from the acquisition. The measurement of monitoring in this study was based on 1) the number of stock market analysts following the company, 2) the proportion of independent Board members, 3) the degree of activist financial institutional ownership, 4) CEO ownership, and 5) CEO tenure.

The pursuit of managers' interests results in managerial costs reallocating value away from shareholders to managers. A further effect can take place in mergers, when a target firm's management realises the managerial motives of the bidder firm and negotiates better terms for the target firm's shareholders in return for agreeing to the merger. This represents a further reallocation of value to the target firm and possible increased managerial rents in the combined firm. Management has more motivation to take such actions when management has a low personal stake in the value of the firm, or shareholders are fragmented without any one shareholder holding a large part of the equity, or for other reasons governance is weak with low external monitoring presence by non-executive directors (Desai et al., 2005). Berkovitch and Narayanan (1993) and Seth et al. (2000) found evidence of Managerialism in their studies in the sub-sample of US takeovers that produced negative gains in shareholder value.

The Hubris hypothesis proposed by Roll (1986) suggests that mergers also occur because managers mistakenly over-evaluate target firms. In such cases management make decisions with excessive over confidence and pride (i.e. hubris), interpreting available factual evidence with their own beliefs and pride leading to judgement errors in the valuation of the target. This is different to the universal problem of making a valuation with incomplete information due to information asymmetry between the bidding and target companies, as it goes further by stressing the role of belief based opinions about what might be the situation. Roll argues that the takeover premium can be considered to be a random value where the mean is the current market value of the firm. Although bidding managers can make errors of over-valuation and under-valuation, the observed error is typically in the same direction of over-valuation. The underestimates of valuation are truncated because they are below the current market price of the target company and mergers are not pursued by potential bidding firms' management. Only the overvaluation cases are observed, when the bids are made public. The extreme version of the Hubris hypothesis predicts that there are no synergistic gains from takeover bids and the entire premium paid to the target firm is a transfer from the bidder. This extreme view assumes strong form market efficiency, where the stock market price reflects all future value potential. Therefore any premium over the market price must represent a valuation error, as the current market price of its shares fully reflects the true value of the target firm. Without taking this extreme view, the market price can be considered as an average view of the target's value by the capital market and this allows individual bidder valuations to vary above and below the market price, depending on individual unique factors perceived by bidders. Assessment of the benefits arising from a merger is the key to the bidder's accurate valuation of the target. Considering the incomplete, uncertain and asymmetrical information available, together with time pressures on a small number of Managers preparing these valuations, errors of valuation, to some degree, will inevitably be made. If the bidder is not pushed to the limit of their valuation by the target's shareholders refusing to sell their shares at a lower price, or competitive bidders pushing up the target's share price, the valuation error may be masked. As pressure rises to pay a greater premium for the target's shares, so does the chance of any valuation error becoming public and observable.

The degree to which a firm's management are allowed to behave in ways that cannot be classed as Synergy seeking is dependant on the nature and role of the shareholders as a group, the corporate governance structures implemented by the Board of the company, and the market for corporate control. Grossman and Hart (1980) described what they termed the "free rider" problem. In companies where the shareholding is fragmented amongst many small shareholders, these small shareholders may not be prepared to invest in research on their company, and rely on following the actions of larger shareholders who do invest in research. They become "free riders" receiving the returns identified by the large shareholders but without making a contribution to the cost of research. This free rider problem can also be a hindrance to the operation of the market for corporate control. Small shareholders may not be willing to sell their shares when an acquirer seeks to takeover a company, instead wishing to "free ride" on the value created by the acquirer. In addition, there is the risk of not being able to purchase all of the shares from small minority shareholders in a take-over. In some jurisdictions there are powerful minority shareholder protection rights, which can result in synergistic takeovers not being pursued by bidders. The "free rider" problem can therefore result in practical imperfections to the operation of the market in corporate control, and hence limit one of the factors controlling managerialist behaviour.

No one theory alone gives a complete explanation of merger motives to be found in the total population of mergers. For example, Synergy motivated mergers will only be found in part of the merger population with non-negative combined gains[5], and Managerialism motivated cases in the negative combined gains group. Cases motivated by Hubris would be predominately found in the non-positive combined returns group, however Hubris can be found in the positive combined gains group coexisting with Synergy and reducing the gains made. Figure 2-2 shows how the three theories relate to each other. Roll (1986) concluded that the Hubris hypothesis could not alone explain the motivation for mergers. Seth and Thomas (1994) concluded all three theories of the firm will coexist. In the total population of mergers we would therefore expect to find evidence of all three motivational theories coexisting to some degree with each other.

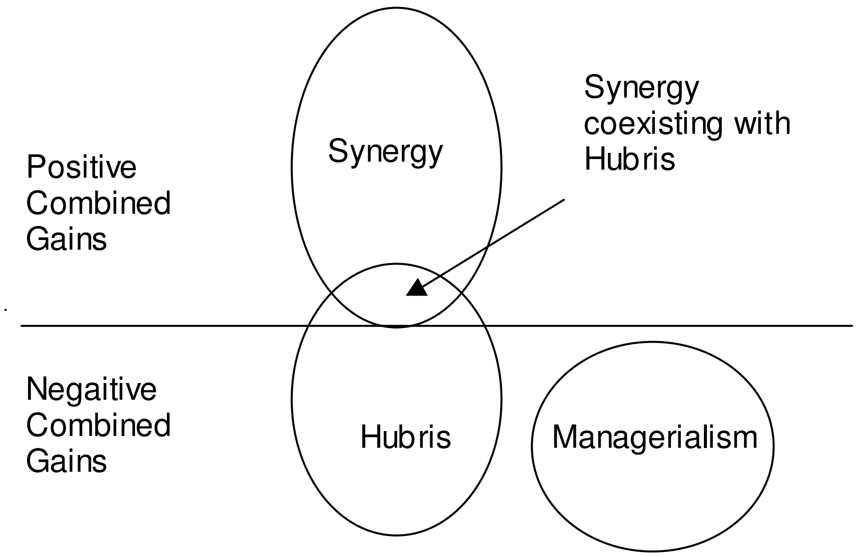

Figure 2-2 Logical relationship between Synergy, Hubris and Managerialism theories.

[5] Combined gains are the summed value (i.e. £ or $) gains (positive or negative) for bidder and target companies based on the share prices movements.

Berkovitch and Narayanan (1993) proposed a methodology for distinguishing between the motives when they coexisted in a sample, based on the relationship between target and combined gains. They argued that this correlation should be positive if Synergy is the motive, negative if Managerialism is the motive and zero if Hubris is the motive. They concluded from a sample of US mergers between 1963-1988 that Synergy was the primary motive in the group of mergers with positive combined gains and coexisted with Hubris. In the negative combined gains group Managerialism was the primary motive. Later Seth et al. (2000) developed the methodology proposed by Berkovitch and Narayanan to examine bidder motives for cross-border mergers. Their conclusions were almost identical to those of Berkovitch and Narayanan (1993). Both Seth et al. (2000) and Berkovitch and Narayanan (1993) developed a series of propositions for abnormal gains made by bidder, target and combined firms during the bids based on each of the three management theories of the firm. This approach is discussed further in Chapter 5 below, Research Analysis Methods and Data, as the propositions for this study are developed.

2.7 Summary of established knowledge and existing gaps

The existing literature refers to research in all of the key interest areas. The literature in some areas is more extensive than in others and the position is summarised below in each of these areas. The research question *"What effect does the regulation of mergers by the competition authorities in the UK have on shareholder value and managers' motivations for undertaking mergers?"* limits the area of interest. Much of the knowledge contained in the existing literature is peripheral to the research question. However, while much of the existing literature does not address the research question, it does set the subject area in context and provides much of the theoretical and empirical underpinning for the research in this thesis. In areas where the existing literature does not provide any knowledge to answer the research question directly, we have gaps in the existing knowledge which research in this thesis will help to fill. This review also identifies other gaps in the knowledge in peripheral areas, which this thesis will not attempt to address directly. Overviews of the existing literature in the key areas of interest are now discussed below with referencing to the key literature.

2.7.1 Merger performance

2.7.1.1 Summary of knowledge

Existing literature relating to the general performance of mergers is in broad agreement and finds that, based on shareholder value, while target company shareholders on average receive significant gains, on average bidding and acquiring company shareholders suffer losses in value. When profitability and operational performance are used as metrics the story is very similar, with acquiring companies suffering reduced profitability in the years following the merger. Sudarsanam (2003, ch 4, pp 63-94) reviews performance studies.

Research to investigate the relationship between financial aspects of a deal and merger success has identified several important relationships: -

- Hostile bids are more successful than friendly bids (see Sudarsanam and Mahate, 2006).
- Deals paid for in cash are more successful than those involving an exchange of target company shares for acquiring company shares (for example, see Sudarsanam and Mahate, 2003).
- The larger the percentage premium paid for the target company the worse the subsequent returns for the acquiring company (see Sirower, 1997).
- Larger premiums are paid in contested deals than in non-contested deals (see Sirower, 1997).

While the above broad findings have strong supporting evidence there is less clarity when merger success is assessed using multiple metrics. Performance results differ depending on which metric is used. Each metric on its own produces aggregated results that broadly agree with the other metrics, but there is less agreement between metrics on individual cases (see Schoenberg, 2006).

The Strategic Management literature investigates relationships between strategic options and merger success. Most interest centres on the search for evidence of whether mergers between companies that are strategically related are more successful than to mergers of non-strategically related companies. While there are strong logical arguments for the relatedness hypothesis the empirical evidence is inconclusive (for example, see Rumelt, 1974; 1982; Bettis, 1981; Christensen and Montgomery, 1981; Montgomery, 1982; Palich et al., 2000).

2.7.1.2 Gaps in the knowledge

This is a well-researched area, mainly because it is central to both the financial economics and strategic management disciplines. Understanding of merger performance in general and the strategic and financial factors influencing outcomes is well documented, as are the effects of post merger integration activity. However there remains some doubt about the agreement of assessments of merger success when using more than one metric.

2.7.2 Market behaviour and event studies

2.7.2.1 Summary of knowledge

Market behaviour appears to be sufficiently rational for the Efficient Market Hypothesis to have strong evidence to support at least the weak and semi-strong forms. However irrational market behaviour is present and behavioural finance models are being developed to gain a better understanding of some market phenomenon, which cannot be explained on the basis of rational investor behaviour alone. The EMH is an important assumption in event studies and the measurement of abnormal market returns.

Discussions about econometric issues in event studies have yielded the following major conclusions: -

- The use of share price data, which typically has a non-normal statistical distribution, particularly when the shares are thinly traded, contravenes some key assumptions for using linear regression. However tests using simulation models have shown the conventional linear regression model and test statistics are well specified, and more complex adjustments or techniques do not produce greater statistical power (see Brown and Warner, 1985).

- The effect of contemporaneous correlation between residuals can be corrected for in the standard error calculation (see Salinger, 1992).

Discussion on event study methodology has been less but can be summarised in the following key points (see McWilliams and Siegel, 1997): -

- Careful choice and justification of the event window is important.
- Short run announcement returns are less problematic than long run returns.
- Use of wide event windows in the order of years for long run returns leads to low statistical power for the test results.
- The careful control of confounding events is also important to ensure that returns relate only to particular merger announcements, and this can also influence the statistical power of long run returns calculated using wide event windows.

2.7.2.2 Gaps in the knowledge

While the existing literature has examined the evidence for the EMH in the weak, semi-strong and strong forms, and it has extensively developed behavioural finance, there seems to be no reference to how various competition regulatory processes might influence market efficiency. This is somewhat surprising since regulatory intervention may affect investor sentiment and in turn affect the efficiency of the capital market in specific cases.

2.7.3 Merger regulation

2.7.3.1 Summary of knowledge

The existing literature is largely concerned with whether merger controls are economically beneficial, mainly regarding cases that were prohibited. Tests based on the movement of competitor share prices at the time of merger and regulatory announcements have been examined (see Eckbo, 1983; Stillman, 1983) to identify if the merger was judged to be anticompetitive by the capital market. While there is some evidence that not all prohibited mergers were judged by the capital market to be anticompetitive, there is some doubt about the validity of some of the tests. The announcement of a merger bid may signal that a company is “in play” and even if the initial bid fails other suitors may be expected to follow (see Fridolfsson and Stennek, 2000).

A further research theme has been to look at the shareholder value impact of regulatory announcements. The existing literature suggests that alongside the costs to shareholders of firms defending anti-trust inquiries, in terms of professional fees and management resources, costs may be imposed on shareholders by the uncertainty of regulatory outcomes. Wier (1983), Franks and Harris (1993) and Forbes (1994) all observed a cost to shareholders of companies going through either the US and UK competition regulation processes. This cost arose from abnormal losses incurred on merger decision announcements, and in particular shareholders of target companies suffered a significant loss when an acquisition was prevented by the regulatory authorities.

2.7.3.2 Gaps in the knowledge

The existing literature examines shareholder value changes in merger cases from the 1960’s to the 1980’s. No work has been done since to evaluate if any changes have taken place either in the US or UK and whether the earlier results are confirmed or not using more recent stock market data. Also, since the 1980’s the UK has gone through a period of privatisation of previously nationalised monopolies and has set up dual regulatory structures for these industries involving an industry regulator working along side the competition regulator. There is an absence of any studies examining if these changes to the regulatory structure have coincided with shareholder value effects.

2.7.4 Theories of the firm and merger motivation

2.7.4.1 Summary of knowledge

Research on what motivates managers to pursue mergers has attempted to find explanations of why such large proportion of mergers are pursued that do not produce gains for the acquirer. Three theories of the firm are central to this discussion: -

- Synergy seeking by managers explains positive returns for acquirers (see Penrose, 1959).

- Managerialism explains value loss for acquirers (see Jensen and Meckling, 1976).
- Hubris explains value loss and value reduction in positive gains for acquirers (see Roll, 1986).

Most work on establishing links with poor merger performance focuses on elements of Managerialist behaviour drawing on agency theory. Managers, although agents of shareholders, may attempt to maximise their own benefits while providing just enough profit for shareholders to avoid a challenge, rather than maximising shareholder value.

Evidence of Managerialist behaviour, for example by seeking increased firm size rather than greater shareholder value, is most apparent when corporate governance factors allow Managers high-levels of power without effective accountability to shareholders. Reviewing the research evidence shows the governance factors most likely to allow Managerialism are when: -

- Management have a low level of ownership (for example, see Wright et al., 2002).
- Ownership is fragmented by large numbers of small shareholders (for example, see Wright et al., 2002).
- External non-executive board membership is low (see Wright et al., 2002; Grinstein and Hribar, 2004; Desai et al., 2005).
- The CEO has a combined role as chairman (see Grinstein and Hribar, 2004).
- The CEO sits on the board appointments committee (see Grinstein and Hribar, 2004).

Managerialism is not allowed to flourish in all companies. However, value creation can still be reduced or value destroyed when management motivation shows Hubris. In this case management have the intent to create shareholder value but overconfident behaviour on their part leads to overvaluation and over-payment for the target company. A methodology, based on market reaction to merger announcements, has been developed to test for the presence of Synergy seeking, Managerialist, or Hubris motivations. Studies in the US (see Berkovitch and Narayanan, 1993; Seth et al., 2000) have shown the presence of all three motivations in groups of mergers.

2.7.4.2 Gaps in the knowledge

The earlier research, by Berkovitch and Narayanan, and Seth et al (BNS), identifying managerial motives from stock market responses, has been limited to US merger cases only, and the methodology has not been used in any UK studies. With some differences between the US and UK approaches to corporate governance, investigation of the US findings in the context of the UK would seem important, though there is no evidence of such studies. This is particularly important since much of the broader work on motivation assumes Managerialist behaviour, rather than Hubris, particularly with regard to senior managers. While two earlier US studies found evidence of Managerialism, does this also apply to UK management behaviour?

The research methodology used by BNS has not been used to test for different perceived motivations associated with decisions of the merger regulation process in either the UK or US. Is there any evidence of different motivations or motivational mixes associated with mergers allowed by the competition authorities compared to those prohibited?

2.8 Conclusions

The existing literature on mergers in the Financial Economics, Strategic Management and Industrial Organisation disciplines is extensive and wide ranging. This literature review has covered the main research themes. We now need to draw conclusions about the extent to which the existing literature addresses the original research question: -

> *"What affect does the regulation of mergers by the competition authorities in the UK have on shareholder value and managers' motivations for undertaking mergers?"*

Considering the shareholder value aspect of the question, research by Wier in the US and Frank and Harris, and Forbes in the UK looked particularly at the value impact of regulatory decisions. This work covered mergers from the mid 1960s to around 1990. Since that time there have been changes in the UK to: -

- Stock market rules for making information available to the public more promptly and consistently,
- Corporate Governance rules have developed,
- In the UK following privatisation of the previously nationalised industries, sector specific industry regulatory regimes have been introduced working in tandem with the competition regulator in reviewing mergers.

It would seem that it is now worth examining the shareholder value aspects of merger decisions to see if the empirical findings of the earlier work are still applicable, or if the situation has changed in any way.

Turning to managers' motivations for mergers, the existing literature discusses how motivations associated with the Synergy seeking hypothesis lead to shareholder value creation. Most of the work examining motivation and behaviour related to value destruction is focused on the Managerialism hypothesis. Relationships have been found between value destruction and governance factors that may suggest Managerialist behaviour does take place in companies. Many of these factors are concerned with how the CEO relates to the Board and shareholders.

By contrast there has been little research to investigate the role played by Hubris in reducing value creation or causing value destruction in mergers. Two studies, both covering US mergers, found evidence in stock market perceptions of both Hubris and Managerialism being present in value destroying mergers. Research using the methodology of these two studies has not been carried out for any UK merger cases, and those US cases examined were all completed mergers. There have been no research studies using this methodology to examining motives, as perceived by the capital market, for merger deals related to the decisions of the competition regulatory process.

Comparing the existing literature to the research question shows gaps in knowledge. In terms of the shareholder value effects, the existing research covered cases 15 to 30 years ago, and there is a case for examining more recent mergers, especially given changes in the UK industrial and regulatory environment. In the case of Managers' motivation there is a knowledge gap in terms of using the methodology of BNS to examine the motivations for UK mergers and the outcome of the regulatory decision process. Research covering the gaps in this area would complement the existing literature establishing the reasons for value loss in mergers. It would also complement understanding of the wider aspects of competition regulation policy, beyond the immediate direct effects to competition and social welfare.

In the next chapter we examine the background to merger economics, the process of merger deals, and the competition regulation process in the UK, before going on in a later chapter to look at the research methodology used in this thesis.

3 Mergers and their Regulation in the UK.

3.1 Introduction

This chapter explores the broader commercial, economic and regulatory environment in which mergers take place in the UK. It first discusses the commercial and business reasons that lie behind the pursuit of mergers by firms' managers, looking at reasons and conditions that make some mergers unacceptable for economic and political reasons. Some mergers have a strong potential to reduce competition and it may not be possible later to unwind their effects if they are allowed to proceed. In order to maintain a competitive economic environment, significant government effort has been invested over several decades in developing a statutory framework to regulate competition and foster fair trade. The chapter looks at the timeline of the introduction of these statutes and summarises the effect they have on merger regulation in particular.

The role of the key statutory competition authorities and their relationship with other industry specific regulators is explored. This important aspect of merger regulation developed during the 1980s and 1990s as privatization of previously nationalised industries was driven by the Thatcher and Major Conservative governments from 1979 to 1997.

Finally the chapter looks at the working of the regulatory process through which mergers are regulated in the UK over the research study period. It discusses how a merger is screened by the Office of Fair Trading (OFT) and referred for investigation if it is suspected of having adverse competition effects. The chapter considers the role of the Monopolies and Mergers Commission, latterly the Competition Commission, (MMC/CC) in relation to undertaking an inquiry, arriving at a decision on the merger's effects and the form in which it should be allowed, if at all. The scale of the investigations by the OFT and MMC/CC are reviewed in relation to all mergers completed in the UK over the research study period, from 1989 to 2002.

3.2 Business Drivers Leading to Mergers

Mergers are one of a range of strategic options that managers and the Board of a company may pursue. By combining assets of two previously separate and independent companies, the new combined entity can be argued to bring future strategic advantages to the acquiring company. The resulting benefits and synergies may include: -

- Increased scale of operations
- Improved financing options
- Access to new markets
- Increased or strengthened product range
- Acquisition of key or critical fixed assets
- Acquisition of key or critical intangible assets including intellectual property, tacit knowledge and "know-how"
- Improved management resulting from the "shake up" and subsequent reorganisations.

These benefits and synergies can allow economic value to be created, often by enabling significant operational cost savings to be made across the combined operation that were not possible when the two separate companies operated independently.

A merger can also combine the customer bases of the two merging companies that previously competed. If the merging companies are large and/or have a large share of the market this can reduce competitive pressure in the industry. While this appears to be a synergistic benefit for the acquirer, the resultant reduction of competition, possibly leading to increased prices or reduced service quality, may become a political and economic problem for society and the Government. For this reason this particular "benefit" has not been added to the list of benefits and synergies above, but we will return to this issue several times in this chapter, as it lies at the core of the reason for regulation of mergers in the UK.

The benefits and synergies available from merging can increase the value of the new combined entity to exceed the sum of the values of the individual assets merged to form the new combined entity. Such a merger creates value for the shareholders. However there are costs to such a merger. In addition to the administrative costs and fees paid to legal, banking and other professionals for their advice and work, there is the premium paid by the acquirer to the shareholders of the target company to convince them to sell their holding of shares in the target company. If the additional value created by the merger is greater then the costs, fees and premium paid, the remaining value will be reflected in the value of the acquiring company. Conversely, if costs exceed the increase in value of the combined entity, the resultant loss of value will be reflected in the value of the acquiring company.

When a company is listed on a stock exchange and its shares traded on the capital market, the market delivers a revaluation of a company very quickly after a value-changing event is publicly announced. This is referred to as market efficiency, and the semi strong form of the Efficient Market Hypothesis (EMH) states that the market price quickly and fully reflects the value of all publicly available information. The literature on this concept was discussed in Chapter 2 section 2.4 in detail. In practice market efficiency means the market will respond to news of a merger taking full account of all the public information about the companies involved and revaluing them following the announcement. Of course, the capital market may not agree with the view taken by the bidding company in their public announcement of the merger, but the market will quickly settle on new share prices for the companies involved, and any others in the market that may be affected by the merger announcement, such as competitors for example.

From this brief description of the economics of a merger, it can be seen that the acquirers' management needs to decide how much value can be created by merging assets, and hence how much the acquirer can afford to pay for the target, before the merger bid can be made. When the bid is made the capital market quickly responds by revaluing the companies, based on the market's perception and view of the merger bid. It is only over time, usually between one and three years after the merger deal is completed when the assets have been integrated, that we will know if the merger *actually* delivered the promised benefits and synergies for the acquirer.

However, in that intervening period after the merger bid, it is usual for many other events to have taken place that affect the acquiring company. These could be in politics, the economy, changes in social trends, technological developments, changes to industry structure, changes to company strategy and the market place. All of these events may have a value impact on the acquiring company. This makes it a complex and difficult task to evaluate the contribution of a specific merger to the economic success or failure of the acquiring company some years after the original merger took place.

In summary, managers and boards of companies embark on mergers, usually proclaiming they are for strategic reasons. They commit to a course of action in the hope of creating a future strategic advantage, but which produces an immediate gain or loss of shareholder value if the company is listed on a public stock exchange. We saw in Chapter 2 the chances of success in a merger based on economic criteria are not outstanding, and we will only know if the merger really delivered the promised benefits some years after the deal was completed. However, in spite of the operational benefits of a merger deal only being realised well into the future, shareholder value changes can flow in anticipation almost immediately from the deal announcement. This makes mergers a very quick way of changing a company's prospects and value, making mergers attractive to shareholders, particularly of target companies, if the right deal is on offer.

3.2.1 Merger Types

Companies might undertake different types of mergers to obtain particular benefits and synergies from their operations. These types are commonly classified as follows: -

- **Vertical mergers** combine companies where the target company becomes part of a process or operational chain of the acquiring company. It is common for vertical mergers to consolidate a supply chain for an acquirer, and can bring benefits of supply chain security, as well as other possible cost savings from rationalisation of operations. A fuller description of vertical mergers can be found in Sudarsanam (2003) Chapter 7.

- **Horizontal mergers** are based on expanding the acquiring company's access to customers in a market, and often involve the merging of direct competitors. While these mergers can be shown to produce significant synergies, they give rise to concern about the degree to which competition is reduced. Horizontal mergers in an industry with a low degree of consolidation can improve efficiency without reducing competition, because a large number of companies are still able to compete in the industry after the merger. However where industries have undergone a significant degree of consolidation already, leaving a small number of players, there is a greater danger of unrestricted horizontal mergers leading to a monopoly in that industry. For this reason, under certain conditions horizontal mergers may attract the attention of the competition regulator and be modified or prohibited. A fuller description of horizontal mergers and consolidation in fragmented industries can be found in Sudarsanam (2003) Chapter 5 and 6.
- **Conglomerate mergers** are based on bringing companies in unrelated fields under the control of the acquiring company. The companies in such a merger usually have little to connect them in the operational sense. The combined company is commonly structured on a subsidiary basis with subsidiaries having significant degrees of operational autonomy and being held accountable in the group on a broad financial basis. Benefits and synergies from such mergers are mainly confined to obtaining financial advantages with little scope for operational cost savings unless the previous management had been profligate. Conglomerate mergers have become less fashionable, and because of the difficulty in extracting benefits and synergies from the merger, have been discredited for their ability to deliver increased shareholder value. A fuller description of conglomerate mergers can be found in Sudarsanam (2003) Chapter 8.
- **Cross border mergers** are often used by companies to gain access to a new geographic market. The act of merging with an existing company in a foreign country allows the acquirer's existing products to be introduced relatively quickly into the new market territory. In addition, in a reciprocal sense, it allows any products of the target company to be introduced into the acquiring

company’s long-established markets. Cross border mergers can open access to foreign markets much more quickly and with lower risk of failure than a company could achieve by starting a new company in a foreign country and growing it organically. Cross border mergers can also open access to new sources of supply and services. Interestingly these mergers can fall under the competition regulations of more than one country and the regulatory issues can be complex. A fuller description of cross border mergers can be found in Sudarsanam (2003) Chapter 9.

3.2.2 Concerns about Mergers Reducing Competition

The drive for companies to carry out mergers is very large. The number of mergers continues to grow year-on-year and shows no signs of reducing in the future. If mergers were allowed to take place without regulatory control or restriction the consolidation process within industries could potentially reach an end point only when an industry monopoly position had been reached and all of the smaller competitors have been eliminated. This concern could potentially leave the UK without effective competition in industries and this underlies policy on UK merger regulation by the competition authorities.

While the desire to carry out mergers seems to be insatiable in order to satisfy corporate growth and improved financial performance, there are also dangers. If mergers were to be allowed to progress without any constraint or regulation it would be extremely difficult or even impossible to unwind the combinations later to restore competition. Permanent irreversible changes would occur to the national economy. There is a need to find a compromise position where mergers are allowed to proceed freely in a competitive economy without allowing a point to be reached where effective competition becomes substantially reduced by the formation of large companies that dominate the market place.

While UK national and EU European merger regulation exists, we do not have an international means of regulating the merger activity of multinationals on a global basis.

The only control involves each national (or in the case of the EU, regional) regulator, but since these regulators work within different national policy structures and regimes, the control of competition involving large multinationals operating across national borders can be extremely complex and difficult to achieve.

We now look at how the UK merger regulation system has developed to deal with concerns about the potential reductions to competition that can be brought about by some mergers.

3.3 Development of UK Competition Policy and the Merger Regulatory Regime

This section serves to highlight the key development milestones of UK competition policy. Control and regulation of mergers forms part of overall UK competition policy, and relevant legislation for the control of mergers occurs in UK Acts of Parliament. The section is a very short outline of the subject, mainly presenting the timeline of the key legislation involved. A fuller description has been provided by Wilks (1999), which comprehensively covers the development of UK competition policy and the Monopolies and Mergers Commission. Shorter outlines of this area have also been provided by Sudarsanam (2003, see Chapter 17) and Motta (2004, see Chapter 1, pp11-13).

The earliest effective attempts at regulation of mergers occurred in the USA in 1890 with the passing of the Sherman Antitrust Act[6]. It was introduced to help control the wave of consolidation taking place in US industry and made it illegal to restrain trade or form a monopoly. In 1914 the US Congress passed the Clayton Act, strengthening US competition legislation by prohibiting specific business moves that substantially lessened competition. Legislation in the UK followed some time later. The earliest UK statute aimed at controlling competition issues was the Profiteering Act 1919, to help control prices in the recovery period following World War I. However, the main

[6] There was earlier competition regulation in Mexico and Canada, but in neither case was the legislation enforced.

development of UK competition policy did not begin until 1948, after World War II, and development to that policy has continued to the present day.

3.3.1 Monopolies and Restrictive Practices Act 1948

The first legislation in the UK to deal with concerns around monopolies and the reduction of competition was the 1948 Monopolies and Restrictive Practices Act. This provided the original framework for setting up the Monopolies Commission (MC) and introduced the "public interest" test for assessing monopolies. At this time the UK economy was characterised industrially by having a series of nationalised industries, effectively state owned monopolies, with strong levels of unionised labour and private sector industrial consolidation, resulting from the depression of the 1930s and wartime planning. At that time the rationale for creating monopoly control was to help ensure full employment as part of the post-war recovery package. The Monopolies Commission did not have any remit relating to merger control under this legislation..

3.3.2 Related Legislation between 1948 and 1964

Competition related Acts between 1948 and 1964 were the: -

- Monopolies and Restrictive Practices Commission Act 1953
- Restrictive Trades Practices Act (Goods) 1956
- Resale Prices Act 1964

These Acts were aimed at strengthening the MC but still did not cover mergers. These Acts were repealed as later legislation was introduced.

3.3.3 1965 to 1969 - Monopolies and Mergers Acts 1965

This legislation provided powers for the first time for the regulation of mergers and established a stronger organisation, the Monopolies and Mergers Commission (MMC), to carry out the investigatory role and make recommendations to the Government. Cases were referred to the MMC by the Secretary of State, which reported back to him with recommendations. The MMC continued to use the "public interest" test introduced by the 1948 Act.

A further piece of legislation, the Restrictive Trade Practices Act 1968, was introduced in this period. Both the 1965 and 1968 Acts were later repealed.

3.3.4 Fair Trading Act 1973

This Act set up the Office of Fair Trading (OFT) as the UK Competition Regulator and defined a new relationship with the MMC. The central structure and approach laid down by this Act has endured over three decades. Under the Act the OFT screened cases causing concern on behalf of the Secretary of State before referral to the MMC. The MMC reported back to the OFT with its recommendation for the Secretary of State.

3.3.5 Competition Legislation from 1976 to 1977

The following Acts were introduced in this period but they had little effect on merger regulation policy.

- Resale Prices Act 1976
- Restrictive Trade Practices Acts (Services) 1976 and 1977

3.3.6 Competition Act 1980

This Act provided clearer definitions of anticompetitive behaviour and powers to investigate competitive issues across industries, including for the first time the nationalised industries. It did not make changes to the policy or process for the regulation of mergers.

3.3.7 Privatisation and Other Industry Specific Legislation 1984 to 1994

Privatisation of previously nationalised industries took place under the 1979-90 Thatcher and 1990-97 Major Conservative Governments. The new privatised industry structures were established under separate pieces of legislation and industry specific regulators were appointed to encourage competition within the monopoly utility industries (initially in telecoms, gas, water, electricity and the railways). Wherever possible the regulators positively discriminated in favour of new entrants to the industry to stimulate competition. The main relevant Acts were the: -

- Telecommunications Act 1984
- Transport Act 1985
- Airports Act 1986
- Financial Services Act 1986
- Gas Act 1986
- Companies Act 1989
- Water Act 1989
- Electricity Act 1989
- Broadcasting Act 1990
- Water Industries Act 1991
- Railways Act 1993
- Deregulation and Contracting Out Act 1994

The industry specific regulators' role was to establish conditions for increased competition within their industry. However the legislation also required them to work in tandem with the OFT and the MMC, as the overall Competition Regulator, in cases of mergers in the industries. The MMC was also required to act in an appeal role in cases within a privatised industry where there were disputes between the industry specific regulator and companies in their industry relating to their operating licence terms and conditions.

Some changes occurred later to the original regulatory structures laid down in these Acts. For example the Communications Act 2003 set up a new regulator, the Office of Communications (OFCOM), to regulate across all UK communications industries, including television, radio, telecommunications and wireless communications services. This 2003 Act, which came into force after the end of the study period of this research and does not have any impact on this study, combined several of the earlier regulators' roles in the communications industries. Under it OFCOM absorbed five previous regulators, namely the Broadcasting Standards Commission, the Independent Television

Commission, Office of Telecommunications (OFTEL), the Radio Authority and the Radiocommunications Agency, bringing about a considerable rationalisation of the regulatory structures.

3.3.8 Competition Act 1998

The Competition Act 1998 introduced changes to align UK competition regulation with EU competition legislation (Articles 81 and 82) and introduced some changes to the UK merger regulatory regime. The OFT gained increased roles and powers, and the 1998 Act allowed the OFT to search premises and seize documents in order to improve its powers to gain evidence in investigating competition law infringements. It also gained the power to impose fines.

The 1998 Act reformed the MMC into a new body, the Competition Commission (CC), though its investigative role remained largely unchanged from that of the previous MMC. The CC still needed cases to be referred to it from OFT, had an investigatory role and made recommendations. The “public interest” test was still used by the CC as its basis for deciding if mergers were anti-competitive.

3.3.9 Enterprise Act 2002

This Act, mainly dealing with changes to Bankruptcy Law, also introduced important changes to the responsibilities of the OFT and the CC. The Act gave the OFT the power to make referrals directly to the CC and the CC’s decisions in most cases became determinative, rather than recommendations to the Minister or Secretary of State, removing political influence from merger decisions. In addition the 2002 Act changed the “public interest” test used by the CC as the basis of its judgements of competition and mergers to the more specific test of a “substantial lessening of competition”.

The period covered by this research ends with the introduction of the 2002 Act in June 2003, and does not include any cases processed under this 2002 Act.

3.4 The Roles of Office of Fair Trading (OFT), the Monopolies and Mergers Commission (MMC) and the Competition Commission (CC)

Section 3.3 above highlighted how the legislative framework developed over about six decades to encourage competition in the UK economy. Not all of that period is relevant to the research in this thesis and this section outlines the roles and relationships between the key players in the regulation of mergers over the shorter period from 1969 to 2003. This period covers the existence of the MMC/CC as the investigatory body for competition matters from just after its creation by the 1965 Act to the Enterprise Act 2002. During this time the principles for selecting merger cases qualifying for examination and possibly inquiry remained the same in terms of market share or value of assets (although the value of assets test was raised to reflect inflation). The "public interest" test used by the MMC/CC for judging competition issues also did not change. The first part of this period, from 1969 to 1990, was covered by earlier UK researchers (see Franks and Harris, 1993; Forbes, 1994), while the second part of this period, from 1989 to 2002, is covered by the research in this thesis. The aim of this section of the chapter is to summarise the roles of the key regulatory players, highlighting changes for each key player over the period from 1989 to 2003.

Essentially the Office of Fair Trading (OFT) and the Monopolies and Mergers Commission (MMC), and latterly the Competition Commission (CC), are quite separate organisations, though they work closely together, and have evolved to regulate competition and mergers in the UK. We now look at the role of each organisation with particular attention to mergers, and how they interact.

3.4.1 The Office of Fair Trading

The Office of Fair Trading is the UK statutory body established under the Fair Trading Act 1974, and is part of the Department of Trade and Industry. It began life as a Government Department giving support to the Secretary of State, who retained most of the legal powers. Its role has evolved to become the designated UK Competition Regulator and it has the statutory responsibility to ensure competition, fair trade and consumer protection Acts are enforced. The OFT monitors market and trading situations, deals with consumer complaints and if cases over the study period had serious causes for concern about their effects on fair-trading and competition, the Director General of the OFT could recommend to the Secretary of State the that case be referred to the MMC/CC for an inquiry to take place.

With specific regard to mergers during the study period of this research, the OFT screened all qualifying mergers to identify cases giving rise to concern on competition grounds. The qualifying limits since 1973 have been: -

- The companies combined have greater than a 25% share of supply, OR,
- The value of the combined assets exceeds £X.

The value of £X was revised over the period and was raised from £5m to £15m in 1980; to £30m in 1984: to £70m in 1994. Qualifying mergers, exceeding these thresholds, are then examined to see if they raise any competition concerns. Those raising concerns are recommended to the Secretary of State for referral to the MMC/CC.

3.4.2 The Monopolies and Mergers Commission (MMC).

The MMC was established by the Monopolies and Mergers Act 1965. Its primary purpose of being an investigative agency remained unchanged over the period to the enactment of the Competition Act 1998, when its role transferred to a new body, the Competition Commission (CC), on 1st April 1999.

The MMC did not have powers to investigate without a prior reference from a statutory body. Cases were referred to it initially directly by the Secretary of State, but later acting on the advice of the OFT after its formation by the Fair Trading Act 1974. As nationalised industries were privatised its role developed to work in tandem with the industry specific regulators, in a system of dual regulation. Under this dual regulatory system, the industry specific regulator was solely responsible for stimulating competition in the industry, but worked with the OFT on matters of mergers and licensing conditions affecting competition that fell under the control of OFT. The MMC investigated the overall economic suitability of mergers for the UK and also acted as an appeals body for disputes in the privatised industries on licensing conditions falling under the control of the specific industry privatisation Acts. The Secretary of State could make referrals to the MMC directly on wider matters than competition, where there were concerns on public interest grounds, although normally referrals were made only or largely for reasons of competition.

3.4.3 Competition Commission (CC)

The Competition Commission (CC) was created by the Competition Act 1998 and it succeeded the MMC on 1st April 1999. Its role relating to mergers continued from that carried on by the MMC under the various statutes after 1965, and its role remained investigative. The CC continued to follow the same approach to mergers introduced in the FTA 1974, carrying out inquiries into referred cases under the "public interest test" and making recommendations to the Minister of State. The Minister could accept, modify or reject the Commission's recommendations.

The Enterprise Act 2002 removed decisions made on competition matters from elected politicians and transferred the responsibility to the OFT. Decisions of the CC became determinative, no longer simply recommendations to Ministers that could be accepted or ignored at Ministerial discretion[7]. Decisions under the 2002 Act are enforced by the OFT.

3.5 The UK Merger Regulatory Process, its Possible Outcomes and Interactions with the Capital Market.

In order to understand the complete regulatory process as applied to a merger, we will consider a hypothetical merger of two public companies quoted on a stock market and describe what happens at each step in the merger process. We will start this description at the conceptual bid preparation stage, progress through the bid announcement, the consideration by the OFT and, assuming it is referred to the CC, through the CC inquiry stage and decision announcement and finally to close of the bid, or termination if the

[7] Effectively under the 1974 FTA the Minister could accept or reject an adverse finding by the MMC, although not a finding that the merger should be permitted.

merger is prohibited. In order to keep the description concise and yet include all of the regulatory process, this hypothetical bid will be assumed to be non-competitive and be recommended for shareholder acceptance by the target company managers.

At each stage we will look at the activities of the managers in the bidding and target firms and also at the regulatory activities accompanying the corporate merger activities. We will look at the key phases of a merger deal from conception to deal close and then examine the interaction with the capital market.

3.5.1 Merger bid preparation

Key senior individuals in the bidding company management team will be examining and comparing possible acquisition targets for strategic suitability and gathering and analysing data on possible targets. After one or more targets have been identified as suitable, professionals providing financial and legal support would be engaged and briefed to begin preparation of prospective bids in detail relating to the legal position and possible methods of providing finance for the deals.

It is also during this stage that the first thoughts about the regulatory process are likely to be considered by the bidding management team. They may proceed based on their own knowledge of the regulatory position, or they may consult a professional adviser for an opinion on the likely regulatory outcome, possible issues or concerns, and recommendations on how best to approach the situation. It is also possible for the bidder management or their lawyers to make a confidential approach to the OFT seeking "confidential guidance". This is usually done after the bidding company has made a confidential approach to the target company. However there is scope for misunderstanding and misinterpretation of "confidential guidance" from the OFT. This can lead to problems if a bidder acts on what they believe to be the advice from OFT and find the case is later referred to the MMC/CC. The OFT gives "confidential guidance" and they fully support consultation to allow bidders to prepare their bids as accurately as possible. However, the OFT is cautious to avoid any possible conflict between their guidance given confidentially and any future decisions. This can place the

OFT in a difficult position in some cases which are finely balanced on the competition issues. Wilks (1999, pp 224 & 228) expands on the subject of confidential guidance in more depth.

Once the regulatory position has been understood the bidder management can decide to either proceed with the bid, letting the OFT make their waive through or refer decision, or take action to resolve any anticipated regulatory issues. It may not be possible to actually resolve issues prior to the bid announcement because of commercial confidentiality or timescale considerations, but it is possible to negotiate a remedy with the OFT *in lieu* of a referral to the CC. This may be a more suitable approach and allow the merger to be completed more quickly.

Once the bidder management have a reasonably sound view of the proposed deal a confidential approach is made to the target company at a senior level, usually Chairman or CEO. The bidder would inform the target company senior manager of their interest and the amount they would be prepared to pay. The target company senior managers would take the offer to a target company Board meeting where the offer and the response would be decided. It is customary for some haggling to take place around details of the deal, the target Board trying to gain the best terms for shareholders and possibly for senior managers of the target company. Once the terms have been agreed in principle, the target company would usually obtain an independent professional opinion on the appropriateness and suitability of the offer before making a recommendation to the target company shareholders. For the sake of simplicity, in describing the process we will assume the target company agrees to recommend acceptance to their shareholders. The deal is then ready for announcement. The rate of progress at this stage can be extremely fast and the Stock Exchange rules will dictate that public announcements must be made quickly when a company becomes aware of a situation that may influence the market price of its stock.

3.5.2 Bid announcement and consideration by the OFT for referral

As soon as the bidder and target senior managers agree that they intend to proceed with the deal both public companies need to make a public announcement to the markets. At this point the deal not only comes to the attention of investors but also to the attention of competitors, the media and the OFT. Notification of the merger to the OFT normally takes place on a voluntary basis, and there is no formal requirement to notify the OFT of the intended merger. The OFT may receive a complaint from the industry, a competitor, customer supplier or other interested party. Once aware of the merger they begin collecting information and screening the merger for any concerns about competition, or prior to the Enterprise Act 2002, any other relevant matters of public interest.

At this stage competing bids may be made for the target company or other possible complications may arise, so the OFT may also need to screen other merger combinations based on more than one bidder competing for the target. If the target company Board does not believe the offer is sufficient, they can instruct their bankers to investigate if there are any other parties that may have an interest. If other interested parties are found an auction can result, potentially producing a greater value for the target company shareholders.

Another possible complication can result if the target company management rejects the offer from the bidder, while the bidder feels the offer is capable and sufficient to convince shareholders to sell their shares in the target company. The bidder may then decide to make a so-called "hostile bid", appealing directly to the shareholders of the target without seeking agreement from the target company management. Such a hostile bid can result in a battle between the target company management and the bidder to frustrate the takeover bid and try avoid it being completed. This may result in the bid becoming a long acrimonious struggle with many twists and turns by the protagonists.

The OFT collects information about the proposed merger and asks interested parties for their comments. If the merger falls within the definition of a qualifying case and the OFT considers that the merger appears to have adverse effects under the public interest test (now the "substantial lessening of competition" test), the case would be recommended to the Secretary of State for referral to the MMC/CC for an inquiry to be held. A public announcement of the Secretary of State's decision would follow. The OFT could also recommend acceptance of any suitable remedies offered by the bidder as an alternative to referral. However, the final decision remained that of the Secretary of State up to 2003 when the Enterprise Act 2002 came into force. Now the CCs decisions are usually determinative and referrals are normally made by the OFT (or the dedicated industry regulator for "privatised industries") rather than the Secretary of State.

The end of this phase is marked by either being waived through, or a referral to the MMC/CC for an inquiry to be carried out. If the deal is waived through it can proceed to completion without risk of further regulatory intervention. However if the deal is referred any further commercial progress is halted until the findings and decision of the MMC/CC inquiry.

3.5.3 MMC/CC Inquiry and decision announcement

A MMC/CC inquiry is a tribunal arranged specifically to investigate the referred case and its inquiries can range beyond those concerns identified by the OFT at the screening stage prior to referral. Central to the MMC/CC process, in its merger investigation role, is the case-by-case nature of the inquiry. Each inquiry is treated on its individual merits and has a nominated group of Commissioners and a Chairman who are independent of the merging firms, have wide experience and also a good knowledge of the industry involved. The diagrammatic outline of the process followed by the MMC/CC is shown in Figure 3-1.

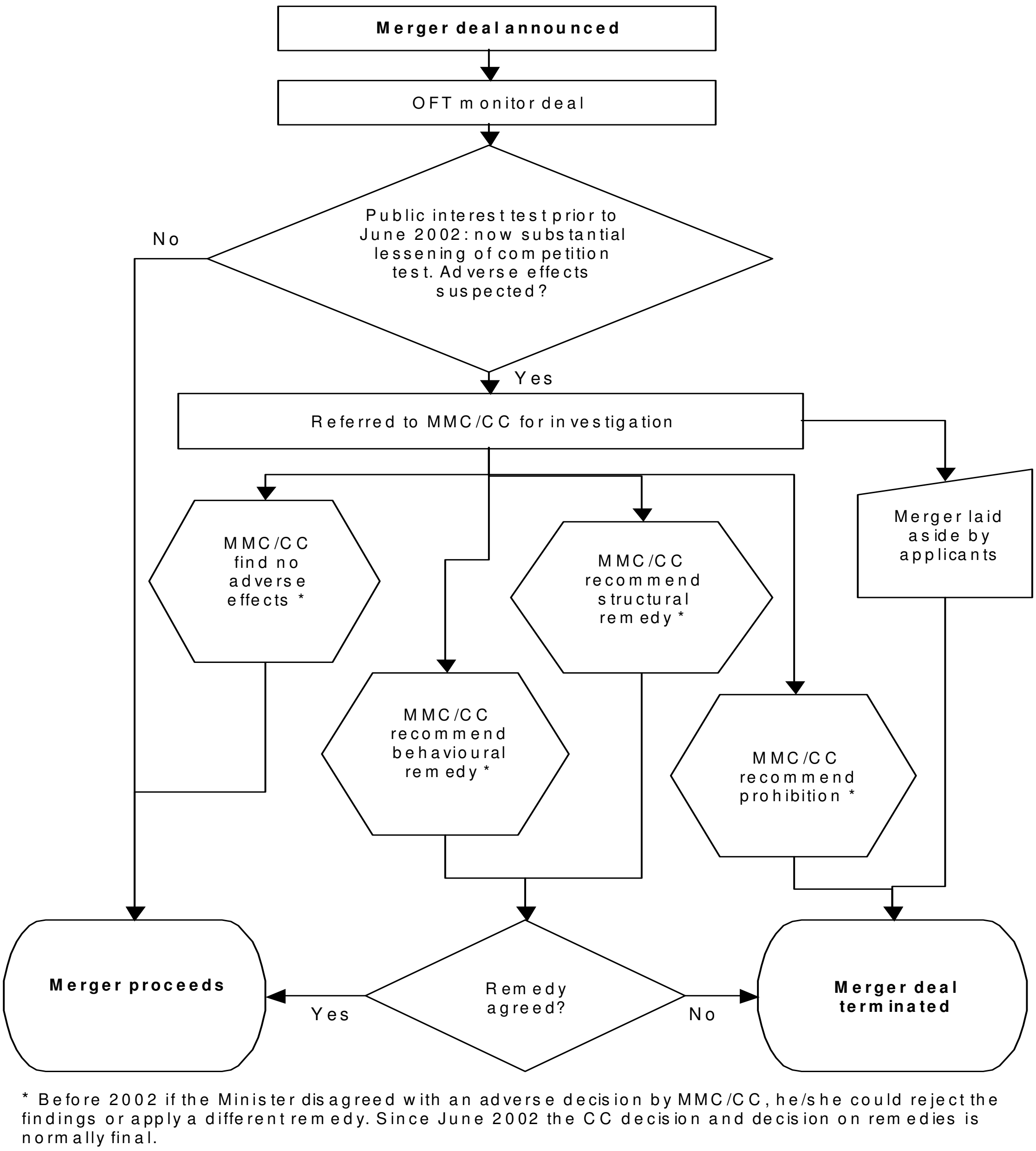

Figure 3-1. Flow chart of the UK merger referral and inquiry process showing main decision events.

The Inquiry collects evidence from many sources and interested parties before coming to a decision. The MMC/CC sets about collecting the initial economic data about the case. From this it forms its view of the issues and concerns. Since 2000 these have been announced publicly in a Statement of Issues document. The inquiry will hold hearings, taking oral and written submissions of evidence from the parties to the merger, competitors, customers, suppliers and any other interested parties who may be affected by the merge. The Commissioners (known as “Members”) will ask particular questions of the interested parties to clarify key aspects of the issues under investigation. They may also make site visits when appropriate to help understand the background and specific issues of the case.

When all of the hearings have been completed and evidence has been collected, it is examined against the public interest test. The Members decide if there is evidence of adverse effects, and if so can they be neutralised by applying remedies, although prior to 2002 remedies were a matter for negotiation by the OFT with the company. The possible outcomes of this process are shown in Table 3-1.

Decision of the MMC/CC and the type of remedy prescribed	**Designation of the outcome**
The bid is found to have no adverse affects	Allowed
The bid is found to have adverse affects and a remedy is prescribed. The remedy is:	
Behavioural (e.g. price control or other operational undertakings)	Behavioural remedy
Structural (e.g. divestment of some assets)	Structural remedy
Prohibition of the merger including de-merging if the merger has been completed.	Merger prohibited
The bid is abandoned by the bidding company.	Merger laid aside

Table 3-1. Possible outcomes following referral of a bid to the MMC/CC.

When there are no adverse findings the Members will recommend that the merger should not be prohibited. If there are adverse effects that can be overcome with either behavioural or structural remedies, since 2002 the Members can recommend the case be allowed to proceed conditionally, providing the merger parties agree to undertake the proposed remedies (previously this was a matter for the OFT and the Secretary of State). However, if the Members find adverse effects that in their view cannot be effectively remedied without prohibiting the merger, they will recommend that the merger is prohibited. The inquiry group prepares a report detailing its findings and its decision. The Members of the inquiry panel do not need to agree unanimously with the report, and any areas of disagreement will be noted and alternative views recorded when agreement is not unanimous. Prior to 2002, the Secretary of State then considered the MMC/CC report and announced the final decision. Today the CCs decision is determinative.

3.5.4 Deal completion or termination

Prior to 2002, once the Secretary of State's decision was announced any undertakings required from the parties were sought by the OFT. Providing these were agreed, the parties were allowed to complete the outstanding commercial details of the deal. If there were no conditions attached to the Secretary of State's decision the deal could be completed without any further regulatory delay. If the deal was prohibited the parties involved cancelled their commercial arrangements and remained as separate entities. Since 2002 undertakings relating to remedies are negotiated by the CC directly.

In a small number of cases the OFT does not make its decision to refer a case before the deal is completed. If the OFT considers the completed deal to have adverse effects it can still refer the case to the MMC/CC. In spite of the merger being completed, any remedies or prohibition decisions made by the Secretary of State would still need to be implemented. Remedies can usually be applied after completion, but a prohibition decision would result in the acquirer being forced to unwind the deal. Although notification of a merger to the OFT is voluntary in the UK, completion of a deal before the OFT has screened a qualifying case carries risks that a referral may still be ordered and remedies with significant economic cost may be imposed as a result.

3.5.5 Interaction with the capital market

The competition regulatory process for mergers is summarised diagrammatically in Figure 3-1 above. As a merger case progresses through the process, it is to be expected that the Stock Market takes a view on the probability of possible regulatory outcomes, drawing on investors' and their advisers' knowledge of competition law, past regulatory experience and case specifics (including expert opinion, media comment, rumours, etc). For example, the grounds on which a merger might be referred are covered by legislation, are well known and past decisions of the MMC/CC are public knowledge.

The starting point for considering the interaction of the regulatory process with capital markets is the public announcement of the merger bid. In a simple case, the bidding company will usually offer to buy the target at a premium over the market price prevailing just before the bid announcement. The market will respond, re-valuing bidder and target companies based on the expected economic effects of the merger and the probable outcome of the bid. As part of the process, the capital market will take account of the possibility of referral to the MMC/CC and will factor in an estimation of the probable outcome of an inquiry. After referral, as a case moves through the inquiry process the market will re-evaluate the merging companies at each step of the process as possible outcomes turn into certainties; for example, the probability of an adverse finding becomes 1 when the MMC/CC's decision is published (prior to that the probability lies in the range >0 to <1). If the merger is laid aside[8] or abandoned by the companies involved part way through the process, the market will also re-value the companies based on this outcome.

If the regulatory regime is consistent and well understood by investors, efficient market behaviour can be expected to predominate. Investors will estimate the future value of

[8] "Laid aside" is the term used to describe MMC/CC inquiries that are stopped because the bidding party withdraws its bid after referral to the MMC/CC. The inquiries are technically "laid aside" and not abandoned.

the bidder and target companies, taking account of the nature of the proposed merger deal and the regulatory uncertainty that surrounds the merger.

By contrast, the regulatory regime may not be so predictable if it is new or its legal framework undergoes significant changes, as in the study by Brady and Feinberg (2000) of European merger policy reviewed in Chapter 2. Newness and changes in the law are accompanied by a lack of case history, making it more difficult for investors to predict accurately competition authority behaviour. In this situation, investors have more difficulty in assessing the possible regulatory outcome and the impact on the fundamental value of the events announced. In this climate of increased uncertainty, investors may turn to rumour, belief-based valuations or herd instinct, which may not be strongly linked to fundamental value.

3.6 Merger Activity in the UK

The MMC/CC investigates a small fraction of total UK acquisitions and mergers. Table 3-2 summarises merger activity over the study period of this research, between 1989 and 2002. Of a total of 9872 bids reported to the OFT, 3165 met the Fair Trading Act qualifying terms (either over 25% of market share for the combination or target assets greater than the prevailing limit of £30m, raised to £70m from 1994). The OFT referred a total of 156 cases for investigation by the MMC/CC, of which 22 were subsequently prohibited outright after the Commission's inquiry.

As can be seen from Table 3-2 the percentage of mergers referred for inquiries represents a small fraction of only 1.6% of all mergers over the period. Of those referred a minority of 0.7% were found to have adverse effects with only a fraction of 0.2% being prohibited.

1989 –2002	Number	*% of all mergers*
All acquisitions and mergers:		
All mergers[1]	9872	*100*
Qualifying cases[2]	3165	*32.1*
Referrals made to CC/ MMC[2]	156	*1.6*
3.6.1 Decisions made by CC / MMC on referrals:		
Adverse finding[3]	71	*0.7*
No adverse findings[3]	61	*0.6*
Laid aside[3]	25	*0.3*
3.6.2 All decisions made by CC / MMC[3]	157	*1.6*
3.6.3 Remedies in adverse findings cases		
Behavioural[3]	20	*0.2*
Structural[3]	29	*0.3*
Prohibited[3]	22	*0.2*

Sources:

1. Office of Fair Trading: Annual Report: Number of acquisitions of UK companies published in Acquisitions and Mergers in the UK (pre 1994 but excludes the financial sector) or First Release (1994 and later) by the Office of National Statistics.

2. Office of Fair Trading: Annual Report.

3. Competition Commission: Website http://www.competition-commission.org.uk/: Inquiries

Table 3-2. Summary of UK acquisitions and mergers activity 1989-2002 and competition inquiry decisions.

While the number of mergers referred to the MMC/CC represents a small fraction of all mergers in the UK, they represent the enforcement action of merger regulation policy by the UK competition authorities. These merger cases form a record of how the UK policy was interpreted in practice. They are also the only mergers that have been publicly scrutinised, and some of which were modified by remedies or prohibited. It is therefore important to understand the wider impact of the regulatory intervention on the economy that falls outside of the remit of the UK competition authorities.

3.7 Conclusions

This chapter has outlined the development of the UK process for regulating mergers to maintain competition from its inception to the present day. The development of competition law and specifically merger control is covered, as are the roles of the main players and government institutions involved. The chapter has examined each of the main steps in a merger deal and discussed the interactions between the regulatory process and the capital market. This forms a foundation for the statistical analysis undertaken in later chapters.

The chapter shows the UK merger regulation regime has evolved steadily and consistently over time with regards to competition policy. However the introduction of the privatisation programme of the Thatcher and Major Governments between 1979 and 1997 introduced a number of industry specific regulators with responsibility for stimulating competition within their industries. They worked along side the competition regulator on some matters, particularly mergers. This added complexity for some industries, and may have made the outcomes of the merger regulatory process more difficult to predict for the capital markets. When the regulatory process is stable and well understood the capital market should be able to predict the regulatory outcome of the process. However, when the regulatory regime is new or has been recently changed the ability of the capital markets to predict regulatory outcomes is likely to be reduced and capital markets may behave less efficiently, at least initially.

The chapter has also identified that only a small fraction of all mergers in the UK are referred for inquiry by the MMC/CC. The small number of referrals indicates the vast majority of mergers do not cause competition concerns and are allowed to proceed unhindered. In other words the research in this thesis is concerned with a small subset of all mergers, i.e. those that are referred for inquiry by the MMC/CC. Nevertheless, these mergers are of particular interest because they represent the enforcement action of the UK competition authorities, indicating how policy is interpreted in practice. These mergers were also subject to public scrutiny and possible modification or prohibition, which may have led to wider economic effects outside of the remit of the UK competition authorities.

4 Research Methodology.

4.1 Introduction and Chapter Overview

This chapter discusses research paradigms and possible methodologies appropriate for investigating the research question identified earlier in Chapter 1. It examines the methods, explains the choices made and summarises the chosen methodology.

The chapter starts with a broad examination of the research questions. It then looks at the dominant disciplines in this area of research and examines the methodologies and paradigms that have become established in this field of research, as well as the relationships to other sociological research paradigms. The chapter then explores the theories and models used in this area of research before looking at the methodological options possible for dealing with the specific research questions. Strengths and weaknesses of the options are examined and the final choice explained.

The detailed description of the methods used in the chosen methodology, development of the research hypotheses and details of the data used are contained in Chapter 5.

4.2 Outline of research

The research question was developed in Chapter 1, and to aid the reader it is restated here.

> *What effect does the regulation of mergers by the competition authorities in the UK have on shareholder value and managers' motivations for undertaking mergers?*

Chapter 2 discussed existing literature relevant to the research question in the three disciplines of Financial Economics, Strategic Management and Industrial Organisation. Gaps were also identified in this literature that were relevant to the research question.

In spite of the large number and value of merger deals, research evidence shows that the majority of deals may fail to create shareholder value for the acquiring company. Based on measuring share price changes during the deal period, several researchers (for example see, Sirower, 1997; Seth, 1990b; Seth et al., 2000; 2002; Berkovitch and Narayanan, 1993) have found when acquiring and acquired firms are taken together, around 75% of mergers create total shareholder value giving an average return of 7% of the combined companies' values. However, the gains do not divide equally and the picture is worst for acquiring firms, where only 50% of deals create value. They have an average return of around 0.1%. This contrasts with 95% of mergers creating shareholder value for acquired firms, giving an average return of 38%.
The UK competition regulator, the Office of Fair Trading (OFT), is charged with controlling market concentration and competitive behaviour in the interests of encouraging fair trade. The original test contained in Section 84 Fair Trading Act 1973 was based on merged companies not acting against the public interest. The 1973 Act states the test as follows: -

"In determining for any purpose to which this section applies whether any particular matter operates, or may be expected to operate, against the public interest, the Commission shall take into account all matters which appear to them in the particular circumstances to be relevant and, among other things, shall have regard to the desirability-

a) of maintaining and promoting effective competition between persons supplying goods and services in the United Kingdom;
b) of promoting the interests of consumers, purchasers and other users of goods and services in the United Kingdom in respect of the prices charged for them and in respect of their quality and the variety of the goods and services supplied;

c) of promoting, through competition, the reduction of costs and the development and use of new techniques and new products, and of facilitating the entry of new competitors into existing markets;
d) of maintaining and promoting the balanced distribution of industry and employment in the United Kingdom; and
e) of maintaining and promoting competitive activity in markets outside the United Kingdom on the part of producers of goods, and of suppliers of goods and services, in the United Kingdom."

(Fair Trading Act 1973, Section 84)

The Enterprise Act 2002 has revised this public interest test to the narrower test of whether the merger results in a substantial lessening of competition. Sections 22 and 33 of the Enterprise Act 2002 cover the duty of the OFT to refer a merger to the Competition Commission, and Sections 35 and 36 of the Act state the questions that shall be answered by an inquiry. The 2002 Act uses a test based on "substantial lessening of competition" for assessing the competition impact of mergers, and for example, Section 35, subsection 1, of the 2002 Act states: -

"35. Questions to be decided in relation to completed mergers

(1) Subject to subsections (6) and (7) and section 127(3), the Commission shall, on a reference under section 22, decide the following questions-

a) whether a relevant merger situation has been created; and
b) if so, whether the creation of that situation has resulted, or may be expected to result, in a substantial lessening of competition within any market or markets in the United Kingdom for goods or services."

(Enterprise Act 2002, Section 35)

Although the process involves referral to, and investigation by, the Competition Commission for mergers causing concern on competition grounds to the OFT, the regulator does not have a remit or responsibility for share price issues or impacts. The research in this thesis investigates any consequential impact that the competition regulatory process and decisions may have had on share value in mergers.

The research investigates interactions between management, shareholders and government (representing the interests of customers) during company mergers. In particular it identifies factors linked to shareholder value creation in mergers and investigates differences between mergers referred for investigation on competition grounds and non-referred mergers. It also investigates management motivations for these mergers and compares the motivations between groups based on the decisions of the regulatory inquiry.

The present UK regulatory regime prohibits any mergers significantly reducing competition. This should remove, in theory at least, management motivation for mergers based on significantly increasing market power. In addition, it is possible that increased pre-announcement scrutiny when bids are being prepared, the possibility of post-announcement referral, and the possibility of a subsequent regulatory inquiry will modify motivation in favour of shareholder value creation motives.

4.3 Dominant Discipline

The area of research investigating the interaction of public policy and the financial behaviour of capital markets and investors falls largely within the discipline of Financial Economics. However there is some overlap between Financial Economics, Strategic Management and Industrial Organisation Economics. Research examining questions directly applicable to the improvement of management behaviour and performance in their choice of strategic options for a firm falls in the strategic management discipline. Industrial Organisation is concerned with the relationships between performance, industry structure and deployment of assets within the industry. Mergers impact on the structure, concentration of power and use of assets within an industry. When, as in the case of this research, judgements about performance are based on financial factors, the disciplines begin to merger. This research sits in overlapping areas of these disciplines and the relationship is depicted in Figure 4-1 below.

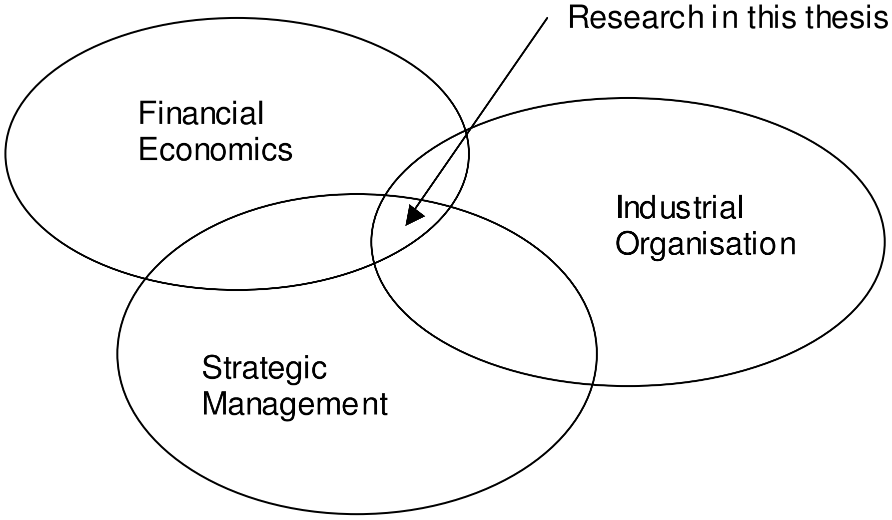

Figure 4-1 Relationship of research in this thesis to key disciplines

Ryan et al. (2002, Chapter 2) discusses the dominant methodology of financial research. There is a clear recognition in this discipline of a distinct existence of numerical models as abstract theoretical descriptions of reality. These models are developed through a process of exhaustive rigorous refinement and validation.

A fundamental tenet of financial economics is the Efficient Market Hypothesis (EMH). It forms a fundamental assumption in research on behaviour and modelling of the capital markets, although it has been open to challenge (for example, see Shiller, 1989; 2001; Schleifer, 2000). Key work on the EMH was carried out by Fama (for example, see Fama et al., 1969; Fama, 1970; 1991; 1998) and is discussed in Chapter 2. Much of the modelling used in Financial Economics is developed using statistical and econometric theory. Event study analysis was initially developed to investigate the EMH (see Fama et al., 1969), and is based on forming a model of the capital market, which indicates normal returns over time due to normal market activity. This model is then used to investigate specific events and identify any shareholder abnormal returns, which actually occurred at or during the event.

Mainstream finance and economics research is grounded in the positivist philosophical tradition. The discussions in the literature on the EMH also demonstrate the challenges to the theory. Shiller (1989; 2001) and Schleifer (2000) discuss aspects of irrational investor behaviour in the development of behavioural finance in an attempt to overcome and explain some market phenomena which can not be explained by the EMH alone. This testing follows the philosophy introduced by Karl Popper (1959) in *The Logic of Scientific Discovery*.

Popper's principle of falsification essentially proposed that any theory is tested against empirical findings in order to demonstrate it is incorrect, by testing hypotheses developed from the theory against observed data. If the hypotheses are rejected by the evidence of the data the theory may need re-examination. However since the absence of evidence is not evidence of absence, it is impossible to prove a theory is false. This process of falsification does not therefore prove a theory to be false but merely adds some doubt about its universal applicability. In practice within the research discipline, when doubt begins to form about a theory and limitations are observed, modified versions or new theories are formed by inductive reasoning from the empirical data, which then in turn become tested through hypothetico-deductive examination of further empirical findings. Theory is then constantly being developed and evolved.

4.4 The Sociological Paradigm

The research in this thesis is based on traditional approaches used in the Industrial Organisation, Finance and Economics disciplines. Burrell and Morgan (2001) propose four paradigms (Functionalist, Interpretative, Radical Humanist and Radical Structuralist) in categorising social science research. The four paradigms are based around two dimensions. The first dimension categorises the approach the researcher takes towards society, at one extreme being concerned with regulation and control of order in society, and at the other extreme being concerned with conflicts and inequalities in society and potential for radical change. Burrell and Morgan (2001) identify this dimension by the two extremes of "sociology of regulation" and the "sociology of radical change". The second dimension proposed by Burrell and Morgan

(2001) is identified as subjectivity or objectivity of the research. Ryan et al.(2002, pg. 39 "Taxonomy of accounting research") discuss this dimension and conclude that it consists of four distinct but related elements: assumptions about ontology, epistemology, human nature and methodology. These four elements are collapsed by Burrell and Morgan to the one proposed dimension of subjectivity to objectivity, to simplify discussion.

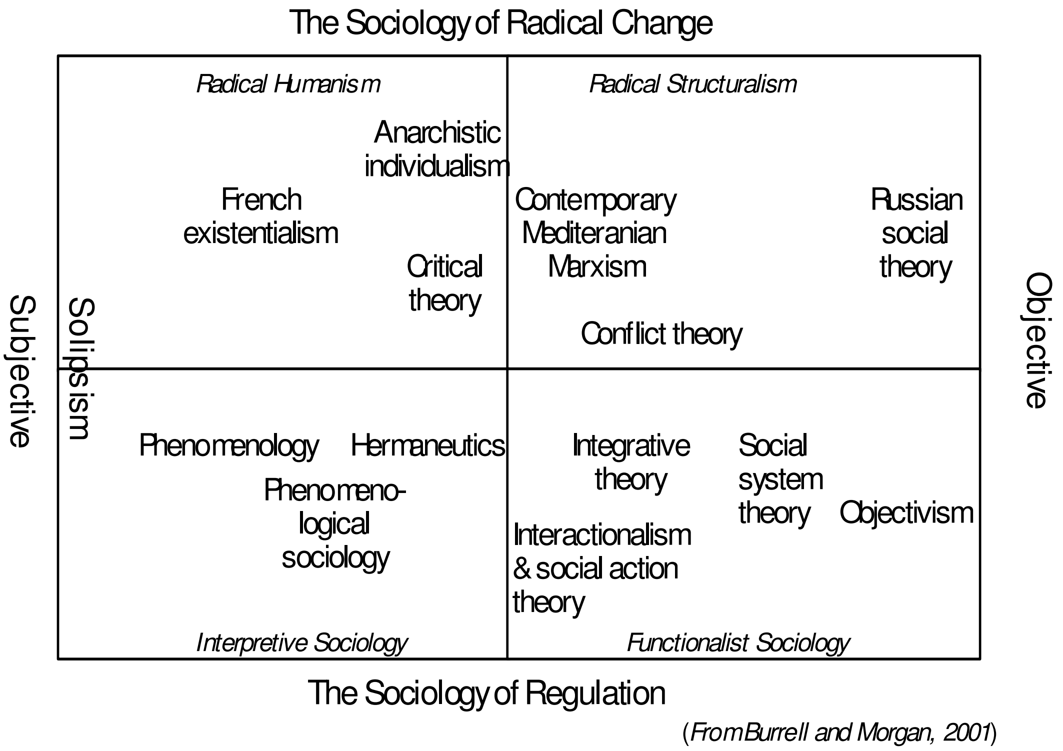

Figure 4-2 Sociological Paradigms

The area of research investigated by this thesis is about the sociology of regulation and has an objective approach. The dominant paradigm used in this research is firmly in the Functionalist paradigm. The research follows in the tradition of trying to understand the nature of the regulated behaviour of business activity within society. The approach being used is rooted in sociological positivism. Burrell and Morgan describe the functionalist paradigm as being characterised by a concern for providing explanations of the: -

- Status quo,
- Social order,
- Consensus,
- Social integration,
- Solidarity,
- Needs satisfaction and
- Actuality.

The approach to these concerns is from a standpoint that tends to be realist, positivist, determinist and nomothetic.

4.5 Theories and Models Used in this Area of Research

The research in this thesis is founded on several theoretical areas. The research and its associated theories divide into two sub-areas. The first is concerned with measurements of shareholder value changes during the merger deal and the regulatory process of the competition policy that was described in Chapter 3. The second sub-area is that related to explaining managerial motivations for undertaking mergers. Both sections of the research also depend on numerical models as a representation of reality, and statistical theory to draw inferences from the raw data and to assess the statistical significance of results and the degree to which generalisations can be made.

4.5.1 Theories and Models used relating to Shareholder Value measurement

The Oxford Compact English Dictionary (OED, 1996) gives three definitions of the meaning of the word "value" as used in the term Shareholder Value.

- *The worth, desirability, or utility of a thing, or the qualities on which these depend.*
- *Worth as estimated.*
- *The amount for which a thing can be exchanged in the open market.*

These definitions immediately lead us to the concept of worth related to what someone will pay for the item, in this case a share in the company. This is a readily available measure of value at almost any time, if the company is quoted and traded on a public stock exchange. An alternative approach is to use the “worth as estimated” definition to measure value, and invariably these valuation estimates are based on profitability measures available from published statutory accounts of the company. From the outset we have two approaches to measuring value, one based on the market price of shares and the other based on estimates from accounting data.

Research studies in this area of assessing company value changes have been produced by, for example, Lubatkin (1983), Seth (1990a; 1990b), Seth et al. (2000) and Berkovitch and Narayanan (1993), Forbes (1994), and Franks and Harris (1986; 1993). Except for Lubatkin (1983), the method for measuring shareholder value creation is based on market share prices and event study techniques, which is underpinned by the EMH. The EMH states prices always “fully reflect” information that is available to investors in an efficient market. Much has been written about the EMH since the mid 1960s. While many of these writers have challenged and tested the EMH, none has managed to provide a better hypothesis. Fama, instrumental in the development of the EMH, has made several reviews (1970; 1991; 1998) and concluded that in spite of challenges, no significant evidence has yet been found to refute the EMH and no better replacement has been found. However Fama (1998) does conclude that the evidence is less clearly in favour of the hypothesis when looking at long term returns. The EMH is now generally accepted within finance and accounting as the basis on which market based measurements can be made.

However, the EMH alone is not able to provide a complete explanation of certain financial market phenomena. One major area that challenges the EMH is behavioural finance. This area of study is founded on the assumption that real investors are not completely rational in their market behaviour at all times, and the degree to which investors behave irrationally can change over time, and they can be influenced by general market sentiment and wider prevailing economic factors. While this approach has been able to explain certain financial phenomena not explicable by EMH alone, it remains difficult to assess the degree of irrational investor behaviour taking place at any one time. These concepts are explored more fully by Schleifer (2000) and Shiller (1989; 2001).

The alternative to measuring company value using market-based measures, founded on the EMH and event study methodology, is to use accounting based measurements of the company. Early researchers (for example see, Lubatkin, 1983; Meeks, 1977; Chiplin and Wright, 1988) used accounting data. However, the main problems with accounting data based measurements are as follows: -

- The publicly filed accounting statements are prepared for trading periods covering the financial year adopted by the company for the preparation of its accounts. This period may start at any month of the year, which may not be closely aligned with the period being studied. It also may change in length when a company either decides to change its accounting year or to cease trading. It can vary, by choice of the company, between periods of 6 to 18 months in years when a year-end change is implemented. Because companies can select their year start dates, there is no guarantee that the reporting periods for two companies in a study will coincide. Adjustments, to resolve the start date and year length issues, may need to be applied to filed accounts to allow companies to be studied over comparable periods. In addition, the duration of the study period may not be an integer number of years, resulting in the need for estimating a part year performance. These limitations can result in an inability to obtain measurements over a time period that matches the duration of the particular event being studied, or complex adjustments being needed to each company's accounting data to ensure comparability between companies.
- The publicly filed company accounts report on the company's trading performance usually over an accounting year. This accounting year can include many events that are unconnected with the study, so called confounding events. The inclusion of these confounding events can create difficulties when trying to isolate the event being studied. For example, when a company makes several acquisitions within one accounting year it may be impossible to isolate the contribution made of any one of the acquisitions from the overall performance.
- The differences between various company accounting policies and the various differences in national accounting standards lead to difficulties in interpreting the results.

The use of market price asset values has largely replaced accounting data techniques in the area of measuring the affects of time-bounded events. There is evidence that the capital market evaluates management decisions based on expected long-term cash flow as discussed by Barney (1988, p73), rather than on short term accounting measures. For this reason event studies give a forward-looking valuation, in contrast to the historic view of performance provided by accounting data. However, while event study has methodological strengths, it remains an opinion of the capital market about the company, and hence is limited to use when studying publicly quoted companies. Accounting based information is a company-based, internal opinion of the trading period being reported, usually one year and can be applied to any company, whether quoted on a stock market or not. The research in this thesis is concerned with publicly quoted companies and specific time bounded events to which event studies are suited .

4.5.2 Theories and Models of the Firm Underlying the Managerial Motivation Hypotheses

A second area of theory that underpins the research relates to the various theories of the firm from economics, particularly Industrial Organisation economics. Theories of the firm offer theoretical frameworks in which to consider effects and influences acting on the firm's performance. The second part of the research question (see para 4.2) seeks to investigate explanations of why managers pursue mergers as a course of strategic action, when there is a risk of not delivering benefits in terms of shareholder value. The question leads the researcher to investigate Management's role and behaviour when pursuing mergers.

A firm's Management initiates and executes mergers, not shareholders, unless managers hold significant quantities of shares in the firm. If a significant number of mergers fail to deliver shareholder gains, then we can conclude that management is failing to achieve the expected gains it earlier announced due to either: -

- Culpable failures (e.g. error prone valuation and implementation failures), or,
- Agent-principal relationship issues (e.g. management has alternative objectives, possibly covert, to that of creating shareholder value).

Theories of the firm offer different frameworks, linked to key assumptions and management heuristics, with which to explore firm performance. Certain theories can each provide an exploratory framework for both shareholder gains and losses, but no one theory can explain all gains and losses.

A useful review of several theories of the firm was carried out by Seth and Thomas (1994). Their paper discuses seven theories and indicates the orientation and processes of discovery (positive or normative and inductive or deductive) of each. Seth and Thomas (1994 pp 186-8) go on to discuss whether one integrated theory of the firm is needed, but conclude:

> *"In conclusion we feel it is unproductive for strategy researchers to seek a single theory of the firm to serve as a framework for all research in the area. Given the nature of the field, which is necessarily integrative across the functional areas of business, the answer does not lie in embracing one theory and rejecting all others. Such a route is likely to lead to premature closure and could choke off the development of potentially rich avenues of investigation. Rather the answer lies in developing an intimate knowledge of the different theories and their underlying assumptions, and using these to develop a multi-dimensional approach to strategic management research." (Seth and Thomas, 1994, p 188)*

This research follows the multi-disciplinary thread and selects theories of the firm that could be used in a complementary way to provide possible explanations of observed phenomena.

This research uses two motivation hypotheses drawn from two theories of the firm. A third motivation hypothesis is based on a modification to one of the original theories. The first, the *Synergy* hypothesis, assumes that the principle management heuristic is to seek profitable growth opportunities. This hypothesis is underpinned by the neoclassical economic theory of the firm discussed, for example, by Penrose (1959)

The second, the *Managerialism* hypothesis, attempts to explain managers' pursuit of mergers that fail to produce growth in firm value. This assumes that the principal management heuristic is the maximisation of management's self-interests. It is underpinned by the work of Jensen and Meckling (1976) in developing an agency theory of the firm. Agency theory views the firm as a nexus of contracts between stakeholders who each negotiate to maximise their self-interest. Whether the concept of maximisation*, per se*, is considered realistic depends on whether stakeholders are considered to be constrained by bounded rationality. Where bounded rationality exists the concept of maximisation is replaced by one of satisficing. Since in a state of bounded rationality it is not possible to know when an optimal maximum position has been reached, due to limitations of finite information availability, the subject simply continues following self interest until they becomes personally satisfied, after which time attention turns to other goals. However, whichever view is taken, the heuristic of each stakeholder is to increase their self-interest. Such theories of the firm, involving management heuristics based on the pursuit of self-interest, have previously been used by researchers investigating possible reasons for poor returns from mergers. This area of theory has taken a central position in research into corporate governance, management behaviour and underperformance in mergers. Several researchers (for example see, Grinstein and Hribar, 2004; Wright et al., 2002; Desai et al., 2005) have carried out work based on this hypothesis in one form or another and established links between the acquisition of Managerial benefits, seeking growth rather than shareholder value, and poor merger performance.

However, Roll (1986) found that these two hypotheses alone, Synergy and Managerialism, could not explain all empirical findings in merger studies. He proposed a third motivation hypothesis, the *Hubris* hypothesis. This assumes that Managers are initially motivated by creating shareholder value through mergers, but make mistakes due to excessive pride or arrogance when carrying out the valuation of bids. Underestimates of synergy usually result in low bids that fail. Alternatively, overestimates result in high bid prices and the deal goes ahead. The bidding company's Management discovers the error when it is too late to withdraw from the deal or after the deal closes. All other behaviour by the bidding company's Management during the merger deal is consistent with the intention of creating shareholder value. This approach was first used by Berkovitch and Narayanan (1993) in their seminal paper on mergers, and later adopted by Seth et al. (2000).

4.5.3 Numerical Models and Statistical Theory

The third area of theory relevant to the research reported in this thesis is the massive area of statistical and econometric theory. This area of theory is concerned with the techniques for identifying patterns and models in empirical quantitative data. Theory is based on data being drawn from random samples and the results allow for the degree of statistical significance to be established. This is usually expressed as the probability of the result being observed by chance in the data being tested. Based on acceptably low probabilities of results being observed by chance, results can be generalised on the assumption the experiment can be repeated by other researchers at another time with other empirical data to reach the same conclusions.

Fama et al. (1969) first introduced *event study* methodology as a method of measuring share price changes. It has now grown into a major research tool in finance for examining market efficiency and financial behaviour. It has also become a tool of choice for economics and strategy researchers when examining regulatory issues (for example see, Duso et al., 2003; Brady and Feinberg, 2000; Eckbo, 1983; Stillman, 1983; Dnes and Seaton, 1999). A brief overview of event study models is given by Sudarsanam (2003, p. 90). His overview outlines the possible versions or models that can be used to study stock prices and discusses abnormal returns.

Sudarsanam (2003, p. 90) identifies seven possible models for the price of a stock traded in a market. These range from a simple mean return model, giving a constant return for a particular stock over time, to increasingly complex models requiring increased data and computational power. Models with high-end requirements for data and computational power are those that model the individual stock price against a portfolio of chosen stocks with defined similar characteristics. Models with intermediate data and computational requirements are based on modelling an individual stock price against a market index. They include the market-adjusted model, the market model, and the capital asset pricing model. Discussion about the detailed choice of the event study model used in my research, and the calculation of the abnormal returns, follows later in Chapter 5.

4.6 Discussion of Alternative Research Approaches.

The research in this thesis covers two areas, the first concerned with the evaluation of shareholder returns arising from mergers that go through regulatory control. The second is concerned with the motivation of the managers in pursuing mergers and whether motivational changes are related to the likelihood of regulatory intervention.

The first area is rooted in numerical analysis, and two alternative approaches exist: either using market-based data with event study methodology or using accounting based measures. These two options have been discussed above in “Theories Used in this area of Research”. After considering both approaches the decision was taken to study discrete time-bounded events in publicly quoted companies using market based event study methodology. One reason was the superiority of stock market data compared to accounting measures of performance. Stock market data gives a forward looking valuation which is not affected by accounting period, accounting policy and national accounting standards differences which make comparisons complex. This is dealt with in more detail in section4.6.1 below.

Investigating management motivation has a wider range of alternatives. While the EMH is based on the concept of rational investor behaviour, which takes account of all available information for a company, many challenges to the EMH have questioned how well this rational assumption fits actual investor behaviour. Man is not necessarily entirely rational, making some decisions that do not fall into the framework of rationality, such as out of malice or dogma. Individuals may seek limited information and act on it selectively depending on their preconceptions. An example is behaviour in an auction when bidders can over pay to win and are “blessed with the winner’s curse”. Whilst the rational man concept can be neatly fitted into a hypothetico-deductive research framework, the behaviour of real man is less straightforward to hypothesise. It can be argued that a more subjective research approach could be used to gather information and insights about how real man functions in certain environments. This has an influence on the methodology selected, and ethno-methodology or phenomenology would be possible approaches. These fall into the interpretive paradigm in the Burrell and Morgan classification above. While it is possible to pursue separate elements of the merger research in different paradigms at different times, Burrell and Morgan argue this cannot be done simultaneously. This is because of mutually exclusive ontological and epistemological considerations, not permitting the researcher to draw consistent conclusions. An important issue in this respect relates to the objectivity versus subjectivity of the methodology. While the research in this thesis falls within the Functionalist Paradigm and is based on positivistic numerical analysis of models which are considered to represent reality, a move to an unstructured interview based methodology, relying on inductive reasoning approaches, would shift the research to a subjective basis and into the Interpretive Paradigm. This raises fundamental philosophical issues of whether reality is represented by numerical data and statistical models, or by interpreted perceptions based on an interviewer's dialogue with managers. These two ontological positions are mutually exclusive in the same research, though the results of separate studies can both add to knowledge of the same research area.

In addition to these philosophical considerations, some practical considerations also exist. The research in this thesis has not used interview data because of the likely inaccuracy of Managers' responses and recollections some time after events, even if sufficient Managers who were originally involved in the mergers could be found and agree to take part. These issue are dealt with in more detail in section 4.6.2 below.

4.6.1 Possible Research Methodology for Investigating Shareholder Value

The part of the research question relating to shareholder value was developed in Chapter 1 and discussed in relation to the relevant literature in Chapter 2. The research question is restated in para 4.2 of this chapter, the first part relates directly to measurement of shareholder value. The research question is quantitative in nature and the subject area has a positivistic research tradition in the areas of IO, Finance and Strategy. Quantitative methods suitable for dealing with these questions are either based on accounting data from company financial report and accounts statements, or based on capital market data of the traded price of shares for the companies being studied. In section 4.6 above it was indicated that event study using capital market data was the chosen approach in this thesis. This choice is now examined and justified in more depth.

The accounting-data approach would define shareholder value differently from the capital market data approach. Figure 4-3 shows the relationship between the two sources of data and possible groups of value measures. In accounting-data studies the definition of shareholder value can be expressed as balance sheet asset values or related to cash flow and profitability. They refer to historical performance of the company over the accounting period. The accounting data approach is based on a view of value generated from within the company. This value is developed within the context of national accounting standards, modified by the accounting polices chosen by individual companies. This leads to many differences of treatment of costs and revenues in the preparation of accounting statements. While company accounts are valid for statutory financial reporting purposes, there are issues of comparability of data arising from the application of various judgements associated with accounting policies made by individual companies.

In the capital market value approach, event study methods allow the calculation of abnormal returns for a specific time bounded event period based on market value changes only. Because the EMH assumes the market price reflects all publicly available information about the company, the market price reflects the future prospects of the company and represents a forward-looking valuation. This valuation represents the collective views of investors in the capital market taking account of all publicly available information, and is independent of the views of bidder and target company Management. Use of market based data means that the companies being studied by event studies need to be listed on publicly quoted stock exchanges.

Some value metric ratios, which can be proxies for value, use a combination of accounting and market data, for example, market to book ratio. Such value metrics inevitably contain a mixture of historic and forward-looking value data. While these value metrics allow the value of a firm to be studied over time, differences between companies are much more difficult to interpret and understand. For these reasons the use of value metrics has not been adopted in the research for this thesis and will not be discussed further.

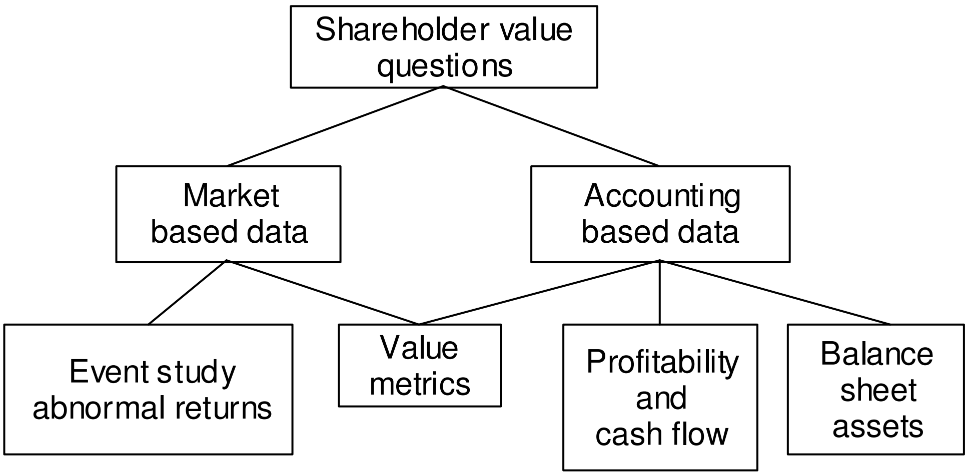

Figure 4-3 Alternative sources of value measures.

Value Measurement	Period of Measurement / Basis of Valuation	Relationship to Shareholder Value
Event Study Abnormal Returns	Daily / forward looking	Direct (based on market value)
Value Metrics	Market price daily / forward looking Accounting data annually / historical view	Proxies for Shareholder Value
Profitability & Cash Flow	Annually / historical view modified with estimates of future performance	Proxies for Shareholder Value
Balance Sheet Assets	Annually / historical view	Direct (based on accounting value)

Table 4-1 Key features of possible value measurements

While there is a choice between using accounting data or market data, both approaches have their strengths and weaknesses. The key features of possible value measurements are shown in Table 4-1. The strength of the event study approach is greatest when the research is examining specific time bounded events, particularly those with a relatively short event window, when dates can be identified precisely. The event study has become the technique of choice for events that, for example, can occur when researching the impact of earnings or dividend changes, moves of key senior managers, regulatory changes or in corporate control events.

However, event studies using market data have some weaknesses. The market price for a company may be affected by news of any event affecting that company. Such events can be, for example, routine company announcements about performance, dividend payments, and changes to strategy or senior personnel. Other news that may affect a company's share price can be related to the industry, legal or regulatory changes or particular news about a competitor, while news of the general economy will also be reflected. "News" is used above in the context of "publicly announced new factual information". However, the news media also publishes opinions, rumours and speculation. Some of these items are generated by the media themselves, while other items are the result of "off the record", non-attributable, comments from (possibly) informed sources, that fall short in some way of being "publicly announced new factual information". The capital market is influenced to some extent by such opinions, rumours and speculation. However in the research in this thesis the above definition of news will be used for assessing announcements of events. Opinion, rumour and speculation are ignored for identifying event days. The market price effects of opinions, rumours and speculation will be considered to be part of the random noise within the data. The validity of this approach is assessed by testing the sensitivity of results to changes in the event window, and this is reported in the presentation of the results in Chapter 6.

When using accounting data techniques, shortcomings are most serious when considering specific events and isolating them from other events occurring in the chosen event windows. This shortcoming applies irrespective of the duration of the event window, whether it is in the order of days or weeks. In practice, the nature of accounting-data periods typically of one year means that they contain numerous events between accounting samples, which can contain many confounding events for which corrections are difficult, if not practically impossible.

While event study seems to be the most direct method for this research, it does have limitations. Firstly, event windows need to be short to eliminate the effect of confounding events and to increase statistical power. In merger related studies, the period being examined usually extends from deal announcement to deal close, though some studies include a one or two year post-deal period for the acquirer. This normally requires a long event window. An alternative approach to one long event window for the deal period is to sum the effects for each individual relevant event making up the whole deal period. This is possible because a publicly quoted company is required to announce to the capital markets key events that may be price affecting. Beyond deal close, it is unlikely there would be any announcements other than routine financial performance results announced for the combined company. The whole period of the integration of the two companies would be an internal event with little public statement to mark progress. For this reason is not possible to examine the post-merger performance using the same event techniques as for the pre-merger deal. While the event window could be opened for the whole of the post-merger period being examined, the problem of confounding events would be introduced. The research literature (for example see, Barber and Lyon, 1997; Lyon et al., 1999; Kothari and Warner, 1997) shows differences of opinion about how long term abnormal returns should be calculated and used, and the relative role and importance of using Cumulative Abnormal Returns compared to Buy-and-Hold Abnormal Returns[9].

In order to use an approach that relies on summation of the abnormal returns for specific events at each stage of the deal process, each publicly announced step in the merger deal must be identified. This includes each commercial step in the deal (e.g. bid announcement and any bid revisions), the regulatory steps (e.g. referral and decision announcements by the competition authorities), and announcements by other bidders when multiple bids are involved (e.g. competitive bids if an auction develops).

To summarise, the methodology chosen uses event study methods to determine abnormal returns for relevant event announcement days. The event studies use statistical regression analysis to calculate a market model of a company's share price changes compared to the index for the market on which the shares are quoted, over the same time period (called the *estimation period*). The abnormal returns are calculated as the difference between the changes in the market price on the event day and the change calculated by the market model on the same day. The statistical errors calculated from the regression analysis are then used to calculate the statistical significance of the calculated abnormal return. Event days are then summated to form a cumulative abnormal return for the merger deal or for specific stages in the deal process.

4.6.2 Possible Research Methodologies for Investigating Managerial Motivations for Mergers.

To investigate managerial motives for mergers, two broad approaches can be taken. A direct approach can be followed, which asks Managers responsible for executing merger

[9] Cumulative Abnormal Return (CAR) is the summation of the daily (or monthly) abnormal returns over the event period. Buy and Hold Abnormal Returns are the return on a buy and hold investment less the return on a buy and hold investment in a control investment or portfolio.

bids what drove them to pursue their strategies. Alternatively we can take an indirect approach and look at how the merger was judged by interested observers not directly connected with the execution of merger deals. One group of interested observers, the investment community, is represented by the capital market. Investors' collective judgements and responses are indicated by share price movements. An alternative source of judgemental views by interested external parties would be the views of media business correspondents, which could be taken from media archives of published press comment at the time of the merger and subsequently. The broad options and their relationship to each other are shown in generalised form in Figure 4-4.

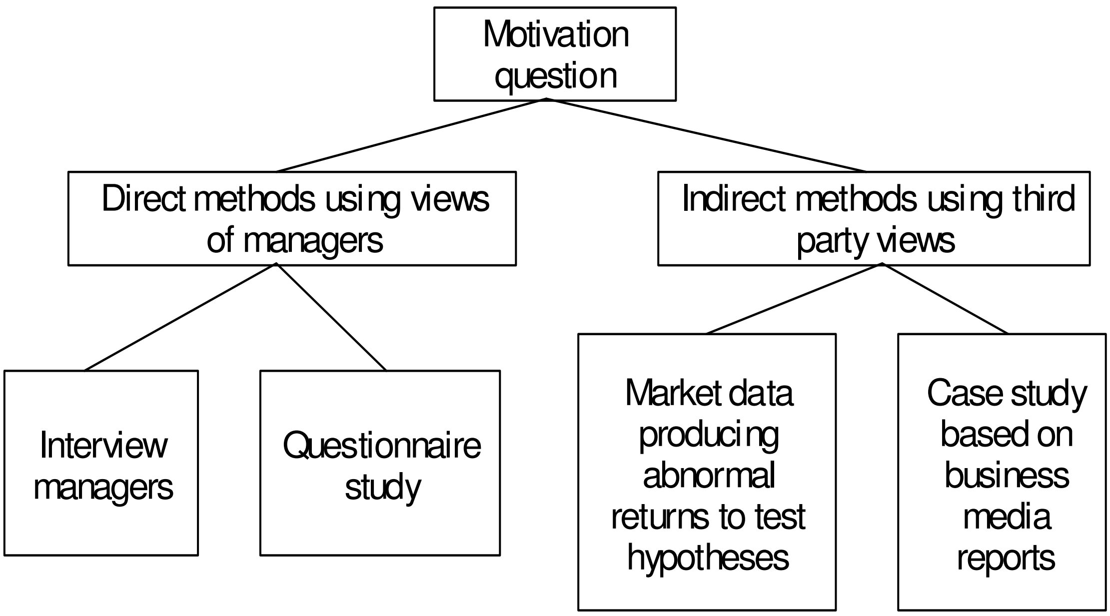

Figure 4-4 Relationship of Options for investigating Managerial Motivations for Mergers.

The broad options can be developed further. Two quantitative methods could be used. One method could be based on a questionnaire sample of senior Managers and senior institutional investors experienced in mergers. This could be a deductive approach, collecting empirical data about behaviour and beliefs relating to mergers to test hypotheses about existing theories of the firm. A second option could be to test hypotheses relating to various motivational hypotheses, based on data collected from event studies. The data used to test hypotheses would be shareholder gains and loses in mergers and how they divide between bidder and target companies' shareholders. This is a hypothetico-deductive approach.

It would also be possible to use a qualitative method in an inductive approach by collecting information and views from senior Managers and senior institutional investors experienced in mergers, about what motivated Managers to pursue mergers. This could be done through interviews or through a questionnaire, perhaps using open-ended questions. The analysis would involve extracting the key themes from the data, and examining them for points of agreement and disagreement between the Manager and shareholder groups. This method has been used by Clarke et al. (1998) to investigate the effects of competition regulation on competition following mergers.

Motivational Assessment Method	**Time Data was Produced Relative to the Merger Events**	**Sociological Paradigm** (based on Burrell and Morgan, 2001)
Interview managers	4 to 15 years after mergers event	Interpretive
Questionnaire study	4 to 15 years after mergers event	Functionalist
Market data ARs	At the time	Functionalist
Cases studies on media reports.	At the time	Interpretive

Table 4-2 Key features of possible motivational assessment methods

While this approach could yield rich motivational insights, it is difficult to determine the degree of post-event rationalisation occurring in the minds of the respondents following merger completion. For example, it could be argued that a manager would be unlikely to admit to pursuing a merger for personal gains, or making valuation mistakes, and would be even more unlikely to admit any personal motivations or mistakes if the merger had been perceived as a failure by shareholders. Managers can also "redefine success" after an event has taken place and the outcome is known. For example, at the time of a merger the stated motive could have been to increase shareholder wealth, but when the event subsequently failed to achieve the expected increase emphasis of motivational explanations might shift to increased size and revenue growth. While this could be part of a wider definition of shareholder value, it is loosely linked with shareholder value measured only by market capitalisation, which of course might appear later. The only way to avoid this post event rationalisation would be to conduct the interviews or surveys very early in the bid process. The practical difficulties of gaining access to key managers in the middle of a merger deal should not be underestimated and it is likely it could be extremely difficult to achieve a good survey response rate or gain interview time. Therefore to avoid the particular difficulties of interview or survey data in the research for this thesis, it was decided to use an event study based on market data.

4.6.3 Influences of the Merger and Regulatory Processes on choice of Methodology

Chapter 3 discusses the process of merging companies and the relevant decision points in the UK competition regulation process, between referral of a merger cases to the competition authorities and their final decision. As a merger case progresses through the process, it is to be expected that the stock market takes a frequently revised view on the probability of possible regulatory outcomes, drawing on investors' and their advisers' knowledge of competition law, past regulatory experience and case specifics (including expert opinion, media comment, rumours, etc). For example, the grounds on which a merger might be referred are covered by legislation and are well known and past decisions of the MMC/CC are public knowledge. Between 1989 and 2003 a total of 9872 bids were reported to the OFT, 3165 met the Fair Trading Act qualifying terms (either over a 25% market share for the combination, or target assets greater than the prevailing limit of £30m, later raised to £70m[10]). The OFT referred a total of 156 cases for investigation by the MMC/CC, of which 22 were subsequently prohibited outright after the Commission's inquiry.

The starting point for the process is the announcement of the merger bid. In a simple case, the bidding company will usually offer to buy the target at a premium over the market price of the shares prevailing just before the bid announcement. The market will respond, re-valuing bidder and target companies based on the expected economic effects

[10] Since the Enterprise Act 2002 the qualifying limit test is based on turnover, compared with the asset value test under the Fair Trading Act 1973.

of the merger and the probable outcome of the bid. As part of the process, the capital market will take account of the possibility of referral to the MMC/CC and will factor in an estimation of the probable outcome of an inquiry. After a referral takes place, as a case moves through the inquiry process, the market will re-evaluate the merging companies at each step of the process as possible outcomes turn into certainties. For example, the probability of an adverse finding becomes 1 when the MMC/CC's decision is published (prior to that the probability lies in the range >0 <1). If the merger is laid aside (i.e. stopped because the bidder withdrew its bid after referral) or abandoned by the companies involved part way through the process, the market will also re-value the companies based on this outcome.

In order to understand the impact of the stages of the regulatory process the research methods chosen need to be able to isolate the effects of each stage of the bidding and regulatory processes and assess value changes which occur at each step. Only the event study approach can yield information about the effect of very specific event announcements, although each event needs to be identified accurately by date. The practicability of identifying key event dates accurately depends on availability of searchable archived press releases and press reports, and identification of possible confounding events within the event windows of interest.

Searchable computer based archives of press releases and reports are now available for reports from as early as the late 1960s or early 1970s, though the numbers of archived items increases significantly during the 1990s as articles were then captured in digital format from the outset, rather than needing retrospective entry from paper archives. On 30 September 1991 the London Stock Exchange established its own Regulatory News Service (RNS), to help ensure a reliable and repeatable process was in place to deliver announcements about listed companies to the media in a standardised and consistent manner. The uniformity and standardisation of press releases from the RNS allows improved searching for information on companies. Prior to the introduction of the RNS, press releases were less uniform in content and style, making it more difficult to identify events and any confounding issues.

With modern computer searchable data archives it is possible to identify the exact date of the announcements of events for the companies scheduled in my research. The quality of information improved with the introduction of the RNS. The resulting ability to identify event dates precisely allows event study to be carried out with short windows. The event window needs to be increased if less reliable data is used to ensure the actual date was captured. Using accurate announcement dates gives a very precise method of measuring abnormal gains following an event announcement and hence of tracking gains through a multistage process as investigated in this research.

4.6.4 Chosen Methodology

The research methodology in this thesis follows in the tradition of research in finance, using event study for measurement of returns to shareholders. These shareholder returns are measured through the merger deal process and possible inquiry for cases that are referred to the MMC/CC.

This methodology has the following key strengths: -

- It gives a direct measurement of market value changes as experienced by shareholders.
- It allows precise measurement for clearly identified time bounded events.

However event study methodology has some limitations: -

- It can only be applied to cases where both the bidder and target companies are listed on a public stock exchange.
- It is most accurate for short event windows.
- It requires a significant period of data before the event to allow the accurate modelling of the share price behaviour.

Event study analysis provides the basic measurement of shareholder value changes. However to examine the research question in this thesis further analysis and hypothesis testing was undertaken: -

- By examining qualifying mergers for gains and losses at each stage of the merger deal process, the impact of the regulatory process steps was evaluated.

- A sample of non-referred mergers was compared with the referred cases to identify if any significant differences in gains and the distribution of gains.
- A series of specific hypotheses was formed about expected share price movements under each of the three motivational hypotheses. This allowed testing to examine empirical data on each merger case for evidence of varying managerial motivations. Hypotheses are tested for evidence of three motivational theories based on value creation, managerialism and hubris.

The methodology in this thesis follows a positivistic approach using hypothetico-deductive methods. The hypotheses used for testing are developed, and details of the data sources and event study method adopted are discussed later in Chapter 5.

4.7 Conclusion

This chapter has examined alternative methodologies for investigating the research question and justified the methodology adopted.

Market based event studies have been chosen over accounting data studies to measure company shareholder value changes because: -

- Event studies measure shareholder value changes directly for specific time bounded events, such as bid announcements and steps in the regulatory process.
- Event studies give a forward-looking valuation of a specific event taking all publicly available information into account.
- Event study measurements represent the collective views of capital market investors about the value of the information released in an event announcement, and provide valuations independent of the bidder and target company Managements' opinions and valuations.

Accounting data studies have been rejected for the following reasons: -

- Accounting data is available from statutory filed accounts and for a accounting year period adopted by each company. These periods may not coincide for company comparisons.
- Valuations represent an historic view

- It is difficult to correct for variations between company accounts due to differences in individual company accounting policies.
- Value changes determined from accounting data reflect performance over the accounting period and include many confounding events not directly related to the events being studied. It is not possible to associate value changes with specific short duration events.

For studying Managerial motivation a methodology using market-based data relating to mergers has been chosen over the collection of data directly from Managers involved in the merger events, for the following reasons: -

- The market based data method represents market investors' collective view of the merger and is in that sense a reasonably objective third party opinion of events.
- Finding the managers historically involved in the mergers and securing their agreement to participate would have produced a patchy study of the specific mergers involved in the regulation process.
- Accuracy and reliability of responses from Managers involved in the specific mergers was expected to be poor due to fading memories over the intervening time, post event rationalisation, and possibly not admitting to the true motives at the time. This applies to whether data is collected from managers by interview or questionnaire.

In summary, the methodology chosen for this thesis uses an event study of market based data and tests of hypotheses for both the study of shareholder value and Managers' motivations. Details of the methods used and the formulation of the hypotheses and tests are further discussed in Chapter 5.

5 Research Analysis: Method and Data.

5.1 Overview of the Chapter

This chapter develops the chosen methodology discussed in Chapter 4. It describes the details of the event study method chosen, the nature and sources of the empirical data used in this research, and the development of the hypotheses to be tested relating to both shareholder gains and management motivation.

5.2 Event Study Methods

Event study methods will be used to evaluate abnormal gains in both the shareholder value and management motivations parts of the research. These gains then form the data for tests of the hypotheses. This section discusses the detailed approach used to calculate the gains and assess their statistical significance. Discussion of the use of this abnormal return data for hypothesis testing is dealt with later, in section 5.5 below.

5.2.1 Overview of Event Methods as Applied to this Research

Event studies have been used over several decades to estimate stock market returns for companies arising from an event, and also for testing the Efficient Market Hypothesis, that the capital market efficiently incorporates new information. Early users of events studies were the researchers investigating wealth changes in response to events, and those investigating operation of the capital markets. In particular a notable early use of event studies was the documented by Fama et al (1969). A conventional event study approach is used in the research in this thesis to estimate the abnormal returns occurring as a result of event announcements from stock market data.

A number of models are available to generate normal returns for a security. These normal returns represent the changes to the value of a security when related to changes in a reference portfolio or market index at times when the event being studied is not occurring. This gives a benchmark value for the security. Sudarsanam (2003, pg 90-92) describes seven benchmark models, listed as follows: -

1. Capital Asset Pricing Model
2. Mean Adjusted Model
3. Market Adjusted Model
4. Market Model
5. French and Fama Three Factor Model
6. Reference Portfolio
7. Matching with Control Firms on Specific Firm Characteristics

These benchmark models have been devised to suit specific uses in financial studies. There is a trade off between the suitability of the models for generating the normal returns for specific purposes. The amount of data required and work involved in calculating the models varies. A choice of model is needed that provides a model fit for purpose and is reasonably efficient in terms of data and computational requirements. Of these models the most commonly used is the Market Model. This provides a straightforward approach with reasonable estimating power for normal returns, and the Market Model has been chosen for use in this research. This widely used model also allows ready comparability with other research results without the need to take any special methodological issues into account (for example issues such as selection criteria for reference portfolios).

In this research a market model was estimated by regressing each company's daily share price changes (bidder and target) against daily changes in the major index for the stock exchange on which the companies were quoted, i.e. the FTSE All Share index for UK listed companies. The model estimation period was from one calendar year before the bid announcement to two days before the final event. Event window days were excluded from the estimation of the market model. The event study model is summarised in Figure 5-1 showing the relationship between the event time line, the estimation period and the event windows used. This is a generalised model for the regulatory process. However in some cases this generalised order of events will not be followed. For example in a few cases the deal was closed before the case was referred. In these cases the order of events will not affect the method of calculating the abnormal returns, though the result may need special interpretation at a later stage.

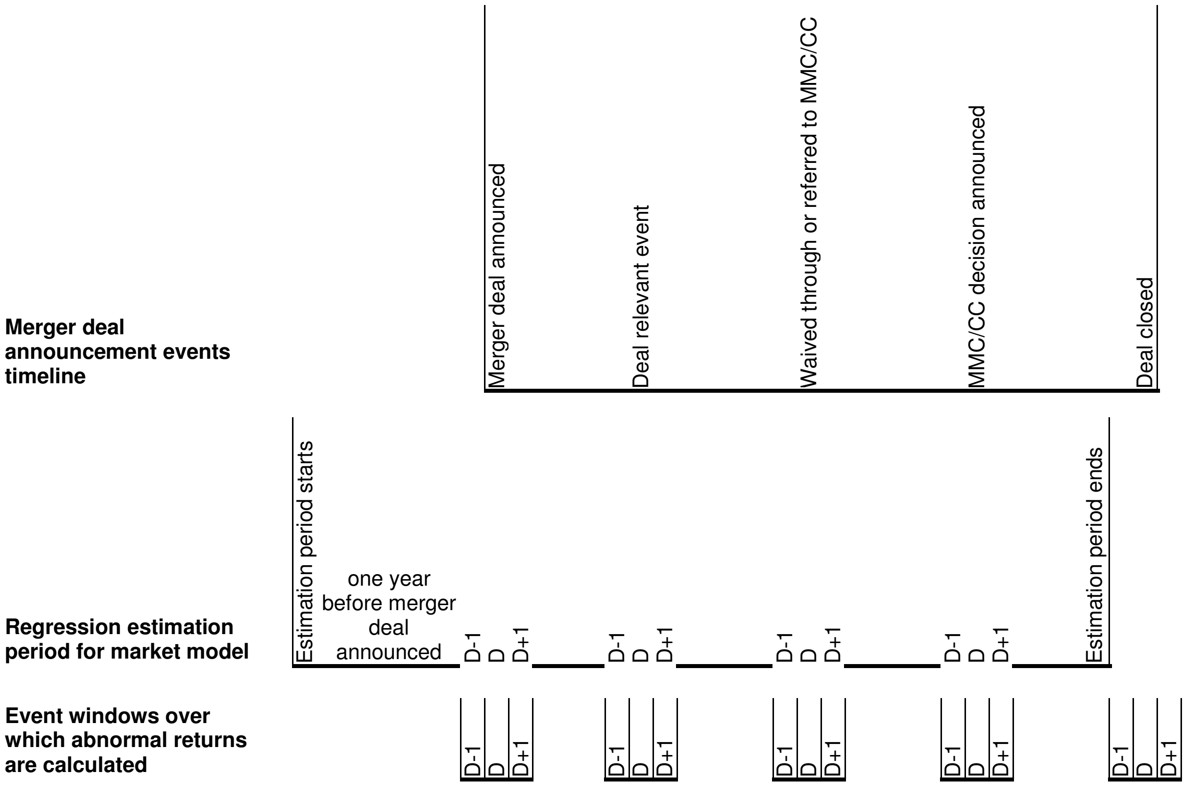

Figure 5-1 Relationship between timeline, estimation period and event windows

The final event in the merger case was either taken as the date of the completion of the merger deal in the Stock Market (either formal close of deal or the deal declared unconditional) or abandonment or prohibition of the bid. However, in a few cases the merger deal was completed before the case was referred. In such cases the final event is the last related event after the case was referred. In some cases this could have included events related to the MMC/CC decision itself and any Structural Remedies required of the bidder by the MMC/CC. However in such cases the target company may be delisted before the MMC/CC inquiry decision is known, and so target company abnormal returns may not be detectable.

The model uses event windows of three days when calculating abnormal returns. The detail of the model is now discussed in more depth below.

5.2.2 The Choice of Regression Method for Estimation of the Market Model

The market model for each company is estimated by regressing changes in the daily share price against the corresponding changes in the daily stock market index chosen for the model. In this research the index is a major index for the stock market on which the company is listed. Linear regression has been used for estimating the market model.

The statistical nature of the share price time series data, including the individual company share prices and the market indices, need some consideration. Share prices change as a results of buying and selling activity in the capital market. The share price at any time reflects the price struck for the last deal. Based on the Efficient Market Hypothesis, this price in turn has quickly reflected the latest information available to the markets about that company's trading position and future prospects. This information arrives with the traders from press releases, analysts' briefings, and media reports about the company, industry, market or the economy. The nature of the information content varies and affects the degree of the price change. Share price changes consist of many small changes and a smaller number of very large changes. The large changes usually occur when new information has a large impact on the company, whereas the smaller changes usually reflect minor adjustments to price in response to news that has little differential impact on the firm or industry.

The capital market trading drives prices in a way that results in neither the variance of the share price nor the variance in the change in the share price being normally distributed. The share price time series exhibits trends over time, and the change in share price (i.e. the first difference of the share price) is not normally distributed (i.e. it is not a Gaussian distribution). The changes in share price can have a skewed distribution when a trend is present in the share price time series, and the distribution is characterised by having a high degree of kurtosis. For shares that are traded heavily, the variance of the daily share price changes approaches a more normal distribution, but for thinly traded shares the variance distribution can be distinctly non-normal.

All share price data have the same characteristics and present a challenge to using regression techniques and care is needed to avoid the nature of this data violating the basic assumptions on which statistical regression is based. For Ordinary Least Squares (OLS) regression the main assumptions underlying the method are that: -

- The regression residuals are not correlated with each other (i.e. no autocorrelation)
- The variance of the regression residuals is constant (i.e. homoskedastic)
- The regression residuals are normally distributed.

Meeting these assumptions requires some consideration.

In this research the regression of the first difference of the daily share price data ensures data is substantially free of autocorrelation. Durbin-Watson test results are checked for each regression to identify any cases where autocorrelation is present in the residuals. Corrections can be used for heteroskedasticity when using OLS. Providing there is no autocorrelation in the residuals, the regression coefficients will be reliable.

On the calculation of statically errors, work by Salinger (1992) has recommended corrections be made when regressing companies with synchronised event dates. This correction takes account of contemporaneous and intertemporal correlation, and this is discussed in section 5.2.7.

Overall OLS regression provides a basic tool to estimate a market model. It will identify abnormal returns in merger cases when they occur. Whilst producing a very basic model of market price behaviour and hence normal returns, it is in common use for event studies. The market model used in this research was implemented using the Eviews econometric software package for the time series analysis work. For more general statistical use the S-Plus software package was used. Extensive use was also made of the Microsoft Excel software for general computational work and creating databases for each merger case.

5.2.3 Calculation of Abnormal Returns

For each bidder and target company the market model was estimated as follows:

$$R_{it} = \alpha_i + \beta_{im} R_{mt} + \varepsilon_{it}$$

where R_{it} represents the return on security *i* on day *t*, α_i is a constant, R_{mt} represents the return on the market portfolio for day *t*, β_{im} is the regression coefficient of the relationship between security *i* and the market index, and ε_{it} represents a random error term. Dummy values were used to remove event window days from the estimation regression.

The abnormal return is the difference between the actual return and the expected return, and for any security, *i*, at time t, AR_{it}, is:

$$AR_{it} = R_{it} - (\alpha_i + \beta_{im} R_{mt})$$

The cumulative abnormal return (CAR) for event windows was calculated by summing the daily abnormal returns:

$$CAR_{iT} = \sum_{0}^{T} AR_{it}$$

where CAR_{iT} is the cumulative abnormal return for security *i* over event window *T*.

Average cumulative abnormal returns (ACAR) across *n* firms is:

$$ACAR = \frac{\sum_{i=1}^{n} CAR_{it}}{n}$$

5.2.4 Choice of Estimation Period

The abnormal returns are calculated from the market model as a percentage return over the event window, expressed as a percentage of the share price two days before the initial bid announcement. The estimation period is the number of (daily) observational data pairs used for this regression. The event window is the number of (daily) observations used for calculating the abnormal return (AR) for the event, given by the difference between the actual stock price movement and the forecast from the market model. This is shown diagrammatically in Figure 5-1

The estimation period was chosen so that the market model would reflect the variable period between the initial bid and the final event, which can be up to a year in some cases. When a case is referred to the MMC/CC the deal process is halted until the inquiry decision is announced and this can introduce a variable time element into the process, delaying the final outcome of the bid by several months compared to a deal which is not referred.

The choice of one year before the initial deal announcement reduces the effects of seasonality by ensuring always at least a full year's data is used in the estimation of normal returns. It also provides a reasonably large sample of data pairs for the regression. In practice this gives estimation periods for cases ranging from 270 to 779 working days, with a mean of 401 days.

The choice of the estimation period should also reflect a relevant state of the market. An increase of the estimation period introduces earlier trading periods, which are less likely to be representative of current market conditions. Conversely, as the estimation period is reduced, while it can become more representative of the conditions prevailing during the merger deal, it leads to a reduced amount of data for the regression of the market model causing estimation errors to increase.

When these points were weighed, the estimation period of one year before the initial bid date to two days before deal close, excluding all relevant bid events, was chosen as the estimation period for this research.

To confirm the choice was reasonable a sensitivity analysis was carried out on the empirical data. This is discussed below, in section 5.2.8.

5.2.5 Choice of Event Window Width

Release of any price sensitive information about a prospective merger bid is tightly controlled under the listing rules of the stock exchange on which a company is quoted and under national legislation of the country in which the particular stock exchange is located. While the details of the rules may differ from one stock exchange to another, the stock exchange listing rules and legislation try to ensure that announcement of price sensitive information is made available simultaneously to all parties operating in the market. In practice this attempts to ensure that all traders and investors are treated equally, and no one party is able to trade advantageously from information that is not publicly available (i.e. no insider trading). However, these rules may not be followed or enforced as rigorously in some markets as in others, for example, in some of the newer and smaller stock markets where rules are still maturing. Nevertheless, it is assumed in this research that there is a universal principle that trading is based on publicly and costlessly available information, which is made public to all traders simultaneously, and any insider trading has negligible effect on market prices. The UK has a well-developed stock market and strict laws against insider trading.

In an ideal efficient market, where trading only took place when new information was publicly announced, all abnormal gains should occur in a very short period following the announcement. Empirical evidence from research studies suggests that the response to an announcement is fully incorporated into the price within the day of the announcement (see Fama, 1991, pg 1601). In this case we need only consider the abnormal gain on the day of the announcement. However in real markets sometimes there is anticipation of an announcement in the form of rumours, and in some cases the speed of adjustment of the price to an announcement may run into the following day, for example if the announcement is made late in a day. To consider the effect of a regulatory or bid announcement on the share price on the day of the announcement only would exclude any effect on share prices resulting from lead effects (rumours, stock market anticipation of the announcement content) and lag effects (time for the market to assimilate the full likely effect on the share price of the announcement).

The event windows were therefore set at three days because this period should encompass immediate lead and lag effects, while restricting the possibility of including share price changes resulting from events exogenous to the regulatory process. Setting a longer event window risks introducing effects on the share price that are independent of the announcement or what are known as "confounding" events in event studies. In the research reported in this thesis abnormal return is calculated taking the period from one day before the bid announcement to one day afterwards. The sensitivity analysis of event window width and estimation period is discussed in more detail in section 5.2.8.

5.2.6 Relevant Events Included for Analysis

All event windows were examined for confounding events occurring around the event period. In most cases event windows were clear of other potentially price sensitive announcements. In some cases, for example where a company was involved in multiple bids or other major company activities were ongoing, events sometimes overlapped. In such cases a judgement was made on the basis of whether the overlapping event was related to the merger being examined or not. If the event was considered to be related, it would be included in the abnormal return calculation, otherwise it was excluded.

In the cases of the events used for studying managerial motivation, to allow all the cases to be examined in a consistent manner and to allow comparisons between the various groups, the event study window was limited to cover the initial bid period prior to a regulatory decision. Abnormal returns were only measured for merger related events between the day before the initial bid day, and two days before the announcement day of the decision that the merger would either be waived through by the OFT or referred to the MMC/CC. No events were considered outside this window because events from the waive through / referral decision onwards have differing impacts on each merger, depending on the decision made. The motivation of managers planning and preparing merger bids will have influenced the construction and nature of their initial bid, and any signs of motivation will be present at the initial bid stage. By only looking at events before the waived through or referral decision, all the cases are examined at the same stage of the regulatory process. Investors will have formed a view of the merits of each merger, taking account of uncertainty about the remaining steps of the process.

5.2.7 Statistical Errors and Descriptive Statistics

Statistical significance testing for the ARs and CARs has been discussed in depth in Salinger (1992). Salinger discusses the impact of the residuals of both companies in a merger case being correlated in merger event studies regressions. The paper discusses the error that contemporaneous and inter-temporal correlation can introduce and proposes a correction for variance of the CAR, which is given by:

$$Var(CAR_{it}) = \sigma^2 T\left[1 + \frac{T}{U} + \frac{T\left[\frac{r_{m0}^T}{T} - \bar{r}_m\right]^2}{UVar(r_m)}\right]$$

where T and U are the lengths of the event window and estimation periods respectively, σ^2 is the variance of ε_{it}, $\bar{r}_m$ and $Var(r_m)$ are the mean and variance of the market return over the estimation period, and r_{m0}^T is the continuously compounded market return over the event window.

The test statistic used is $t = CAR/\ Var\ (CAR)$. When the degrees of freedom are large (e.g. greater than 200) this approximates to a normal distribution and $t_{v\to\infty} = Z$, where v is the degrees of freedom.

When n firms are averaged the test statistic for the averaged group is calculated as:

$$Z_{ACAR} = \frac{\sum_{i=1}^{n} Z_i}{\sqrt{n}},$$

where Z_i is the Z statistic for individual firms, and n is the number of firms in the group.

5.2.8 Sensitivity of Returns to Changes in Estimation Period and Event Window Width

To consider the effect of a regulatory or bid announcement on the share price on the day of the announcement only would exclude any effect on share prices resulting from lead effects (rumours, stock market anticipation of the announcement content) and lag effects (time for the market to assimilate the full likely effect on the share price of the announcement). The event window was pragmatically set to a three-day period, from one day before the event through to one day after the event. However, sensitivity analysis was undertaken to see if the results were affected by altering the event window duration and estimation period. The effect of varying the event window has the most obvious effect on the calculated abnormal return (AR). The sensitivity analysis modelled the effect of changing the event periods from D-30 days through to D+30 days on the statistical significance of the AR calculated for the event window. The effect of changing the estimation period impacts on the statistical error arising from the regression. This imposes an error on the forecast and hence the AR. Increasing the estimation period reduces the error, but can introduce data from a period not relevant to the event window being measured. Estimation periods of less than one year may be biased by seasonality effects. The estimation period used in the research uses daily stock price data from one year before the initial bid to the close of deal (or abandonment) excluding event window days. In practice this gives estimation periods for cases ranging of from 270 to 779 working days with a mean of 401 days. Sensitivity analysis was conducted by reducing the estimation period to 260, 130 and 65 working days representing one year, six months and three months. The results of the sensitivity analysis are presented later in Chapter 6.

5.3 The choice of the merger cases studied

A total of 63 merger cases between 1989 and 2003 were examined using stock market data and event study techniques. All cases were considered by the OFT. To be suitable for the event study analysis, both bidder and target firms had to be quoted on a public stock exchange with daily share price information available from DataStream for a period one year before the bid-to-bid close. This meant that a number of mergers considered by the OFT and some referred to the MMC/CC could not be included. The data set consisted of merger cases referred to the MMC/CC during the study period, namely 44 cases in all, of which 21 were completed and 23 were not. In addition, a matched stratified sample of 19 cases waived through by the OFT was included. The waived through group of 19 cases[11] was chosen to be of a similar size to the referred competed (21 cases) and the referred not completed (23 cases) groups. The waved through group was stratified on the basis of time to match the number of qualifying merger cases in each year of the period studied. The mergers included in this study are detailed in Table 5-1.

In some cases competitive bids for the same target were considered by the MMC/CC. These may have been on the basis of either one or both bidders being referred to the Commission. In all cases of multiple bidders, separate cases were analysed for each bidder.

"Waived through" mergers are those mergers in the study which were not referred to the MMC/CC by the OFT. They represent those mergers considered by the OFT, but where they concluded that there were insufficient concerns to warrant further investigation on competition grounds. As there is no publicly available, definitive database of UK mergers, to generate the sample of "waived through" cases, random dates were generated within a range covering the study period. Media databases of financial press articles, press releases and media newswires were then searched by date for suitable cases. The London Stock Exchange has published Press Releases through its Regulatory News Service (RNS) since 30 September 1991 to ensure listed company

[11] The plan was to have a group of 20 cases, but this was reduced to 19 when the group was stratified as a result of rounding to integer numbers of cases in each year.

announcements are treated consistently and communicated promptly to the financial markets. Prior to that date communications were less formalised. RNS press releases have several standard forms, which can be used as key search words. Prior to 1991 general searches of the financial press and media newswires were used to identify cases.

To allow the cases to be examined for motivations in a consistent manner and to allow comparisons between the various regulatory decision groups, the event study window was limited for this part of the research to cover the initial bid period prior to a regulatory decision being announced. Abnormal returns were only measured for merger related events between the day before the initial bid day, and two days before the announcement day of the decision that the merger would either be waived through by the OFT or referred to the MMC/CC. No events were considered outside this window because events from the waive through / referral decision onwards have differing impacts on each merger depending on the decision made. The motivation of Managers planning and preparing merger bids will have influenced the construction and nature of their initial bid, and any signs of motivation will be present at the initial bid stage. By only looking at events before the waived through or referral decision, all the cases are examined at the same stage of the regulatory process. Investors will have formed a view of the merits of each merger, taking account of uncertainty about the remaining steps of the process.

5.4 Sources of Data

In this thesis event study techniques are used to examine 63 merger cases classified as Qualifying Cases under the prevailing legislation, some of which were referred to the MMC/CC for Inquiry between 1989 and 2003. The remainder were Waived Through by the competition regulator (i.e. the OFT or the DTI). The basis of inclusion in the research was that both the bidder and target companies were listed on a public stock exchange for at least one year before the announcement of the bid. This ensured that share price data and announcements were available for the required period, as all of this data are not available for private and unquoted companies.

Bidder	Target	Bid date
Waived through cases		
Priest Marians Hldgs	Local London Grp	21-Feb-89
GEC	Mettro-Cammell	26-May-89
TT Group	Crystalate	30-Mar-90
Ass British Foods	British Sugar	06-Jul-90
Whitbread	Grand Metropolitan	31-Oct-91
HSBC	Midland Bank	17-Mar-92
Albert Fisher	Hunter Saphir	21-Jan-93
Booker Marine	Harvester Intnl.	19-Oct-94
Badgerline	GRT	04-Apr-95
United News & Media	Blenheim	15-Oct-96
Scottish Media Group	Grampian TV	10-Jun-97
Texas Utilities	Energy Group	03-Feb-98
Wassall	TLG	10-Sep-98
IMI	Polypipe	15-Apr-99
WH Smith	Hodder Headline	24-May-99
British Energy	National Power	17-Nov-99
Silentnight	Cornwell Parker	25-Sep-00
Dairycrest	Uniq	29-Sep-02
Celltech	Oxford Glycosciences	26-Feb-03
Laid aside cases		
Tate & Lyle	Berisford	19-Mar-90
Glynwed Int	Alumasc Grp	20-Apr-90
Vishay	Crystalate	03-May-90
Tarmac	Steetley	02-Dec-91
Lloyds	Midland	28-Apr-92
Whitbread	Allied Domecq	04-May-99
Hilton Grp	BSkyB	12-Jul-01
Allowed not completed cases		
Yale Valor	Myson	21-Jul-89
Unichem	Macarthy	11-Jul-91
British Aerospace	VSEL	12-Oct-94
Unichem	Lloyds Chemists	18-Jan-96
Pacificorp	Energy Group	11-Jun-97
Carlton	United News & Media	26-Nov-99

Bidder	Target	Bid date
Referred completed cases		
GEC	Plessey	16-Nov-88
Siemens	Plessey	16-Nov-88
Coats Viyella	Tootal	12-May-89
Atlas Copco	Desoutter	09-Aug-89
Blue Circle	Myson	02-Aug-89
Lloyds Chem	Macarthy	16-Aug-91
Hillsdown	Asstd British Foods	16-Sep-91
Allied Lyons	Carlsberg	22-Oct-91
Service Corp Int	Plansbrook Group	02-Sep-94
GEC	VSEL	28-Oct-94
Lyonaise	Northumbria Water	06-Mar-95
GEHE	Lloyds Chemists	07-Feb-96
Robert Wiseman	Scottish Pride	03-Jun-96
P&O	Stena	03-Oct-96
Tomkins	Kerry	17-Jan-98
Vivendi	BSkyB	07-Jun-99
NTL	C&W Communications	19-Jul-99
Reed Elsevier	Harcourt General	27-Oct-00
Granada	United News & Media	08-Feb-00
Group4Falk	Wackenhut Corporation	08-Mar-02
Carlton	Granada	16-Oct-02
Prohibited cases		
Kingfisher	Dixons	06-Dec-89
Tate & Lyle	British Sugar	07-Sep-90
PowerGen	Midlands Electricity	18-Sep-95
National Power	Southern Electricity	02-Oct-95
General Utilities	Mid Kent Holding	21-Dec-95
SAUR	Mid Kent Holdings	21-Dec-95
Wessex Water	South West Water	06-Mar-96
Severn Trent	South West Water	21-Mar-96
BSkyB	Manchester United	07-Sep-98
Lloyds-TSB	Abbey National	05-Dec-00

Table 5-1 Merger cases included in this research

Firstly, for each company included in the research the dates were collected for all publicly announced events relevant to the merger bid and any associated regulatory steps. Secondly, daily closing share price data were collected for each company for the period from one year before the merger was announced through to the close of the deal or its abandonment. Finally, for each company, the major daily closing stock exchange index for the exchange on which the particular company was quoted was obtained. These market indices were obtained for a period to match the period used for the company share price data (one year before the merger was announced, to the close of the deal or its abandonment).

Dates for events were found from company, Competition Commission and Stock Exchange press releases when available, and from *The Financial Times* and *Wall Street Journal* when original press releases were not available. In the latter case event dates were confirmed from at least two media sources.

Factiva was used as the searchable computer data archive to find relevant event announcements for each merger case. Key dates for the cases referred to the MMC/CC were obtained from the MMC/CC case reports, available on the Competition Commission website. These dates were then used to carry out an exhaustive search for each company to collect information on all relevant events. This search aimed to identify the actual bid announcement date, any subsequent revised bid dates, any competitive bidders and their bid dates, any announcements by the competition regulator, announcements of referral and inquiry decisions, any announcements of agreements between the bidder companies and the regulators, and the deal close. Where possible original press releases were obtained. When original press releases could not be found, the event date was confirmed from at least two newspaper reports.

For merger cases in the late 1980's caution was needed when interpreting newspaper reports to ensure that they were based on actual announced facts released from genuine sources, rather than rumours or speculation. On 30th. September 1991 the London Stock Exchange introduced its own Regulatory News Service (RNS) to handle all finance related public announcements for its listed companies. This news service improved the reliability and uniformity of company announcements. The result is that searches for events after the RNS was introduced are much more effective. While the RNS produces a wide range of routine data, particularly for companies where a merger bid has been announced, the clear categorisation of press release headings allows for very efficient key word searches. When searching for events pre RNS, the searches need to cover a wider source of press releases, and with the lack of uniformity of style and headings key word searches were longer and possibly not as exhaustive as those in the post RNS period. However the archives covering the late 1980's were good enough, when combined with extra search effort and reasonable caution, to yield the key events in the merger case history.

Daily company closing share prices and market indices were obtained from DataStream. Cases were also categorised as falling into the 'privatised industries' or into the 'other industries' category. Privatised Industries were industries in which previously State owned monopoly utilities had been privatised and industry specific regulators appointed to ensure competition was maintained in the industry. New entrants were encouraged and fostered by the industry regulator in order to allow them to become established competitors. These industry specific regulators were in addition to the overall competition regulation carried out by the OFT, but acted in tandem with the OFT on certain matters such as mergers and disputes on licence terms. The merger outcome, the regulatory decision by the competition authorities and whether the merger involved any competitive bidding were also collected for each case. Press releases and MMC/CC Inquiry Reports were used to identify these data items.

5.5 Development of the Research Hypotheses

This section develops the hypotheses relating to investor behaviour and managerial motivation. Each set of hypotheses is considered separately and is intended to be tested against abnormal returns data calculated using the methods described above.

5.5.1 Hypotheses Related to the Pricing of Shares by the Capital Market

If the regulatory regime is consistent and well understood by investors, efficient market behaviour can be expected to predominate. Investors will estimate the future value of the bidder and target companies, taking account of the nature of the proposed merger deal and the regulatory uncertainty that surrounds the merger. Efficient market behaviour in this discussion is intended to mean prices will respond quickly to new information and be linked to the fundamental value implicit in the announcement or regulatory "event". The fundamental value can be considered to be the NPV of the benefit (or detriment) arising from the event.

By contrast, the regulatory regime may not be so predictable if it is new or its legal framework undergoes significant changes, as in the study by Brady and Feinberg (2000) of European merger policy reviewed above. Newness and changes are accompanied by a lack of case history, making it more difficult for investors to predict accurately competition authority behaviour. In this situation, investors have more difficulty in assessing the possible regulatory outcome and the impact on the fundamental value of the events announced. In this climate of increased uncertainty, investors may turn to rumour, belief-based valuations or herd instinct, which may not be strongly linked to fundamental value.

There is ongoing debate about whether capital markets behave efficiently or not. A considerable amount of work has taken place to support the Efficient Market Hypothesis (EMH), as discussed in Fama (1969; 1998; 1991; 1970). However, there has also been a strong challenge to the EMH view, in the form of a development of an understanding of inefficient markets and behavioural finance. An overview of the subject area is given in Shiller (1989; 2001) and in Schleifer (2000). In this literature, the EMH does not appear to offer an adequate explanation of some commonly observed features of stock markets, particularly market volatility and the phenomenon of market bubbles, when prices become detached from the underlying fundamental values for a period before falling back. However, the analysis in this thesis simply requires that share prices reflect investors' current views of competition policy outcomes.

The study period in this paper - 1989 to 2002 - represents a period when the UK competition regime was relatively stable and well understood. Therefore, we would expect evidence in the mergers studied to support the proposition that the market behaved efficiently. However, there is a sub-set of the cases in the study that includes some newly privatised industries, where the regulatory regime was new and involved sector-specific industry regulators as well as the MMC/CC. In these industries the OFT, the MMC/CC and the industry regulators could all play a part in deciding the outcome of any proposed merger. These ‘privatisation’ merger cases therefore entered relatively untested territory regarding the inter-working between industry regulators and the competition regulator in the study period. Another cause of additional uncertainty involved how structural changes in the privatised industries, resulting from mergers, might be viewed by government and to what degree government might intervene in competition decisions, for example by bringing pressure to bear on the sector regulators. For these reasons, the ‘privatisation’ sub-sample can be considered to be covered by a new regulatory regime with no or very little case history. Greater difficulty on the part of investors in understanding and valuing any merger events might therefore be expected and so we might expect to find some evidence of different market behaviour in this sub group. A further factor that might have impacted on the way the stock market responded to some mergers lies in the large numbers of small shareholders who purchased shares in privatised companies at the time of their privatisation. Such shareholders may lack the understanding of competition law and practice held by more seasoned investors and those with access to specialist advice.

To test for such effects, for part of the analysis the merger cases studied were split into two sub-groupings. The first contains the cases involving companies in what we term the ‘privatised industries’ and the second contains all the other mergers studied, which is termed the ‘other industries’ panel. The propositions to be tested relate to how well market prices reflect the underlying value of the merger events on the companies, and are as follows.

Proposition 1. In merger cases where the deal is prohibited by the regulator or abandoned by the companies, the value change arising from bid specific events to the target company, from bid announcement to bid abandoned, is expected to be zero.

This proposition follows from the fact that, leaving aside the *de minimis* costs to companies (in relation to their values) of taking part in MMC/CC inquiries, because the merger is not completed the competition regime should have no effect on the fundamental value of companies, as reflected in their share prices. In effect, following the failed merger the fundamental value of the target company is restored to what it was immediately before the bid (ignoring, of course, other factors impacting on the share price since the bid was announced unrelated to the bid, such as tax changes or changes in the competitive environment). This is because any economic advantages resulting from the merger factored into the share price by investors in the target company at the time of the merger bid is removed once the bid is prevented or abandoned.

However, it is possible that a merger bid puts a target firm 'in play' by attracting attention to it as a potential takeover target. The management may be 'shaken up' and the City may speculate on further bids. If such considerations affect the share price after a prohibition or abandonment of the original bid, then the proposition might not hold true. In this case, the abnormal return results will not be consistent with the proposition.

Proposition 2. In merger cases where the deal is allowed (but not conditionally allowed) the value change arising from bid specific events to the target company from bid to deal close is greater than zero.

This proposition is valid because the share prices of target companies tend to rise in merger bids due to the bid premium required to induce investors to sell their shares in the target to the bidder. When the merger is permitted by the competition authorities, this gain is not offset by a counter move in the share price (as in the case of prohibited and abandoned bids).

Both propositions are applied to target companies only for two reasons. Firstly, the value of the bid to target company shareholders is driven by the bid premium and is usually positive in value. When the bid is withdrawn due to prohibition or abandonment, the value to target company shareholders disappears. This argument does not apply to the bidder company, where the value to its shareholders is based on the difference between benefits from the bid and the cost of the bid, including the premium paid, as viewed by the capital market. This may be positive, negative or zero depending on the circumstances and the views taken by the capital market. For an in depth discussion of these issues and the effect of the amount of the premium paid, see Sirower (1997). Secondly, target company returns are larger and statistically more significant than returns for bidder companies. Excluding bidder companies from the tests reduces the problem of interpreting statistically non-significant results as being either zero or having some other value. In addition, in this stage of the analysis, cases in which the deal was finalised before referral to the MMC/CC are excluded. The value of the target company cannot be tracked by the share price after the deal closure and its delisting.

The propositions are not formulated to deal with cases where a conditionally allowed decision is announced. In these cases the conditions attached to the deal, such as behavioural remedies, can be complex and may not have been applied before in that format, making it difficult to estimate the value impact on the deal. This could affect efficient market behaviour, as fundamental values become less clear, and so these cases have not been tested.

5.5.2 Hypotheses Relating to Managerial Motivation for Mergers

The semi-strong version of the Efficient Market Hypothesis indicates when an event is publicly announced the capital market will quickly assess the new information and it will become fully and quickly reflected in share prices. This applies to merger deals and the capital market will be looking at the value of the announced deal for both the bidder and the target company. The capital market investors will review the claims of the bidder against any public knowledge of the involved companies, and taking their own research into account. In particular they would scrutinise the price being offered for the target, and any statements of benefits, savings and other synergistic gains claimed by the bidder. The capital market will then take a view on the value of the offer to both the target and bidder companies. Prices will adjust as trading takes place to reflect the capital market's view of the merger deal. In this way, the capital market is passing a judgement on the deal that has been announced within a short time of the announcement. It assesses both the bidder and target on the basis of the capital market's valuation of the combination, and the market will also adjust the share prices of competitors in response to the deal.

The view of the capital market about the merger bid may or may not be in accordance with the case made by the management of the bidder company. While the capital market will closely reflect the premium announced by the bidder for the target, greater differences of views may be found on other aspects of the announced deal. In particular differing views may emerge about the benefits and savings realisable in the combined firm. If the capital market is not persuaded by the bidder's case, it will discount savings and benefits claimed by the bidder. However it is unlikely that the capital market would be more optimistic than the bidder about the value of the realisable synergies. In practice, the bidder's share price will reflect the market's view of the value of the synergies available to pay the cost of the premium offered by the bidder for the target company shares.

The method used in this research for identifying management motivation relies on the share price record, and the associated price changes in response to announcements. This allows the various views taken by the capital market to deals to be classified. In outline terms, if management was driven by value seeking motives and creation of shareholder value, the capital market would expect the deal to deliver value for both bidder and target company shareholders. This is based on the theory of the firm proposed by Penrose (1959). If value goes to the target company shareholders with zero value creation or value destruction for shareholders of the bidding company, the capital market will have judged the deal to be driven by other motives than shareholder value creation. This could be classified as either Hubris or Managerialism.

When merger deals are driven by managerialist motives, management pursues the deal to maximise management's utility in the form of rewards, payments and benefits to a point judged to be just acceptable to shareholders. This is based on a different theory of the firm proposed by Jensen and Meckling (1976). For example, deals can pursue growth without creating value. Such deals can have the effect of increasing management salaries and bonuses, and the reason given to shareholders for the merger is to increase market share, which can be used to convince some shareholders of the deal's merits. In this way, any value created from synergies by the combination is diverted to increasing managerial rents and may be denied to shareholders. It is assumed that value is either not created or it is destroyed when deals are driven by managerialist motives. For this reason Managerialism can be present in deals which do not provide shareholder value creation.

Merger deals can be considered to be driven by Hubris when genuine valuation errors occur, but pride or arrogance drives the deal forward. This view of corporate takeovers was proposed by Roll (1986). Under these circumstances, over valuation errors appear in announced deals, because under valuations are likely to result in the merger being terminated before being announced. As a result Hubris is observable as over payment and will reduce the realisable value of the synergy. If the valuation error is great enough, Hubris can result in value destruction for the bidder. As a result Hubris can be present in deals providing either value creation or value destruction for the combined firm.

Dividing the merger cases into positive or negative gains groups based on the combined value of the merged companies allows the first step in categorising motivation. The positive combined gains group will contain merger cases driven either by synergy seeking alone or in combination with cases driven by hubris. In the negative combined gains group we will have cases driven by either hubris or managerialist motives. The next stage of the categorisation examines these subgroups for further clues identifying differences between synergy seeking, hubris and managerialist motives.

If the mergers in the positive combined gains group were driven by synergy seeking alone, we would expect a positive correlation between target company gains and bidder company gains. However if hubris had driven the mergers we would not expect a positive correlation between target and bidder company gains because of the random nature of the errors made. We would also expect to find a different relationship between target and bidder gains when we subdivide the group further into positive and negative bidder gains sub groups. If synergy had driven the mergers then we would expect the same relationship between target and bidder gains in the two subgroups. However if Hubris had played a part along with synergy in the mergers, we would expect the cases where the bidder gain was negative to contain a greater proportion cases driven by hubris and the positive bidder gains subgroup a greater proportion of cases driven by synergy seeking. To allow us to classify the positive combined group as driven by synergy seeking alone or synergy seeking plus hubris, we first divide the group into positive and negative bidder gains sub groups. We then examine the relationship between the target and bidder company gains in both sub groups to see if it is the same or different, allowing us to identify if hubris is present or not in the positive combined gains group.

In the negative combined gains group we expect merger cases driven by either hubris or managerialist motives. In cases driven by managerialism, management tries to extract value for the merger for their own utility. As a result we expect non-positive value gains for the combined company. The deals are not seeking to create shareholder value. They divert value away from shareholders to management resulting in value destruction. When a target company senses that the bidder is driven by managerialist motives, it is to be expected that it will also try to extract value for the target management during the negotiations. For example this might be enhancement of arrangements for target company management in return for agreeing to recommend the takeover to target shareholders. As value is not being created in the deal and existing value is being diverted towards the target management we expect that there will be a negative relationship between target gains and combined gains. However, if the mergers in the negative combined gains groups are driven by hubris we would not expect a relationship between target gains and combined gains in view of the random valuation errors involved.

The categorisation of motivations discussed above is summarised diagrammatically in Figure 5-2. This forms the basis on which the detailed hypotheses are constructed in the following sections, 5.5.2.1 to5.5.2.3.

	Synergy driven cases	Synergy & Hubris driven cases
Positive combined gains	relationship of target gains to bidder gains is the same between the +ve & -ve bidder gains subgroups	relationship of target gains to bidder gains differs between the +ve & -ve bidder gains subgroups
	Managerialist driven cases	**Hubris driven cases**
Negative combined gains	-ve relationship between target and combined gains	no relationship between target and combined gains

Figure 5-2 Summary of motivation categorisation based on share price patterns

The method described above uses event study techniques, allowing testing for all motivations that may be present in each group of merger cases analysed. The approach is based on earlier work by Berkovitch & Narayanan (1993) and Seth et al. (2000). The cases examined are those mergers waived through by the OFT or referred to the MMC/CC. Earlier work by Seth et al. (2000) and Berkovitch & Narayanan (1993) dealt with completed US mergers from bid to close. Their technique has been modified to include cases when the merger was not completed or was prohibited, by limiting the event window to cover only the initial bid period prior to any regulatory decision. In studying the effects of competition policy it is essential to include abandoned and prohibited mergers, as well as those that were completed.

By taking the initial bid period only into account in this analysis, this research avoids the problem of interpretation and classification when motivations possibly change as a deal proceeds. For example when a competitive bidder enters, an auction game begins where the bidders in turn make increased offers for the target until only one bidder is left, and thus wins. While a bidder may have originally entered into the deal seeking synergistic gains, the gains would decrease under competitive bidding conditions. If the bidder keeps bidding until his offer is greater than the gains he can realise in order to win the auction, he will over pay for the target and the combined assets will suffer some value destruction. This is known by economists as the “winner’s curse”, where the auction is won but the winning bidder paid more for the asset than it is worth to him. It is difficult to speculate on the reasons why a bidder may do this. They might have made a valuation error, or the bidder might have become carried away with the excitement of the competition in the auction and just concentrated on winning. While it is possible to categorise the valuation error as hubris, it is not clear whether focusing alone on winning is best classified as hubris or managerialism. The use of the initial bid period only eliminates this problem, as the effects of an auction are removed. Both bidders are simply judged on their initial bids. Sirower (1997) discusses this issue of classification of motivation, and adopts a method of analysis which relates to the level of premium paid, avoiding the need to make such judgements. While he identified over payment as an issue, he is not able to suggest what motivated the overpayment. Concentration on the initial bid allows an insight into the original motivation of management before any complications of auctions or regulatory decisions are considered.

Three types of test were used to provide evidence of motivation, namely:

1. Average gains for bidder, target and the total gains for the combined (merged) firm were calculated.
2. The proportion of cases having positive gains being different to those expected by chance was identified.
3. The relationship between bidder and target gains and between target and combined gains was investigated.

Groups of mergers, based on final regulatory decisions, were examined using these three tests. In addition the groups were divided into positive and negative combined gains subgroups and re-examined using the tests. This allowed a closer examination of the positive and negative subgroups. It revealed information that allowed Hubris to be differentiated from Synergy in the positive combined gains group and Managerialism in the negative combined gains group.

For all the cases the gains were calculated based on the abnormal returns from the day before the initial bid to two days before the referral/waive through announcement, taking only bid related events into account.

5.5.2.1 Hypotheses derived when the motivation is Synergy alone

As the Synergy hypothesis involves creation of wealth by combining the two firms, we would expect the target firm to capture some of the gains. This is based on the theory of the firm proposed by Penrose (1959). We would expect a positive relationship between target gains and combined gains. The value gain available for the bidder will depend on the level of competition for the target firm, but we would not expect bidders to continue with their bid if the premium required by the target was greater than the value created, which would result in transfer of value from bidder firm to target. We would expect a non-negative relationship between target and bidder gains. On average we expect positive combined gains, positive target gains, and non-negative gains for bidders. The proportion of cases with positive combined gains should be higher than expected by chance. These expectations are summarised as:

H1. *Where mergers are primarily motivated by Synergy*, in the full group of mergers in the data base the expected outcomes are:

a) there will be positive combined gains on average in mergers
b) there will be non-negative gains to bidders
c) there will be positive gains on average to targets
d) the proportion of mergers with positive combined gains will be higher than expected by chance
e) there will be non-negative correlation between target gains and bidder gains
f) there will be a positive correlation between target gains and combined gains.

H2. *Mergers with positive combined gains are motivated by Synergy*. Therefore, for the positive subgroup of mergers the expected outcomes are:

a) there will be positive gains on average to bidders
b) there will be positive gains on average to targets
c) there will be a positive relationship between target gains and bidder gains and no difference in this relationship between
    - the sub group of bidders with positive gains and,
    - the sub group of bidders with negative gains.

5.5.2.2 Hypotheses derived when the motivation is Hubris

Roll (1986) proposed the Hubris hypothesis of corporate takeovers. Since this proposes that mergers entail nothing more than a transfer of value from the bidder to the target, there should be no correlation between combined gains and other sources of gains. Similarly, there should be no association between gains to bidders and other sources of gains. Hence, the following hypotheses apply:

H3. *Where mergers are primarily motivated by Hubris*, in the full group of mergers in the data base the expected outcomes are:

a) there will be zero combined gains on average in mergers
b) there will be negative gains on average to bidders
c) there will be positive gains on average to targets
d) the proportion of mergers with positive combined gains will be equal to that expected by chance
e) there will be a negative relationship between target gains and bidder gains
f) there will be no relationship between target gains and combined gains.

Since Synergy and Hubris could coexist and give a positive return, we further divide the mergers into additional sub groups of positive and negative bidder gains. If Synergy is present alone, the relationship between target gains and bidder gains should be the same in both the positive and negative bidder gains subgroup. However, if Synergy and Hubris coexist then we would expect the positive bidder gains subgroup to show a positive relationship between target gains and bidder gains, while the negative subgroup would show a significantly different negative target gains to bidder gains relationship. Therefore:

H4. *Mergers with positive gains when the target and bidder companies gains are combined are motivated by Synergy and Hubris coexisting*. Therefore, for the positive sub group of mergers in the data base the expected outcomes are:

a) there will be positive gains on average to bidders when Synergy dominates the group of cases
b) there will be non-positive gains on average to bidders when Hubris dominates the group of cases
c) there will be positive gains on average to targets
d) there will be a non-positive relationship between target gains and bidder gains and: -
   - a positive relationship between target gains and bidder gains for the sub group of bidders with positive gains and,
   - a significantly different negative relationship between target gains and bidder gains for the sub group of bidders with negative gains.

H5. *Mergers with negative combined gains from target and bidder companies are motivated by Hubris*. Therefore, for the negative sub sample of mergers:

a) there will be negative gains on average to bidders
b) there will be positive gains on average to targets
c) there will be no relationship between target gains and combined gains.

5.5.2.3 Hypotheses derived when the motivation is Managerialism

Jensen and Meckling (1976) proposed an alternative theory of the firm based on managerial behaviour. Where mergers are motivated primarily by Managerialism, we would expect value to be destroyed by the bidder management extracting value from their shareholders. In addition, the target management can be expected to try to extract value from the bidder shareholders by seeking to agree terms in the interests of the target management, leading to an expected negative relationship between target and combined gains. This differentiates Managerialism from Hubris because, not having such a relationship with the target management where Hubris is present, there will be no relationship between target and combined gains. We also expect that there will be a negative relationship between target company gains and the bidder company gains. The association should be stronger than that with combined gains since under Managerialism combined losses arise and wealth is transferred from bidders to targets.

H6. *Where mergers are primarily motivated by Managerialism*, for the full group of mergers in the database the expected outcomes are:

a) there will be negative gains on average in mergers
b) there will be negative gains on average to bidders
c) there will be positive gains on average to the targets
d) the proportion of mergers with negative combined gains will be higher than that expected by chance
e) there will be a negative relationship between target gains and bidder gains
f) there will be a negative relationship between target gains and combined gains.

H7. *Mergers with negative combined gains from bidder and target companies are motivated by Managerialism.* Therefore, for the negative combined gains sub-sample of mergers:

a) there will be negative gains on average to bidders
b) there will be positive gains on average to targets
c) there will be a negative relationship between target gains and combined gains.

5.5.2.4 Summary of hypotheses for all motivations

A summary of the expected relationships as set out in the Hypotheses H1 to H7 above is provided in Figure 5-2. This table shows the interpretation placed on the results of each test on each of the subgroups of mergers within the database. The table lists the tests used as A to P. These letters are used to assist discussion of the results in following chapters.

		Expectations from motivation theory			
	Hypothetical element	Synergy	Hubris	Synergy + Hubris	Managerialism
	All the cases				
A	combined gains on average	+ve	zero		-ve
B	bidder gains on average	non -ve	-ve		-ve
C	target gains on average *	+ve	+ve		+ve
D	proportion of cases with +ve combined gains	>50%	50%		<50%
E	relationship between target gains and bidder gains	non -ve	-ve		-ve
F	relationship between target gains and combined gains	+ve	zero		-ve
	Positive combined returns subgroup of all the cases				
G	bidder gains on average	+ve		+ve**	
H	target gains on average *	+ve		+ve	
I	proportion of cases with +ve bidder gains	>50%		50%	
	relationship between target gains and bidder gains				
J	all positive combined gains cases	+ve		non +ve	
K	positive bidder gains subgroup	same as neg		non -ve	
L	negative bidder gains subgroup	same as pos		-ve	
M	relationship between target gains and combined gains	+ve		zero	
	Negative combined returns subgroup of all the cases				
N	bidder gains on average *		-ve		-ve
O	target gains on average *		+ve		+ve
P	relationship between target gains and combined gains		zero		-ve

* Indicates a non-differentiating parameter

** Can be zero or negative if Hubris cases dominate the group

Combined returns are the returns to the bidder and target companies together

Table 5-2 Summary of expectations from motivation theories

Figure 5-3 below shows how the data groups are sub divided for testing based on the hypotheses H1 to H7.

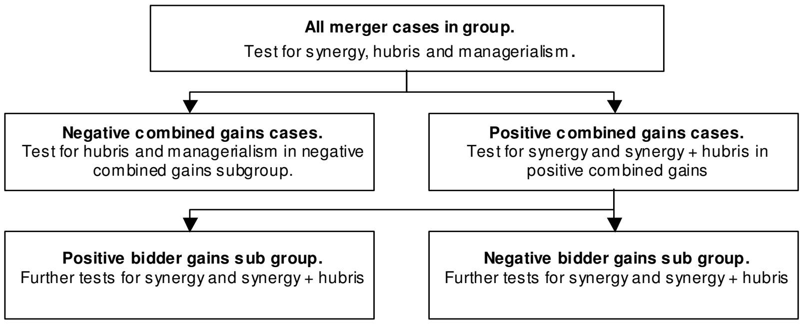

Figure 5-3 Sub-division of groups by returns for hypothesis testing

The groupings of mergers based on the decisions of the competition authorities are summarised in Figure 5-4 below.

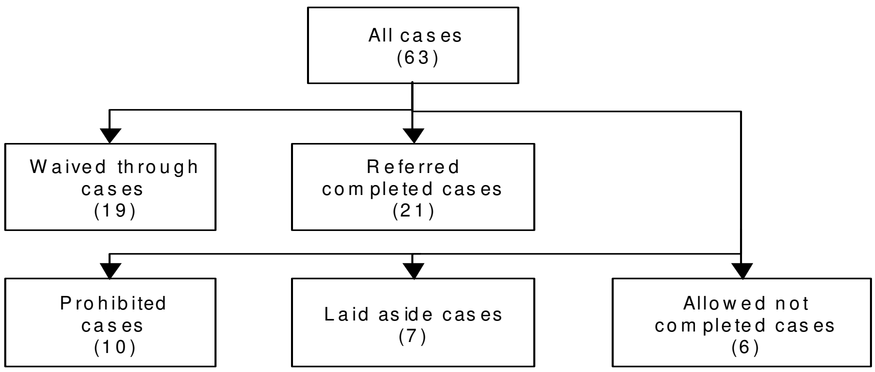

Figure 5-4 Relationship of groupings based on regulatory outcome

5.6 Conclusions

This chapter has described the chosen methods for processing the data in this research. It has covered the details of the data collection, sample selection, and the event study method used to measure shareholder value changes. It has also discussed the formulation of the hypotheses used in the study of both the shareholder value and the

Managerial motivation aspects of the research, and their relationship to the merger regulation process.

Results of the analysis are presented in Chapters 6 and 7 covering the shareholder value and Managerial motivation aspects of the research question, respectively.

6 Results Relating to Shareholder Value.

6.1 Introduction

This chapter presents results for the shareholder value changes resulting from the 50 cases referred to the MMC/CC examined between 1989 and 2002. The objective of this chapter is to present results, identifying differences in returns to shareholders arising under different regulatory decision outcomes and to compare these for consistency with earlier research findings. The chapter also reports the findings of the analysis into the sensitivity of the abnormal returns to changes in the estimation period and event window used to determine the abnormal returns on announcements. This sensitivity analysis covers cases discussed in this chapter and waived through cases used elsewhere in this study.

Results for bidding and target companies are summarised by regulatory outcome (i.e. waived through, allowed, conditionally allowed, laid aside, or prohibited) and further summarised by industry regulation (i.e. whether an industry has an additional industry specific regulator, or not, in addition to the competition regulator).

Firstly the abnormal returns arising in each of the 50 merger cases studied between 1989 and 2002 are established and presented. Differences are found between the returns for different regulatory decision outcomes, and also between industries with industry specific regulators, called "privatised industries" for convenience, and industries without, referred to in this thesis as "other industries". Results are then further tested against two Propositions relating to market behaviour, which were developed in Chapter 5 (see section 5.5.1). These Propositions test the abnormal returns occurring over the merger specific events to assess if the market reacted to the merger events in a way that was consistent with an informationally efficient market. When a merger case was prohibited the overall gain for a target company is expected to be zero, while the gain when the merger is allowed is expected to be greater than zero. The formulation of the Propositions and the tests used were described in Chapter 5. The results of these tests show a significant difference in market behaviour between industries with an industry specific regulator compared to industries without.

Possible reasons are discussed for differences in the value gains measured, compared to earlier research, and between the results for privatised and other industry groupings are discussed later in Chapter 8.

The sensitivity analysis examines the robustness of the abnormal returns measured and concludes that the three-day event window and the one-year-plus-deal estimation periods are suitable for the measurement of the abnormal returns. The evidence from this sensitivity analysis shows the that three-day event window (i.e. D-1 to D+1) captured the days that were consecutively statistically significant. Days further from the announcement day (i.e. D-30 to D-2 and D+2 to D+30) were largely insignificant statistically. The sensitivity analysis also shows the estimation period was suitable to allow results for the smallest subgroups to be assessed statistically.

The chapter concludes with a summary of findings from the results.

6.2 Shareholder Returns

The results of shareholder returns are presented in summary in Table 6-1. Section A of Table 6-1 summarises the abnormal return results for all of the mergers studied, irrespective of the OFT decision on a referral and the outcome of a MMC/CC inquiry. As can be seen, target company returns were greater than bidder company returns. Returns for the "other industries" group were greater than for the "privatised industries" group.

Taking all the cases together, a small positive but statistically non-significant overall gain to shareholders of 1.0% for the bidder companies was measured. This compares to a much larger and statistically significant gain of 14.3% for shareholders of the target companies. The finding that target company shareholders benefit most during mergers is consistent with much of the earlier merger literature (Sudarsanam, 2003, chapter 4).

On announcement by the OFT of a merger being referred to the MMC/CC, cases showed an average statistically significant return of –0.5% and –3.5% for bidder and target companies respectively. This is in broad agreement with the findings of Franks and Harris (1993) of –1% (non-significant) and –8% (significant) for bidder and target companies respectively.

6.2.1 Shareholder Returns by industry Grouping

Comparing industry groupings, section A of Table 6-1 shows that the overall results for bidder company cases in the 'privatised industries' grouping is a small loss (-2.9%), which is statistically significant at the 1% level, compared to a small but not statistically significant gain of 2.2% in the 'other industries' grouping. By comparison target companies in both groups made significant positive returns of 8.3% and 16.2% for the 'privatised' and 'other' groups, respectively (both statistically significant at the 1% level). Overall returns for companies in the "privatised industries" group were lower than the "other industries" group.

6.2.2 Shareholder Returns by Regulatory Decision

In section B of Table 6-1 cases are grouped by the regulatory decisions of the OFT ("waived through") and MMC/CC (the other cases considered by the OFT, i.e. which were referred to the MMC/CC, and were then later "allowed", "conditionally allowed" or "prohibited"). In addition, the results when mergers were "laid aside" (abandoned) are included. Again shareholders of target companies do better than shareholders of bidder companies, irrespective of the inquiry decision. For bidders, taking all cases together, conditionally allowed cases showed the greatest return (7.1%) while prohibited cases showed the lowest (-6.7%), both being statistically significant. Overall bidder returns for other outcomes were small (-1.8% to 1.4%) and not statistically significant.

Table 6-1. Summary of the Abnormal Returns

	Bidder companies			Target companies		
	Overall CAR	Referral CAR	Decision CAR	Overall CAR	Referral CAR	Decision CAR
Cases analysed by Privatised or Other Industry - *section A*						
All cases CAR %	1.0	-0.5	0.3	14.3	-3.5	-0.3
(50 bidder, 37 target companies) z	*-1.08*	*-1.76*	*-1.05*	*14.80*	*-12.47*	*0.95*
		*		***	***	
Privatised Industry cases CAR %	-2.9	-2.2	-0.4	8.3	-2.2	-7.1
(12 bidder, 9 target companies) z	*-2.66*	*-3.66*	*-1.65*	*5.39*	*-3.44*	*-12.11*
	***	***	*	***	***	***
Other Industry cases CAR %	2.2	0.1	0.5	16.2	-3.9	2.0
(38 bidder, 28 target companies) z	*0.25*	*0.06*	*-0.28*	*13.95*	*-12.83*	*5.90*
				***	***	***
Cases analysed by regulatory decision - *section B*						
Allowed						
All cases CAR %	-1.8	-0.4	0.4	20.7	-9.4	5.1
(11 bidder, 7 target companies) z	*-0.87*	*-0.65*	*0.14*	*15.67*	*-22.76*	*11.93*
				***	***	***
Privatised Industry cases CAR %	5.2	-3.0	2.6	8.4	4.3	-6.0
(2 bidder, 1 target companies) z	*0.54*	*-1.54*	*1.56*	*0.64*	*0.72*	*-1.63*
Other Industry cases CAR %	-3.3	0.2	-0.1	22.8	-12.2	7.3
(9 bidder, 6 target companies) z	*-1.22*	*0.00*	*-0.58*	*15.57*	*-23.41*	*12.83*
				***	***	***
Conditionally Allowed						
All cases CAR %	7.1	0.2	0.9	16.4	-1.6	4.7
(17 bidder, 14 target companies) z	*1.90*	*0.39*	*-0.21*	*6.52*	*-1.62*	*3.15*
	*			***		***
Privatised Industry cases CAR %	3.6	-0.3	0.2	6.2	-1.7	0.1
(2 bidder, 2 target companies) z	*0.70*	*0.04*	*0.20*	*2.82*	*0.03*	*0.29*
				***		
Other Industry cases CAR %	7.5	0.3	1.0	18.2	-1.6	5.5
(15 bidder, 12 target companies) z	*1.53*	*0.25*	*0.02*	*5.90*	*-1.76*	*3.28*
				***	*	***
Laid aside						
All cases CAR %	1.4	-0.1	1.1	6.6	-1.6	-8.1
(7 bidder, 4 target companies) z	*0.26*	*0.14*	*0.63*	*1.37*	*-2.94*	*-3.18*
					***	***
Privatised Industry cases CAR %	-	-	-	-	-	-
(0 bidder, 0 target companies) z	-	-	-	-	-	-
Other Industry cases CAR %	1.4	-0.1	1.1	6.6	-1.6	-8.1
(7 bidder, 4 target companies) z	*0.26*	*0.14*	*0.63*	*1.37*	*-2.94*	*-3.18*
					***	***
Prohibited						
All cases CAR %	-6.7	-2.0	-1.0	4.8	-3.2	-8.9
(10 bidder, 7 target companies) z	*-4.30*	*-3.32*	*-2.66*	*2.95*	*-3.54*	*-14.28*
	***	***	***	***	***	***
Privatised Industry cases CAR %	-6.5	-2.8	-1.7	5.4	-3.0	-12.6
(7 bidder, 5 target companies) z	*-3.80*	*-3.98*	*-3.38*	*2.95*	*-3.25*	*-17.00*
	***	***	***	***	**	***
Other Industry cases CAR %	-7.1	0.1	0.5	3.2	-3.6	0.4
(3 bidder, 2 target companies) z	*-2.05*	*0.03*	*0.30*	*0.85*	*-1.49*	*0.16*
	**					
Waived through						
All cases CAR %	1.4	-0.4	-0.7	18.5	-3.6	-2.7
(5 bidder, 5 target companies) z	*0.54*	*-0.43*	*-0.66*	*7.29*	*-1.81*	*0.17*
				***	*	
Privatised Industry cases CAR %	-6.5	-0.0	1.6	27.1	-5.5	5.2
(1 bidder, 1 target company) z	*-0.90*	*-0.01*	*0.73*	*4.95*	*-3.81*	*2.93*
				***	***	***
Other Industry cases CAR %	3.4	-0.5	-1.2	16.4	-3.1	-4.6
(4 bidder, 4 target companies) z	*1.06*	*-0.48*	*-1.10*	*5.67*	*-0.12*	*-1.65*
				***		*

* significant at the 10% level ** significant at the 5% level *** significant at the 1% level

For target companies, returns were greater than for bidder companies and statistically significant for all decisions except laid aside cases. Highest returns for target companies were for allowed cases (20.7%) and the least was for prohibited cases (4.8%). Not surprisingly, prohibited outcomes gave the worst returns for both bidder and target companies, and the pattern was repeated when cases were divided into industry groups. The effect of a decision prohibiting mergers is explained in more detail below in sections 6.2.2.1 and 6.2.2.2.

6.2.2.1 Effect of Prohibition on Target Companies

The finding of a negative abnormal return for target companies on the *announcement of a merger prohibition decision* broadly agrees with the findings in the studies by Wier (1983), Franks and Harris (1993) and Forbes (1994). Particularly interesting are the abnormal returns where target companies are from the privatised (sector specific regulated) industries. Where a prohibition decision was announced following a MMC/CC inquiry, companies in these industries displayed the greatest negative abnormal returns of any decision announcement. Target companies in privatised industries returned a large statistically significant 12.6% loss. However, target companies in the other industries group returned a 0.4% (non-significant) gain in the case of prohibition announcements (see Table 6-1, section B, prohibited results, "Decision CAR"). This significant difference in returns between the two industry groups for prohibition announcements can indicate that the capital market was better able to predict the prohibition in the other industry group than in the privatised group.

This research finds a difference between returns for other industries (i.e. a return not statistically different to zero) and the findings of Franks and Harris (1993) and Forbes (1994) (i.e. a statistically significant negative return). This indicates a possible improvement in the capital market's ability to predict outcomes between the 1965-1990 earlier study period and the period from 1989 to 2002 in this research. Neither Franks and Harris (1993) nor Forbes (1994) included any of the early privatisation mergers in their sample, and so their findings can be directly compared with the other industry findings in this research.

However, a finding of negative returns on the announcement of a prohibition decision does not alone provide a sufficiently accurate picture of the *overall* effects of a competition inquiry. When we consider the overall return for target companies in cases with prohibited decisions, the return is 4.8% and this is made up of a statistically significant 5.4% return for the privatised industry group of firms and a 3.2% non-significant return for the ‘other industries’ category (Table 6-1, section B, prohibited results, “Overall CAR”). This finding is therefore greatly influenced by the privatised industry cases and is *not* consistent with the results in Wier (1983). She found an abnormal loss to shareholders of target companies due to prohibition resulting from competition inquiries and argued that the result is an additional cost of defending an anti-trust action in addition to normal legal and professional costs incurred. However our study broadly agrees with Franks and Harris (1993), finding a significant gain of 9% to target company shareholders in prohibited cases over the whole bid and inquiry period. This study indicates that there is no additional cost to target company shareholders *when the regulatory process is taken as a whole*, namely from announcement of a merger bid, through referral to the MMC/CC, to the inquiry decision prohibiting the merger. Especially when the privatised industry cases are excluded, the abnormal return is small and not statistically significant.

6.2.2.2 Effect of Prohibition on Bidder Companies

By contrast, bidder company shareholders experienced a significant loss in prohibited cases. Table 6-1 section B “prohibited” shows the overall bidder loss of -6.7% was experienced equally in both the “privatised” and “other” industry groups (-6.5% and -7.1% respectively), all abnormal returns are statistically significant at the 5% level or better. Interestingly, this overall loss to bidder company shareholders in prohibited cases agrees with the figure of -6% in Franks and Harris (1993), though their result was not statistically significant.

6.2.2.3 Effect of Decisions Allowing Mergers to Proceed

Other results in Table 6-1 covering decisions to allow the mergers to proceed, that is to say the “allowed”, “conditionally allowed” and “waived through” results, are also of interest. The abnormal returns to bidder and target companies show slightly different patterns. In the case of all mergers (privatised and 'other industries' together), for target companies the greatest returns were where there was an "allowed" decision (20.7%). Bidder returns were highest for "conditionally allowed" cases (7.1%), the two other decision groups show only small, statistically non significant returns. Again this is in broad agreement with Franks and Harris (1993) which showed mergers allowed to proceed had returns for target and bidder companies of 38% and 6%, respectively, over the whole bid and inquiry period.

6.2.2.4 Effect of "Laid Aside" Decisions

Where merger cases are "laid aside" (i.e. parties agree not to proceed or the merger is abandoned), early gains from the bid are followed by losses on referral and on being laid aside, resulting in no significant overall gains or losses for bidders or targets. There were no merger cases in this research from the privatised industries that were laid aside. Earlier research in Franks and Harris (1993) only reported returns on bid and referral for laid aside cases and did not report the return when the laid aside decision was announced, nor on the overall return for merger cases which were laid aside.

6.3 Market Behaviour in Regulated Industries compared with Non-regulated Industries

While Table 6-1 shows some differences between the returns for "privatised" and "other" industries, it is not possible to examine if market mispricing, due to a reduction of market efficiency, was a factor in those differences. Therefore, our study examines this directly by testing target companies' returns against Propositions 1 and 2 described earlier in Chapter 5, which are restated here for convenience: -

> ***Proposition 1.*** *In merger cases where the deal is prohibited by the regulator or abandoned by the companies, the value change arising from bid specific events to the target company, from bid announcement to bid abandoned, is expected to be zero.*

Proposition 2. *In merger cases where the deal is allowed (but not conditionally allowed) the value change arising from bid specific events to the target company from bid to deal close is greater than zero.*

Table 6-2 shows the results of the direct tests of Propositions 1 and 2.

In these tests any abnormal return results not significant at the 5% level (two tailed) are interpreted as being equivalent to zero, in an attempt to ensure that any differences we find are statistically robust. The cases are again grouped into ‘privatised’ and ‘other industries’ categories. It can be seen that there is a much higher number of cases with a false result in the ‘privatised’ group. In order to test if the difference between the two industry groups is statistically significant, the results in Table 6-2 are summarised in a contingency table, Table 6-3. Applying Fisher’s exact test to the contingency table indicates the difference between the two groups is statistically significant at the 10% level. From this finding we can conclude that the market behaviour in the ‘others’ grouping is more consistent with our Propositions, based on an efficient, well-informed capital market responding to merger inquiries, than is the case for the ‘privatised’ group of mergers.

Table 6-2. **Results of tests for propositions 1 and 2.**

Case (bidder - target)	Total target abnormal returns %*	*Z*	Proposition1 For Prohibited and Laid Aside cases target, AR=0 (Z>1.96)	Proposition 2 For Allowed and Waived Thro' cases target, AR>0 (Z>1.96)
Privatised Industries				
Allowed				
NTL - C&W Communications	10.2%	0.68		False
Prohibited				
BSkyB - Manchester United	21.4%	3.94	False	
General Utilities / SAUR - Mid Kent Holding	3.6%	1.01	True	
Wessex Water - South West Water	8.8%	2.30	False	
PowerGen - Midlands Electricity	-0.8%	-0.10	True	
National Power - Southern Electricity	2.1%	0.36	True	
Waived through				
Texas Utilities - Energy Group	28.3%	4.72		True
Other Industries				
Allowed				
GEC - VSEL	31.7%	3.96		True
Lloyds Chem - Macarthy	31.1%	4.50		True
Atlas Copco - Desoutter	82.1%	22.93		True
Blue Circle - Myson	38.3%	7.21		True
Laid aside				
Tate & Lyle - Berisford	7.7%	0.83	True	
Glynwed Int - Alumasc Grp	2.9%	0.50	True	
Hilton Grp - BSkyB	17.5%	1.71	True	
Whitbread - Allied Domecq	14.9%	1.31	True	
Prohibited				
Lloyds-TSB - Abbey National	-6.8%	-0.71	True	
Kingfisher - Dixons	16.6%	2.01	False	
Waived through				
Redland - Steetley	70.4%	4.57		True
HSBC - Midland	73.6%	6.11		True
TT - Crystalate	37.9%	2.04		True

Table 6-3. Summary of Table 6-2 Results' for Propositions 1 & 2

True or False results	Privatised Industries	Other Industries	Total
TRUE	4	12	16
FALSE	3	1	4
Total	13	7	20

p- value = 0.101 (two sided test)

The difference between the 'Other Industries' and the 'Privatised Industries' groups is significant at the 10% level using Fisher's Exact Test.

Merger cases involving 'privatised' industries occurred during the 1990s; in particular, there were three proposed mergers in both the water industry[12] and in the electricity sector and two in communications. During this period investors' experience of how the competition authorities would respond to mergers in these sectors remained limited because there were few, if any, previous cases from which to draw lessons. It is to be expected, therefore, that investors would have had more difficulty in accurately assessing the likely impact of regulatory outcomes at each stage of the mergers involving water, electricity and communications companies. Moreover, the communications, water and electricity industries had their own, additional, sector-specific regulators, which can be expected to have added to regulatory uncertainty at the time of mergers. The sector regulators police competition policy alongside the MMC/CC and are important in recommending referrals of mergers to the MMC/CC. After referral they provide evidence to the Commission. The sector-specific regulators were mainly young in the 1990s[13] and at the time no one knew how far the regulators would allow the industrial structure established in water and electricity at privatisation

[12] One of which was conditionally allowed and is therefore not included in table 5.

[13] The communications sector has had one industry regulator in the UK, Ofcom, since Dec 2003. In the 1980s and 1990s telecommunications had a new regulator, Oftel, while broadcasting and certain other fields of communications had their own dedicated regulators with longer histories. The Communications Act 2003 merged the Independent Television Commission, Independent Radio Authority, Radio Communications Agency and the Oftel into the Ofcom to regulate all communication and independent (i.e. non-BBC) radio and television broadcasting. Prior to this regulatory merging some industries (e.g. cable television and satellite broadcasters) had two industry specific regulators (one for communications and one for broadcast media) in addition to the OFT acting as a concurrent competition regulator.

to be changed. The government also took a special interest in mergers involving communications companies because of concerns about media ownership. The findings are consistent with the view that less efficient market pricing of shares may have occurred in the case of mergers in these sectors as views in the stock market changed about the possible outcomes while the regulatory process relating to mergers was underway.

A further factor may have influenced market behaviour, which relates to the degree of non-institutional shareholding in privatised companies. At privatisation, the government had an objective of increasing the number of private shareholders in the UK and used the flotation of former state-owned industries to help achieve this aim. A large degree of equity held by individual private investors may have reduced the effectiveness of arbitrage traders in the capital market. At the same time, the behaviour of private shareholders may have been driven more by shareholder sentiment than by rational decisions based on fundamental value. With a combination of these factors we might expect a high degree of non-institutional shareholding to reduce market efficiency, in the sense of share prices being less linked to the underlying economic value brought about by the proposed mergers.

6.4 Sensitivity of Abnormal Returns to Variations in Event Window Width and Market Model Estimation Period

We now examine the effects of changes to two methodological variables, event window duration and estimation period, on the measurement of abnormal returns calculated from the market model. These two variables and the choices involved were discussed and justified in detail in Chapter 5 Section 5.2. These sensitivity tests reported here examine the dependency of the results reported earlier in this chapter, and later in Chapter 7, on changes to the two methodological variables, event window width and market model estimation period.

The market model is determined using OLS regression of a company's daily share price against a market index. The estimation period is the number of (daily) observational data pairs used for this regression. The event window is the number of (daily) observations used for calculating the abnormal return (AR) for the event, calculated by the difference between the actual stock price movement and the forecast from the market model regression equation. The method is discussed fully in Chapter 5.

The effect of varying the event window has the most obvious effect on the calculated AR. The event window in this research was set to a three-day period from one day before the event (D-1) through to one day after the event (D+1). This was justified in Chapter 5 as a suitable method of measuring the short-run announcement returns required by this research. This window, when used with a precise identification of the event day, allows other non-related events to be effectively excluded from the AR calculation. In this research these confounding events have been filtered out and the AR for a completed merger from bid to deal close consists of the sum of a number relevant three-day event windows throughout the deal process. A balance exists between capturing all the daily ARs relevant to a particular event, and excluding those of the adjacent confounding events. This sensitivity analysis models the effect of changing event periods from D-30 days through to D+30 days on the statistical significance of the AR calculated for the event window.

The effect of changing the estimation period impacts on the statistical error arising from the regression calculation. This imposes an error on the forecast and hence the AR. Increasing the estimation period reduces the error, but can introduce data from a period not relevant to the event window being measured. Estimation periods of less than one year may be biased by seasonality effects. A balance is therefore required between using sufficient data points to give an error allowing statistically significant results, without including data from non-relevant periods. The basis of estimation used in this paper is to take data from one year before the initial bid announcement through to the final announcement of deal close or abandonment, excluding all event window days from the estimation of the market model. This sensitivity analysis looks at the effect of reducing the estimation period on the statistical significance of the AR calculated for a constant event window of D-1 to D+1.

6.4.1 Event Window Width Variation

While considering changes to the width of the event window, the estimation of the market model has been fixed to that employed in the research, a period of one year before the initial bid date through to the deal close or abandonment excluding all event days. To assess the effect of changing the window width, the ARs and z statistics were calculated for all (bidder and target) companies in all cases for 30 days before the initial bid announcement through to 30 after the initial bid announcement. The initial bid announcement has been chosen, as then all of the merger cases in the sample will be included. This contrasts with other events, such as inquiry outcome announcements, where due to differences in the regulatory stages, some cases may not be involved.

For the 61-day period (D-30 through to D+30) the percentage daily average cumulative abnormal return (ACAR) has been calculated together with the Z statistic, for each of the days. These two figures indicate the magnitude and statistical significance of each day's contribution to the ACAR for various widths of the event window.

Share prices quickly adjust to all unanticipated new information. Anticipation of an announcement will be apparent when statistically significant ARs occur in days before the event announcement. Similarly any lag in markets reacting to new information will be apparent as statistically significant ARs in days following the announcement. Any ARs arising from events not related to the timing of the event announcement being measured are assumed to be randomly distributed around the event day, and not correlated. These confounding events should therefore not add to the statistical significance of ARs on days other than the event announcement day, D (i.e. the only correlated day for all cases).

6.4.2 Market Model Estimation Period Variation

The estimation period used in this research uses daily stock price data from one year before the initial bid to the close of deal (or abandonment) excluding event window days. In practice this gives estimation periods for cases ranging of from 270 to 779 working days with a mean of 401 days. Sensitivity analysis was conducted by reducing the estimation period to 260, 130 and 65 working days, representing one year, six months and three months.

The principal impact of changes to the estimation period is on the standard error of the regression and hence the standard error of the market model forecast, which varies inversely with the square root of the number of estimation points. Hence, reducing the estimation period to one-quarter doubles the statistical error. The effects on standard error of the AR were calculated for varying estimation periods on target and bidder company ARs for each case. The event window of D-1 through to D+1 days for the initial bid announcement was used for the AR and z statistic calculation, as used in section 6.4.1 for the event window sensitivity tests.

6.4.3 Results of Sensitivity Analysis for Event Window Width

Firstly, considering event window width, the AR, SE and z statistic were calculated for all companies and combined for the group over the period D-30 working days through to D+30 working days, where D is the day of the initial bid announcement. The daily ACAR percentages for all companies are shown in Figure 6-1 and the corresponding z statistics are shown in Figure 6-2.

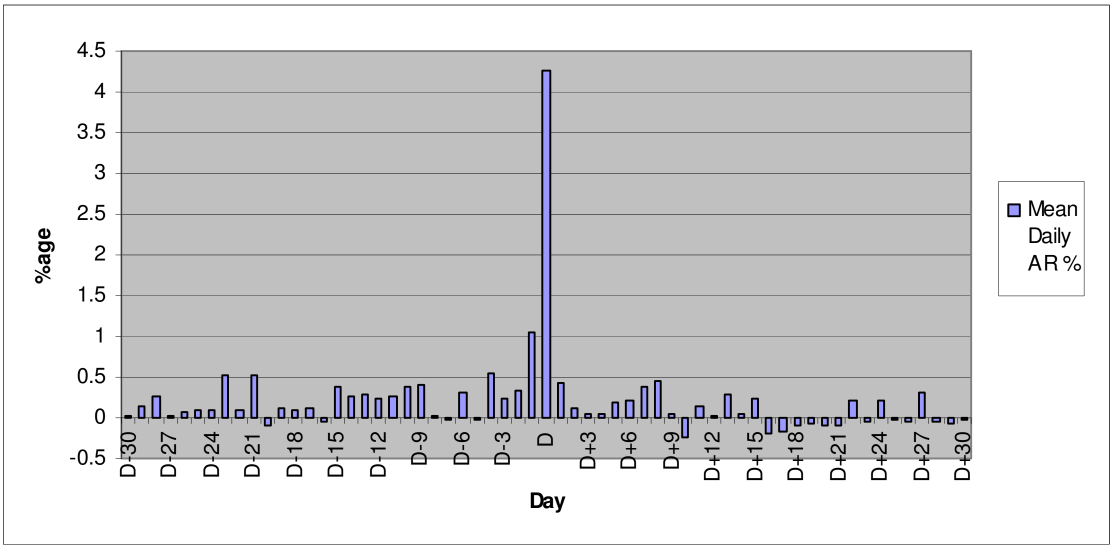

Figure 6-1. Daily ACAR (%) about event day - all cases on initial bid announcement

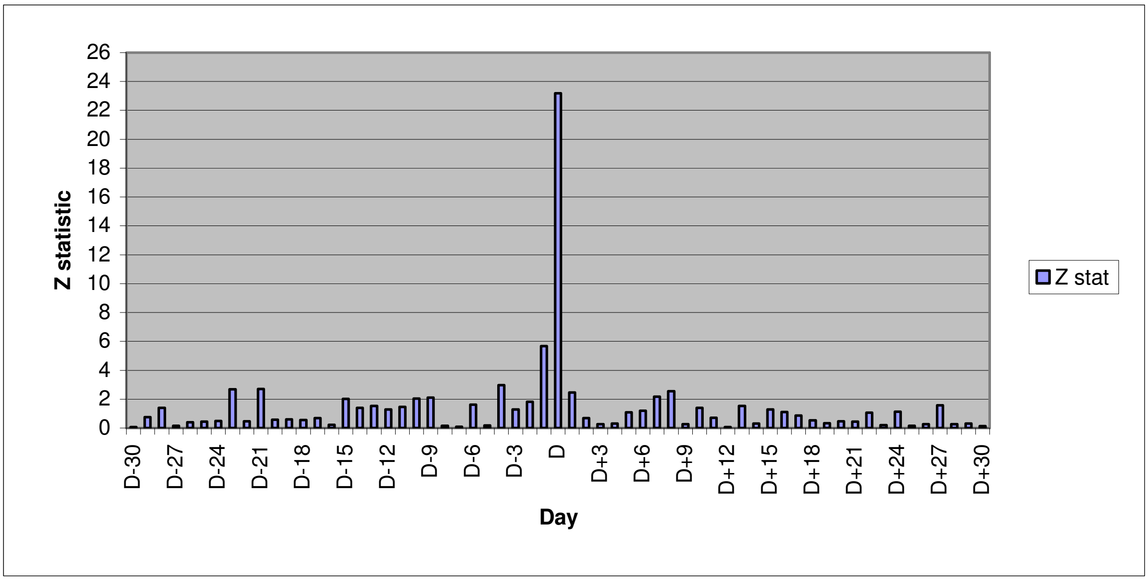

Figure 6-2. Z statistics of daily ACAR about event day - all cases on initial bid announcement.

The z statistics for the daily ACAR were 5.7, 23.2 and 2.5 respectively for event days D-1, D, and D+1 respectively showing AR's on these days were significant through the group. For the three days combined the ACAR was 5.74% and the z statistic was 18.23.

However outside the range D-1 to D+1 there was little evidence of consecutive days when the results were significant. The days when the z statistic was greater than 1.96 (significance level of 0.05) are shown in Table 6-4. In the range D-30 to D-20 the z statistics range from a minimum of 0.06 to a maximum of 2.96, with a mean z of 1.11. On 6 days (D-23, D-21, D-15, D-10, D-9, D-4) z was greater than 1.96. For D+2 to D+30 the z statistics range from a minimum of 0.08 to a maximum of 2.55, with a mean z of 0.78. On only two days (D+7, D+8) z was greater than 1.96. In other words, there is no particular pattern of significant z values outside of the window D-1 to D+1 and therefore it would be difficult to find a logical thread supported by the data to justify widening the event window beyond 3 days.

Day	ACAR (%)	z statistic
D-23	0.528	2.684
D-21	0.512	2.699
D-15	0.378	2.025
D-10	0.385	2.043
D-9	0.396	2.116
D-4	0.553	2.962
D-1	1.046	5.684
D	4.259	23.186
D+1	0.438	2.463
D+7	0.389	2.177
D+8	0.458	2.550

Table 6-4. Days relative to the event day when the ACAR was significant (i.e. z statistic > 1.96).

Widening the window by adding non-statistically significant AR days lowers the significance of the cumulative AR for the whole wider window. Also widening the event window beyond the three-day window used, introduces ARs that may result from confounding events (i.e. announcements not specifically related to the merger process). By widening the window, the ability to discriminate against these confounding results is reduced. Even with a three-day event window it is difficult with large companies to eliminate confounding events because they can frequently make announcements on consecutive days and overlap the event window. This sensitivity analysis over-estimates the influence of the days from D-30 to D-2 and D+2 to D+30 because it includes all ARs for these days, whether or not they are related to the event being studied or are confounding events. In practice, days during these periods will contain both announcements relevant to the whole merger, such as counter bids in competitive situations or referral announcements, and confounding events such as trading results, product or marketing announcements.

On balance for the event window width, daily ARs outside the three-day event window are unlikely to be statistically significant and, if added to widen the window, will reduce the overall z statistic for the whole window period. Widening of the event window from three days also reduces the ability of the method to discriminate against announcements relating to confounding events.

6.4.4 Results of Sensitivity Analysis for Estimation Period

Table 6-5 shows the effect of reduced estimation periods on the z statistics for cumulative ARs related to the initial bid announcement for all cases combined based on a three days event window measurement. The z statistic for the three-day period is estimated from section 6.4.3 above.

Estimation period	**Estimation days**	**Z statistic for 3 day event window – all 63 cases**	**Z statistic for 3 day event window – only 6 cases**
1 year plus deal	Mean = 401 (270 to 779)	18.2	5.6
1 year	260	14.7	4.5
6 months	130	10.4	3.2
3 months	65	7.3	2.3

Table 6-5. Effect of estimation period on AR statistical significance for a three-day event window: bidder and target companies combined.

The z statistics for the AR from the full 63 cases are shown in column 3 of Table 6-5. As the smallest subgroup used in analysis is six cases, the z statistics of this subgroup would be expected to fall by a factor of $\sqrt{\frac{63}{6}}$, or 3.24. This would reduce the z statistics for the six cases subgroup to those shown in column 4 of Table 6-5. The three-month period is approaching the limit of acceptability if we consider the lowest useful z is 1.96.

Although we could reduce the estimation period to as short as three months, the significance of results would be reduced. This would be particularly apparent with bidder company results, which as a group have lower z statistics than the target company group, and also in small sub groups. The reduction in statistical significance would make the interpretation of results less clear.

6.4.5 Conclusions from the Sensitivity Analysis Results

While the event window could be widened, the resulting z statistics would be reduced, and the ability to discriminate against confounding events would be considerably reduced as the event window width was increased. The three-day event window uses the period when each of the adjacent consecutive event days have z statistics which are greater than 1.96 (i.e. each day is significant at the 5% level). As can be seen from Figure 6-2, no event window period greater than three days has such a characteristic.

Reducing the length of the estimation period reduces the z statistics of the ARs. While a shorter estimation period could be used, a period as short as three months is approaching the lower limit of acceptability when the size of subgroups is considered. The chosen estimation period of a year plus the deal period (excluding event days) maximises the z statistics particularly for small subgroup analysis and bidder results, which are the most challenging results to obtain. The approach allows the number of estimation days to be maximised without taking data from more than a year before the first event. This means that the market model is based on data covering a period more relevant to the events being studied. Shortening the period would increase the relevance of the data for the market model at the expense of reducing the z statistics of the AR results.

This sensitivity analysis has shown that, on balance, the choice of a three-day event window allows capture of the announcement abnormal returns while permitting good rejection of close-lying confounding events. The one-year plus deal estimation period is consistent with the relevant data in this analysis providing a market model that allows the analysis of subgroups to produce statistically significant results as confirmed by this sensitivity analysis.

6.5 Conclusions

This chapter presented results of shareholder value occurring in mergers under differing conditions of regulatory outcome, and in industries with and without an industry specific regulator. The results find that overall: -

- Shareholders of target companies benefited from larger gains than those of bidder companies, which is consistent with much of the earlier research literature (e.g. see Sudarsanam, 2003, chapter 4).

Results for the individual referral and decision announcement steps in the regulatory process showed that: -

- When a merger case is referred by the OFT to the MMC/CC, both bidder and target companies experience a statistically significant negative abnormal return at the time of the referral. Statistically significant returns of –0.5% and –3.5% respectively were measured and are broadly in agreement with earlier research findings by (Franks and Harris, 1993) of -1% (non-significant) and –8% (significant) for bidder and target respectively.
- When a decision is announced on a referred merger case, on average there is no abnormal loss or gain. However, when cases are allowed, both bidder and target companies experience statistically significant positive abnormal returns, but in the case of a prohibited decision statistically significant negative abnormal returns were experienced by both the target and bidding companies at the decision announcement. This agrees with earlier research findings (see Franks and Harris, 1993).

Results taken over the complete cycle of events in the regulatory process (taken over the whole merger period, including cumulative abnormal returns for all merger specific events from bid to prohibition announcement) showed that: -

- Where mergers were allowed by the competition authorities, bidding companies showed a small non-significant return, while target companies showed a large statistically significant positive return. Similarly, where mergers were conditionally allowed, both bidding and target companies showed a statistically significant positive return. This is consistent with earlier research (see Franks and Harris, 1993).
- Where merger cases were laid aside, losses were experienced by bidder and target companies on referral and being laid aside, cancelling out gains made on the bid announcement. Overall, on average, bidding and target companies did not make

significant abnormal returns in laid aside merger cases taking the period from the announcement of the proposed merger to its abandonment. Research reported by Franks and Harris (1993) did not specifically address gains or losses on cases being laid aside, but only on bid and referral, where it was in broad agreement.

- For mergers prohibited by the competition authorities, bidding companies, on average, experienced a statistically significant negative overall abnormal return, while targets experienced a statistically significant overall positive return. This is at variance with some earlier research findings by Wier (1983), but in agreement with Franks and Harris (1993) who found a similar pattern.

The pattern of returns for mergers in industries with an additional industry specific regulator (referred to as “privatised industries” for convenience) differed to those without an industry regulator (referred to as “other industries”). Key differences were: -

- In allowed or conditionally allowed cases, target companies in privatised industries experienced lower returns than those in other industries, while there was no difference between the bidder companies returns in both industry groups.
- In prohibited cases, target companies in privatised industries experienced larger positive returns than target companies in other industries, while there was no difference between the bidder companies’ returns in both industry groups.
- Testing the returns of target companies with two propositions based on rational market behaviour showed a significant difference between the privatised and other industry groups. The market reaction for the privatised group was less rational than for the market response for the other Industry group.

Findings about differences in shareholder returns between privatised and other industry groups involved in mergers do not appear to have been researched previously.

Sensitivity tests were carried out to assess the robustness of the choices for two key methodological variables, namely event window width and estimation period. The tests showed: -

  - The three-day event window width (D-1 to D+1) used in the research was appropriate for the measurement of the short run announcement returns associated with the steps in the regulatory process.

- The estimation period of one year plus the deal period used in the research was suitable for estimation of the market model, and allowed statistical inferences to be drawn from sub groups of the data set.

Chapter 7 completes the presentation of the results, by explaining the findings for the study of managerial motivations. A further discussion of these results and their differences is covered later in Chapter 8. The conclusions for government policy and managerial decisions are explored also in Chapter 8.

7 Results on Management Motivations for Mergers.

7.1 Introduction

This chapter reports on the results relating to Managements' motivations for carrying out mergers as perceived by the financial markets. Based on the discussions in Chapter 5 Methods and Data, section 5.5, the expectations from the motivation theories are shown in Table 5-2, which is repeated in this chapter as Table 7-1 for convenience of reference in the following discussion. The expectations shown in this table are compared with the actual results measured by the tests used to assess which motivations the financial markets perceived were present. The results relate to the period covering deal announcement and other deal related announcements up to, but not including, the first announcement by the Competition Regulator.

The results are discussed in three parts. Firstly, the results for all of the merger cases taken together are examined for market perceptions of Synergy, Hubris or Managerialism motivations by comparing the results in Table 7-2 with the corresponding lines in the summary of expectations in Table 7-1. Next, cases with positive combined firm gains are similarly examined to distinguish between Synergy and Hubris in Table 7-3. Finally, only cases with negative combined firm gains are examined to distinguish between Hubris and Managerialism, in Table 7-4. All of the results are summarised in Table 7-5 conveniently allowing comparisons between cases grouped by regulatory decision.

This chapter finds that differences in motivations, perceived by financial markets, exist between groups of mergers with different regulatory outcomes. Mergers that were ultimately waived through by the competition regulator without being referred to the MMC/CC for inquiry are dominated by perceptions of Synergy. For mergers referred to the MMC/CC for Inquiry, the financial markets perceived an increased presence of Hubris. The perception of Hubris, and Synergy coexisting with Hubris, increased to be the highest level measured in the group of cases that were ultimately prohibited. The

Table 7-1 Summary of expectations from motivation theories

	Tests	Synergy	Hubris	Synergy + Hubris	Managerialism
		Propositions			
	All the cases				
A	combined gains on average	+ve *(P1a)*	Zero *(P3a)*		-ve *(P6a)*
B	bidder gains on average	non –ve *(P1b)*	-ve *(P3b)*		-ve *(P6b)*
C	target gains on average *	+ve *(P1c)*	+ve *(P3c)*		+ve *(P6b)*
D	proportion of cases with +ve combined gains	>50% *(P1d)*	50% *(P3d)*		<50% *(P6b)*
E	relationship between target gains and bidder gains	non –ve *(P1e)*	-ve *(P3e)*		-ve *(P6b)*
F	relationship between target gains and combined gains	+ve *(P1f)*	Zero *(P3f)*		-ve *(P6b)*
	Positive combined returns subgroup of all the cases				
G	bidder gains on average	+ve *(P2a)*		+ve** *(P4a+b)*	
H	target gains on average *	+ve *(P2b)*		+ve *(P4c)*	
I	proportion of cases with +ve bidder gains	>50% *(P2c)*		50% *(P4c)*	
	relationships between target gains and bidder gains	*(P2d)*		*(P4c)*	
J	all positive combined gains cases	+ve		non +ve	
K	positive bidder gains subgroup	same as neg		non -ve	
L	negative bidder gains subgroup	same as pos		-ve	
M	relationship between target gains and combined gains	+ve *(P2e)*		Zero *(P4c)*	
	Negative combined returns subgroup of all the cases				
N	bidder gains on average *		-ve *(P5a)*		-ve *(P7a)*
O	target gains on average *		+ve *(P5b)*		+ve *(P7b)*
P	relationship between target gains and combined gains		Zero *(P5c)*		-ve *(P7c)*

* Indicates a non-differentiating test
** Can be zero or negative if Hubris cases dominate the group
Combined returns are the returns to the bidder and target companies together
Test propositions (see Chapter 5) are referred to as *(Pxy)*

results are compared on a normalised basis for each regulatory outcome and displayed graphically for comparison.

The results of the tests indicate only weak evidence of market perceptions of Managerialism. This is in contrast to earlier motivation research using similar methodology carried out in the USA (see Berkovitch and Narayanan, 1993; Seth et al., 2000).

7.2 Results for All Merger Cases Taken Together: Synergy, Hubris or Managerialism?

By taking all merger cases together within each regulatory grouping, we are able to obtain an overall view of market perceptions of the merger. This allows the first assessment of whether Synergy, Hubris and Managerialism were considered to be present as motives for the mergers by investors. Table 7-2 lines A to F provides the descriptive statistics for the tests on all of the merger cases included in the study, and relates to lines A to F in Table 7-1 for comparison with expectations, and to Table 7-5 lines A to F for a summary of the motivations found.

7.2.1 Results for the Combined Firms

The results (Table 7-2 line A) show significant positive combined gains except for the group of mergers that were "prohibited" after referral to the MMC/CC. The "prohibited" grouping showed a small non-significant gain. From our expectations (Table 7-1 line A), these results indicate that the "waived through", "referred completed", "laid aside"[14], and "allowed not completed" groups showed market perceptions of Synergy. The "prohibited" group showed evidence of Hubris. Although the result for the prohibited group had a positive sign, the coefficient value is low and the result was statistically insignificant at the 10% level or better, and hence statistically indistinguishable from zero. This interpretation is summarised in Table 7-5 line A.

[14] "Laid aside" is the term used by the competition authorities for mergers which are abandoned after a referral to the MMC/CC.

Table 7-2. Test results for all merger cases studied

Tests		Waived through	"referred completed"	Referred not completed: Prohibited	Laid aside	Allowed not completed
All the cases						
A. combined gains on average (%)		3.2	3.5	0.4	6.2	9.4
	p	0.000	0.002	0.317	0.009	0.000
	sig	***	***	ns	***	***
B. bidder gains on average (%)		-0.2	2.0	-3.7	0.9	-1.6
	p	0.917	0.387	0.000	0.929	0.764
	sig	ns	ns	***	ns	ns
C. target gains on average (see note 1) (%)		16.4	19.3	17.2	23.4	35.1
	p	0.000	0.000	0.000	0.000	0.000
	sig	***	***	***	***	***
D. proportion of cases with +ve combined gains (%)		63.2	81.0	50.0	100.0	83.3
(see note 2)	*p*	0.359	0.007	1.000	0.016	0.219
	sig	ns	***	ns	**	ns
E. relationship between target gains and bidder gains (β)		0.60	-0.26	1.49	-0.87	0.32
	p	0.370	0.711	0.405	0.394	0.111
	sig	ns	ns	ns	ns	ns
F. relationship between target and combined gains (β)		1.57	1.20	2.84	-0.23	0.86
	p	0.014	0.172	0.001	0.896	0.279
	sig	**	ns	***	ns	ns
number of cases		19	21	10	7	6

Note 1. This test does not differentiate between motivations

Note 2. Binomial test for 50% ratio

*** = significant at the 0.01% level
** = significant at the 0.05% level
ns = not statistically significant at the 0.1% level

7.2.2 Bidder Company Results

Bidder company gains (Table 7-2 line B) were smaller and non-significant for all of the merger groups except for the "prohibited" group, which showed a significant loss of 3.7%. Comparing these results with our expectations (Table 7-1 line B) again indicates that investors perceive Synergy predominates in all of the merger groupings, except for those cases that were eventually prohibited. The "prohibited" cases indicated perceptions of Hubris or Managerialism. These motivation results are summarised in Table 7-5 line B.

7.2.3 Target Company Returns

Target company returns (Table 7-2 line C) were all significantly positive, ranging from gains of 16% to 35%. However, as a positive return is expected for all motivations (Table 7-1 line C), this test does not differentiate between motives and will not be considered further.

7.2.4 Proportion of Cases with Positive Gains

The proportion of cases with positive combined gains (Table 7-2 line D) is significantly greater than that which might arise by chance (i.e. significantly greater than 50% using a Binomial test) for "referred completed" and the "laid aside" groups. The proportion of positive gains equal to those expected by chance (i.e. not significantly different to 50%) was found in the "waived through", "prohibited" and "allowed not completed" groupings. Comparing these results with expectations (Table 7-1 line D) indicates a perception by investors of Synergy in "referred completed" and "laid aside" groups, and Hubris is indicated in the "waived through", "prohibited" and "allowed not completed" groups. None of the groups were significantly less than 50% and hence there was no indication of investor perception that Managerialism dominated. These results are summarised in Table 7-5 line D.

7.2.5 Relationships of Target to Bidder and Combined Gains

The relationship between target and bidder gains (Table 7-2 line E) was not significant (i.e. statistically indistinguishable from a zero result) for any of the groups of mergers. Comparing this result to our expectations (Table 7-1 line E) indicates evidence of a perception of Synergy in all groups.

The relationship between target and combined gains (Table 7-2 line F) is significantly positive for the "waived through" and "prohibited" groups, indicating Synergy when compared to expectations (Table 7-1 line F). The “referred completed”, “laid aside” and “allowed not completed” groups did not show a significant relationship, indicating Hubris when compared to expectations (Table 7-1 line F).

These results are summarised in Table 7-5 lines E and F.

7.2.6 Summary of Test Results for All Cases Examined Together

From the summary of motivation results in Table 7-5 below, evidence of Synergy is clearly present. However, there is also evidence of perceptions of Hubris as a merger motivation. Only the “prohibited” group of mergers showed any indications that Managerialism was the perceived motive, though this is weak.

Each decision group recorded either Synergy or Hubris for all five differentiating tests, except in one test for one group (Table 7-5 line B column “prohibited”), which could have had a Hubris or a Managerialism (or both) interpreted result. The “waived through”, “referred completed”, and “laid aside” groups each had four Synergy and one Hubris results, “allowed not completed” three Synergy and two Hubris results, while “prohibited” had two Synergy two Hubris and one Hubris or Managerialism result.

We now examine the results for groupings of positive and negative combined gains merger cases in more detail. The positive combined gains group is examined to determine the balance of Synergy and Hubris present in value creating mergers, while the negative combined gains group is examined to determine the balance of Hubris and Managerialism in value destroying mergers.

7.3 Results for Positive Combined Gains: Synergy v Hubris?

The Synergy Hypothesis proposes that mergers will only take place if value is created by the merger, as indicated by positive combined gains for the bidder and target companies. When mergers are motivated by Synergy in the presence of Hubris, valuation errors are made which reduce these combined gains. By examining only cases with positive combined gains, all cases will involve Synergy as a motivation. However, it is possible to test for evidence of Synergy alone and Synergy in the presence of Hubris. The differentiating tests can be seen from lines G, I, J, K, L, and M. Table 7-3 gives the results for the positive combined gains cases, again grouped by regulatory decision.

From the expectations in Table 7-1, we expect bidder gains to be positive when motivated by Synergy alone and by Synergy in the presence of Hubris. However, if the Hubris cases are dominant in this positive combined group, bidder gains can fall to zero or be negative.

7.3.1 Bidder Company Returns

Our results for bidder gains (Table 7-3 line G) indicate a significant positive gain for "waived through" and "referred completed" cases, and a non-positive gain (i.e. statistically non-significant or significantly positive) for "prohibited", "laid aside" and "allowed not completed" mergers. Comparing these findings with our expectations (Table 7-1 line G), we can conclude that investors perceived that Synergy alone or Synergy in the presence of a minority of Hubris cases motivated the "waived through" and "referred completed" groups. However, stronger evidence of perceptions of Hubris dominating in mergers existed in the "prohibited", "laid aside" and "allowed not completed" groupings. The "waived through" and "referred completed" groups have been categorised as motivated by Synergy. The "prohibited", "laid aside" and "allowed not completed" groups, which also demonstrated evidence of Hubris, have been categorised as Synergy coexisting with Hubris. These motivation results are summarised in Table 7-5 line G.

7.3.2 Target Company Returns

Target gains (Table 7-3 line H) are significantly positive for all of the merger groupings, ranging from almost 22% to 38% and this agrees with expectations (Table 7-1 line H). However this test does not allow us to differentiate between Synergy and Hubris because all motivations are expected to produce the same outcome of positive target returns. Therefore, this result will not be considered further.

Table 7-3. Test results for positive combined firm (bidder plus target firm) returns.

Tests		Waived through	"referred completed"	Referred not completed: Prohibited	Referred not completed: Laid aside	Referred not completed: Allowed not completed
Positive combined returns subgroup						
G. bidder gains on average (see note 1) (%)		3.2	3.9	-2.1	0.9	2.0
	p	0.002	0.015	0.072	0.929	0.147
	sig	***	**	*	ns	ns
H. target gains on average (see note 2) (%)		22.3	21.8	28.9	23.4	38.0
	p	0.000	0.000	0.000	0.000	0.000
	sig	***	***	***	***	***
I. proportion of cases with +ve bidder gains (%)		83.3	76.5	40.0	71.4	60.0
(see note 3)	*p*	0.039	0.049	1.000	0.453	1.000
	sig	**	**	ns	ns	ns
relationships between target and bidder gains (β)						
J. all positive combined gains cases		0.17	-0.90	0.65	-0.87	-0.27
	p	0.841	0.281	0.600	0.394	0.871
	sig	ns	ns	ns	ns	ns
K. positive bidder gains subgroup		1.14	-0.29	6.06	-0.18	4.57
	p	0.284	0.703	0.356	0.934	0.019
	sig	ns	ns	ns	ns	**
	number of positive bidder gains cases	9	13	2	5	3
L. negative bidder gains subgroup		-2.10	-10.90	-0.78	-1.58	-5.34
	p	0.282	0.033	0.391	0.709	0.013
	sig	ns	**	ns	ns	**
	number of negative bidder gains cases	3	4	3	2	2
M. relationship between target and combined gains (β)		1.44	0.80	1.17	-0.23	0.99
	p	0.146	0.474	0.322	0.896	0.437
	sig	ns	ns	ns	ns	ns
number of all positive combined gains cases		12	17	5	7	5

Note 1. This test only differentiates if Hubris cases are dominant in the group

Note 2. This test does not differentiate between motivations

Note 3. Binomial test for 50% ratio

*** = significant at the 0.01% level
** = significant at the 0.05% level
* = significant at the 0.1% level
ns = not statistically significant at the 0.1% level

7.3.3 Proportion of Cases with Positive Returns

Examining the proportion of cases with positive bidder gains (Table 7-3 line I) shows "waived through" and "referred completed" groups have proportions significantly greater than 50% (i.e. significantly greater than would occur by chance), supporting evidence of investors' perceptions of Synergy as the dominant motivation (cf Table 7-1 line I). However, "prohibited", "laid aside" and "allowed not completed" groups had proportions not significantly different to 50%, supporting evidence of perceptions of Synergy in the presence of Hubris (cf Table 7-1 line I). These findings are summarised in Table 7-5 line I.

7.3.4 Relationships of Target to Bidder and Combined Returns

Closer examination of the relationship between target and bidder gains allows indications of Hubris to be detected. For all the cases in this positive combined gains group, the relationship between target and bidder gains (Table 7-3 line J) is non-significant, indicating Synergy motivation in the presence of Hubris (Table 7-1 line J). By sub-dividing this positive *combined* returns group into positive and negative *bidder* returns sub-groups, and comparing these two target to bidder relationships in the sub-groups, we are able to detect Hubris if the relationships are significantly different. When Hubris is present, we expect the negative bidder gains subgroup to have a negative target to bidder gains relationship and be significantly different to the positive subgroup. If the relationships of the positive and negative sub-groups are not significantly different, an investor perception of Hubris is considered not to be present. Using this approach and comparing results (Table 7-3 lines K & L) with our expectations (Table 7-1 lines K & L), we find evidence of Synergy in the "waived through", "prohibited", and "laid aside" groups, and evidence of Synergy in the presence of Hubris in the "referred completed" and "allowed not completed" groups.

Finally, we examine the relationship between target and combined gains. Comparing results (Table 7-3 line M) with our expectations (Table 7-1 line M) we find all groups show evidence of Synergy coexisting with Hubris.

These results are summarised in Table 7-5 lines J, K, L, and M.

7.4 Results for Negative Combined Gains: Hubris v Managerialism?

We would expect to find evidence of either Hubris or Managerialism in the negative combined gains group since both theories can explain value destruction. Closer examination of the negative combined returns group in Table 7-4 allows differentiation of Hubris and Managerialism.

Table 7-4. Test results for negative combined firm (bidder plus target firm) returns.

Tests		Waived through	"referred completed"	Referred not completed: Prohibited	Referred not completed: Laid aside	Referred not completed: Allowed not completed
Negative combined returns subgroup						
N. bidder gains on average (see note 1) (%)		-5.9	-5.8	-5.3	na	-19.6
	p	0.000	0.003	0.000	na	0.012
	sig	***	***	***	na	**
O. target gains on average (see note 1) (%)		6.4	8.8	5.6	na	20.2
	p	0.000	0.007	0.000	na	0.001
	sig	***	***	***	na	***
P. relationship between target and combined gains (β)		3.51	5.95	5.69	na	na
	p	0.288	0.206	0.001	na	0.000
	sig	ns	ns	***	ns	ns
number of negative combined gains cases		7	4	5	0	1

Note 1. This test does not differentiate between motivations

*** = significant at the 0.01% level
** = significant at the 0.05% level
* = significant at the 0.1% level
ns = not statistically significant at the 0.1% level

7.4.1 *Bidder and Target Returns*

Bidder gains and target gains (Table 7-4 lines N & O) in this negative combined gains group are as expected (Table 7-1 lines N & O), but these tests do not differentiate between Hubris and Managerialism. Bidder gains (Table 7-4 line N) are all significantly negative from -19 .6% to -5 .3%. Target gains (Table 7-4 line O) are all significantly positive, between 5.6% and 20.2%. Apart from noting these test results are as expected, they will not be discussed further.

The test that differentiates between Hubris and Managerialism is the relationship between target and combined gains. Our results for this test (Table 7-4 line P) show no significant relationship except for the "prohibited" group, where the result is significantly positive. A comparison of the results with expectations (Table 7-1 line P) indicates evidence of perceptions of managerial Hubris amongst investors. However, no evidence of Managerialism was found by this test in the negative combined gains group.

The significant positive result for the negative combined gains of the "prohibited" group is not consistent with our original expectations. In Managerialism value is considered not to be created but transferred from the bidder to the target shareholders and to management, and we expected an inverse relationship between target and combined gains. As value is transferred to managements' welfare, contributing to negative combined gains, bidders offer attractive premiums to ensure target shareholders accept the offer. The only other theoretical, motivational, cause of negative combined gains is Hubris. The primary expectation for Hubris, because of its random nature, is that no relationship exists between target and combined gains. However a non-negative relationship could be also interpreted as excluding Managerialism. Therefore in the negative combined gains group our test result expectation for Hubris could be extended from no relationship to a non-negative relationship between target and combined gains. On this basis, we can reasonably interpret the positive relationship found as evidence of Hubris. As the result is non-negative, it cannot be interpreted as evidence of Managerialism, and the positive nature of this test result would seem to be a stronger rejection of Managerialism in this sample of cases.

7.5 Overall Interpretations of the Motivations Present

Using the above set of tests and comparing results with expectations has allowed us to identify market perceptions of the motivation for mergers in each group of the merger cases studied. The results of the tests are summarised in Table 7-5 and show the motivation appropriate to each test result (Table 7-5 lines A to P).

It is possible that each group of like regulatory decisions will contain a mixture of Managerial motivations. In an environment of multiple motivations within each group, it is to be expected that the test results will show a range of Management motivations present in each merger decision grouping, and we now look at how we may form a broad conclusion about motivations from the complex detailed results of the tests.

A method of scoring has been adopted, counting each motivation detected. First, a raw score is calculated for each decision group by counting the number of instances each motivation was found in the test results shown in Table 7-5. These raw scores are converted to a percentage score, representing the number of instances found as a percentage of the maximum number of instances possible for that motivation. The maximum number of instances is the number of tests that could produce a particular motivation result in Table 7-5. For Synergy this is the total number of tests in the "All the cases" (i.e. five tests) and "Positive combined returns subgroup" (i.e. five tests) sections of Table 7-5. The "Negative combined returns subgroup" cannot give a Synergy result, only Hubris or Managerialism. For Hubris and Managerialism the total number of tests that could produce those results is the number of tests in the "All the cases" (i.e. five tests) and ""Negative combined returns subgroup" (i.e. one test). Similarly for Synergy plus Hubris the number of tests that could give this result are those in the "positive combined gains subgroup" only (i.e. five tests). Following this approach gives the maximum score of ten for Synergy, six for Hubris, five for Synergy plus Hubris, and six for Managerialism. The percentage scores taken together form a profile for each group and are shown in the bottom section of Table 7-5. In addition, the percentage score profiles for the decision groups are also shown graphically in Figure 7-1.

From the percentage scores Table 7-5 and Figure 7-1, differences can be seen between the profiles of the merger groups studied. The "waived through" group is clearly dominated by investor perceptions of Synergy as the dominant rationale for the mergers, though evidence of Hubris is also present. The "referred completed" group is less dominated by perceptions of Synergy and contains greater evidence of Hubris. In this group both Synergy and Hubris clearly coexist. The level of Hubris in both the "waived through" and "referred completed" groups is similar and neither of these groups shows evidence of Managerialism.

By contrast, the "prohibited" group shows the lowest indication of perceived Synergy alone, while evidence of Hubris alone and coexisting with Synergy dominated the motivations. The "prohibited" group was the only group to show any evidence of Managerialism, although this result was weak. The "laid aside" group had a similar profile to the "referred completed" group, but with slightly less evidence of Synergy and more of Hubris. Finally, the "allowed not completed" group showed evidence of the lowest level of Synergy, the highest level of Hubris, and was dominated by cases where Synergy and Hubris coexisted.

Table 7-5. Summary of the categorisation of managerial motivation by grouping of mergers.

Tests	Waived through	"referred completed"	Referred not completed: Prohibited	Referred not completed: Laid aside	Referred not completed: Allowed not completed
All the cases					
A. combined gains on average (%)	S	S	H	S	S
B. bidder gains on average (%)	S	S	H or M	S	S
C. target gains on average (%) (see note 1)					
D. proportion of cases with +ve combined gains (%)	H	S	H	S	H
E. relationship between target gains and bidder gains (β)	S	S	S	S	S
F. relationship between target and combined gains (β)	S	H	S	H	H
Positive combined returns subgroup					
G. bidder gains on average (%) (see note 2)	S	S	H+S	H+S	H+S
H. target gains on average (%) (see note 1)					
I. proportion of cases with +ve bidder gains (%)	S	S	S+H	S+H	S+H
relationships between target gains and bidder gains (β)					
J. all positive combined gains cases	S+H	S+H	S+H	S+H	S+H
K&L. pos & neg bidder gains subgroup interpreted together	S	S+H	S	S	S+H
M. relationship between target and combined gains (β)	S+H	S+H	S+H	S+H	S+H
Negative combined returns subgroup					
N. bidder gains on average (%) (see note 1)					
O. target gains on average (%) (see note 1)					
P. relationship between target gains and combined gains (β)	H	H	H	(see note 3)	(see note 3)
Scores					
Raw scores					
Synergy (max score of 10)	7	6	3	5	3
Hubris (maximum score of 6)	2	2	3	1	3
Synergy + Hubris (maximum score of 5)	2	3	4	4	5
Managerialism (maximum score of 6)	0	0	1	0	0
Percentage scores (see note 4)					
Synergy	70	60	30	50	30
Hubris	33	33	50	17	50
Synergy + Hubris	40	60	80	80	100
Managerialism	0	0	17	0	0

S indicates evidence of Synergy, H indicates Hubris, S+H indicates Synergy in the presence of Hubris, H+S indicates Synergy and Hubris with Hubris dominant, M indicates Managerialism, and H or M shows evidence that Hubris or Managerialism or both could be present.

Note 1. This test does not differentiate between motivations and is not included in the scores.

Note 2. This test only differentiates when Hubris cases dominate the group and denoted by H+S, otherwise interpreted as S if +ve.

Note 3. The number of cases in this group was too small for analysis.

Note 4. Calculated by taking the actual points of agreement as a percentage of the maximum points of agreement (maximum of 10 for Synergy, 6 for Hubris, 5 for Synergy +Hubris, and 6 for Managerialism)

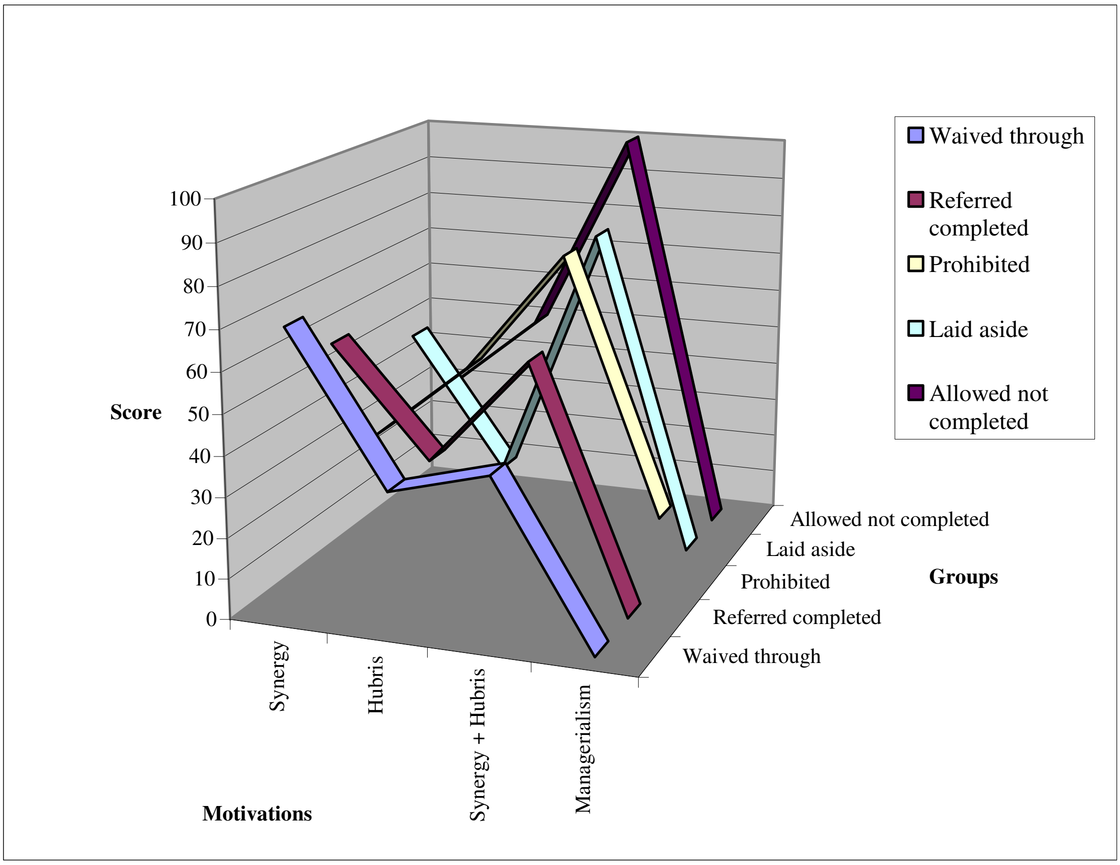

Figure 7-1. Competition policy, managerial motivations and merger outcomes.

7.6 Sensitivity of the Overall Motivation Results to the Use of Initial Pre-referral Returns

The first regulatory announcement by the competition regulator relating to a merger is either the announcement of the case being "waved through", or being "referred" to the MMC/CC for inquiry. After this point the outcome depends on decisions made following the inquiry, if the merger has been referred. In order to make an equitable judgement of evidence of motivations, results have been based in this research on market returns made between announcement of the deal and up to, but not including, the first regulatory announcement. This allows all cases to be considered on an equal basis, since judgements by the financial markets will all relate to the same degree of regulatory uncertainty. It also allows both completed and uncompleted mergers to be evaluated.

Previous studies on USA mergers (see Berkovitch and Narayanan, 1993; Seth et al., 2000) using similar methodology to this research, published results based on completed merger cases only. In view of the lack of evidence of Managerialism in this research compared to these earlier US studies, this section investigates if the use of initial pre-referral returns could have been responsible for the lack of evidence of Managerialism in this research.

7.6.1 Sensitivity Analysis

The question that requires an answer is: -

> "*Could the use of initial pre-referred returns, rather than complete deal returns, cause changes to the interpretations of a motivation that might explain differences from earlier research?*"

To examine this question all merger cases that were completed (i.e. waved through and referred completed groups) had the test results calculated using both initial pre-referral returns and total deal returns. These results are presented in Table 7-6. It is to be expected that the numerical test results will differ slightly for the pre-referral and full deal returns in each group. However the differences are only material if they change the outcome of the assessment of the motivations when compared with Table 7-1. The comparative summary of assessments is shown in Table 7-7.

7.6.2 Comparison of Motivation Assessments based on Initial Pre-referral and Full Deal Returns

Comparison of the motivational assessments in Table 7-7 reveals that the overall motivation profile for the referred completed group is not changed by using initial pre-referral or full deal returns. The waved through group exhibited a slight increase in evidence of Synergy, while evidence of Hubris, and Synergy coexisting with Hubris decreased, when the full deal returns were used. Significantly, when the full deal returns were used, there were still no results that could be interpreted as evidence of perceptions of Managerialism.

Table 7-6. Comparison of Completed Merger Test Results based on Initial Pre-referral and Full Deal Returns

Tests	Based on initial pre-announcement returns: Waived through	Based on initial pre-announcement returns: "referred completed"	Based on total deal returns: Waived through	Based on total deal returns: "referred completed"
All the cases				
A. combined gains on average (%)	3.2	3.5	4.1	7.8
sig	***	***	**	**
B. bidder gains on average (%)	-0.2	2.0	-0.3	7.5
sig	ns	ns	ns	ns
C. target gains on average (see note 1) (%)	16.4	19.3	18.6	26.8
sig	***	***	***	***
D. proportion of cases with +ve combined gains (%)	63.2	81.0	73.7	66.7
(see note 3) sig	ns	***	*	ns
E. relationship between target gains and bidder gains (*β*)	0.60	-0.26	0.03	0.28
sig	ns	ns	ns	ns
F. relationship between target and combined gains (β)	1.57	1.20	0.21	0.32
sig	**	ns	***	**
number of cases	19	21	19	21
Positive combined returns subgroup				
G. bidder gains on average (see note 2) (%)	3.2	3.9	3.7	12.7
sig	***	**	**	***
H. target gains on average (see note 1) (%)	22.3	21.8	22.9	32.4
sig	***	***	***	***
I. proportion of cases with +ve bidder gains (%)	83.3	76.5	78.6	66.7
(see note 3) sig	**	**	*	ns
relationships between target and bidder gains (β)				
J. all positive combined gains cases	0.17	-0.90	-0.07	0.33
sig	ns	ns	ns	ns
K. positive bidder gains subgroup	1.14	-0.29	0.05	0.58
sig	ns	ns	ns	*
number of positive bidder gains cases	9	13	11	10
L. negative bidder gains subgroup	-2.10	-10.90	-0.154	-0.10
sig	ns	**	ns	ns
number of negative bidder gains cases	3	4	3	5
M. relationship between target and combined gains (β)	1.44	0.80	0.15	0.39
sig	ns	ns	***	*
number of all positive combined gains cases	12	17	14	15
Negative combined returns subgroup				
N. bidder gains on average (see note 1) (%)	-5.9	-5.8	-11.5	-5.5
sig	***	***	***	*
O. target gains on average (see note 1) (%)	6.4	8.8	6.6	13.5
sig	***	***	***	***
P. relationship between target and combined gains (β)	3.51	5.95	0.04	0.01
sig	ns	ns	ns	ns
number of negative combined gains cases	7	4	5	6

Note 1. This test does not differentiate between motivations
Note 2. This test only differentiates if Hubris cases are dominant in the group
Note 3. Binomial test for 50% ratio
*** = significant at the 0.01% level
** = significant at the 0.05% level
* = significant at the 0.1% level
ns = not statistically significant at the 0.1% level

Table 7-7. Comparison of Motivation Profiles based on Initial Pre-referral and Full Deal Returns

Interpretations of motivations from test results	Based on initial pre-referral returns		Based on total deal returns	
Tests	Waived through	"referred completed"	Waived through	"referred completed"
All the cases				
A. combined gains on average (%)	S	S	S	S
B. bidder gains on average (%)	S	S	S	S
C. target gains on average (%) (see note 1)				
D. proportion of cases with +ve combined gains (%)	H	S	S	H
E. relationship between target gains and bidder gains (β)	S	S	S	S
F. relationship between target and combined gains (β)	S	H	S	S
Positive combined returns subgroup				
G. bidder gains on average (%) (see note 2)	S	S	S	S
H. target gains on average (%) (see note 1)				
I. proportion of cases with +ve bidder gains (%)	S	S	S	S+H
relationships between target gains and bidder gains (β)				
J. all positive combined gains cases	S+H	S+H	S+H	S+H
K&L. pos & neg bidder gains subgroup interpreted together	S	S+H	S	S+H
M. relationship between target and combined gains (β)	S+H	S+H	S	S
Negative combined returns subgroup				
N. bidder gains on average (%) (see note 1)				
O. target gains on average (%) (see note 1)				
P. relationship between target gains and combined gains (β)	H	H	H	H
Scores				
Raw scores				
Synergy (maximum score 10)	7	6	9	6
Hubris (maximum score 6)	2	2	1	2
Synergy + Hubris (maximum score 5)	2	3	1	3
Managerialism (maximum score 6)	0	0	0	0
Percentage scores (see note 4)				
Synergy	70	60	90	60
Hubris	33	33	16	33
Synergy + Hubris	40	60	20	60
Managerialism	0	0	0	0

S indicates evidence of Synergy, H indicates Hubris, S+H indicates Synergy in the presence of Hubris, H+S indicates Synergy and Hubris with Hubris dominant, M indicates Managerialism, and H or M shows evidence that Hubris or Managerialism or both could be present.

Note 1. This test does not differentiate between motivations and is not included in the scores.

Note 2. This test only differentiates when Hubris cases dominate the group and denoted by H+S, otherwise interpreted as S if +ve.

Note 3. The number of cases in this group was too small for analysis.

Note 4. Calculated by taking the actual points of agreement as a percentage of the maximum points of agreement (maximum of 10 for Synergy, 6 for Hubris, 5 for Synergy + Hubris, and 6 for Managerialism)

This comparison of profiles for completed merger cases has been based on the use of initial pre-referral returns compared to full deal returns for evaluating investor perceptions of Managerial motivations. It is possible to say that this methodological change does not offer an explanation of differences with earlier USA research findings, particularly regarding the lack of UK evidence of Managerialism. It can be assumed this methodological difference is not the explanation. Other possible explanations will be discussed in Chapter 8.

7.7 Summary

This chapter reports the results of tests to identify motives, as perceived by the capital markets and therefore reflected in share price movements, for managers pursuing mergers in the UK over the period 1989 to 2002. The analysis was based on the following approach: -

- The analysis reports the mix of motivations present in mergers, up to the point of first announcement by the Competition Regulator on a merger. This allows examination of completed and uncompleted mergers on an equitable basis.
- Mergers are grouped on the basis of the final ex-post decisions, which were only known after the regulatory process had been completed.
- The assessment of the motivations is based on a comparison of measured market returns for merger cases using expectations of the market response to mergers motivated by Synergy, Hubris and Managerialism (derived in Chapter 5)

The tests each identified motivations (i.e. Synergy, Hubris, Synergy coexisting with Hubris, and Managerialism) for each group (i.e. waived through, referred completed, prohibited, laid aside, and allowed not completed). These tests results were combined on a normalised basis and identified that: -

- In the case of "waived through" and "referred allowed" groups, mergers were motivated mainly by Synergy, although some evidence of Hubris was also found in these groups based on investors' perceptions.
- Where merger cases were referred to the MMC/CC and the deal was subsequently not completed (i.e. "allowed not completed" "laid aside" and "prohibited"), these

groups of cases were dominated by investor perceptions of Hubris coexisting with Synergy.

- Only very limited evidence of investor perceptions of Managerialism as the motive for mergers was found. Weak evidence was only found in the group of "prohibited" cases. The low evidence of Managerialism is in contrast to earlier research findings in the USA, which reported stronger evidence of Managerialism.
- Hubris was found to be present in all groups of cases. Both Hubris, and Synergy coexisting with Hubris, were highest in the "allowed not completed" and "prohibited" groups. The "laid aside" group showed similar levels of these motivations to the "referred completed" group but also showed lower evidence of Synergy.

An overall assessment of investors' perceptions of Managerial motivations present in the groups of cases investigated showed that: -

- Synergy and Hubris were both present in the value creating mergers (positive combined returns), while Hubris was present in value destroying mergers (negative combined returns).
- Hubris was clearly the more prevalent of the two "value reducing" motivations, Hubris and Managerialism. Only limited and weak evidence of Managerialism was found, while Hubris appeared in all groups to varying degrees.

In order to investigate the lack of evidence of Managerialism found in the study, sensitivity analysis was carried out to determine if the use of initial pre-referral returns could have led to this assessment. The analysis found that: -

- The use of initial pre-referral returns cannot explain the lack of evidence of Managerialism in this sample of UK mergers compared to earlier research findings of USA mergers (see Berkovitch and Narayanan, 1993; Seth et al., 2000) that used full deal returns. Other possible reasons for the finding on Managerialism in this research compared to earlier studies are explained in Chapter 8.

8 Discussion of Results and Conclusions.

8.1 Introduction.

The purpose of this chapter is to develop the wider picture of how the research findings presented in Chapters 6 and 7 fit with the existing literature discussed in Chapter 2 and the original research question in Chapter 1. It also discusses the implications of the findings for theory, previous empirical findings, research methodology and policy and practice and identifies items of new knowledge. Finally the chapter looks at the limitations of the research and suggests areas for beneficial future research. To help build the final picture, a brief summary of each previous chapter will assist the reader to place the findings of this research in context.

Chapter 1, Introduction, opened this thesis with a discussion around mergers, aspects of their success and failure and why managers pursue these high-risk ventures. Merger regulation was introduced to ensure mergers were only allowed to proceed when the resulting combination did not work against the public interest, chiefly by reducing competition. The research question was formulated as: -

> *"What effect does the regulation of mergers by the competition authorities in the UK have on shareholder value and managers' motivations for undertaking mergers?"*

In Chapter 2, Literature Review, the existing literature was examined to determine the current state of knowledge and identify the knowledge gaps relating to the research question. With regard to the shareholder value, it concluded that the existing literature only covered mergers from mid 1960s to around 1990. Since then stock market rules have made information available more promptly and consistently, Corporate Governance rules have developed, and a series of privatisation mergers have been attempted under a dual regulator arrangement, where the competition regulator works in tandem with the industry specific regulator. It would therefore seem worthwhile to investigate this later period from 1989 to 2002 to see if the empirical findings of earlier work still applied.

Regarding the second part of the research question relating to managers' motivations for mergers, existing literature had examined factors associated with the relationship between the CEO, the Board and the shareholders. In addition, some work had been done in the US to explore the role of Synergy seeking, Hubris and Managerialism in pursuing mergers. However, this had not examined the effect of merger regulation by the competition authorities on these motivations and none of the existing research related to UK mergers. It was therefore worth investigating what relationship existed between Synergy seeking, Hubris and Managerialism in mergers to the decisions made by the UK competition authorities.

Chapter 3, Mergers and Merger Regulation in the UK, outlined the approach adopted to UK competition regulation to avoid a reduction in competition, by controlling mergers when necessary. The chapter describes the stages involved in the regulatory process in the context of merger practice. It concludes that the process is only aimed at control of competition, and is not charged with any responsibilities for, or involvement with, consideration of shareholder value impacts of mergers. The capital markets make their own predictions of likely regulatory outcomes based on their knowledge of the particular circumstances of a merger and the regulatory regime. In this respect a clear unambiguous statement of policy linked with a consistent approach to the application of policy in merger cases is essential for the capital market to operate efficiently.

In Chapter 4, Methodology, we considered the possible methods available for investigating the research questions, discussed the research paradigm and the ontological and epistemological considerations. Hypothetico-deductive approaches were presented, testing propositions based on capital market returns measured at relevant events in the regulatory process. These returns were measured using event study techniques.

Chapter 5, Methods and Data, developed the conceptual approach from Chapter 4, detailing the event study measurement method, giving details of the data collected and also forming the test propositions.

Chapters 6 and 7 reported the findings of the measurements and tests. Chapter 6, the Results for Shareholder Value, concentrated on shareholder value, related specifically to the stages in the regulatory process and the various decision outcomes at the end of the regulatory process. It also presented the shareholder value results under a range of circumstances and reported evidence of less efficient capital market pricing during mergers involving what were termed for convenience as "privatised industries" (industries co-regulated by the competition regulator plus at least one industry specific regulator).

Chapter 7, Results for Managers' Motivations, presented results from the tests assessing Managers' motivations as perceived by the capital market. It found that mergers waved through by the OFT were mainly motivated by Synergy, though some evidence of hubris also existed in this group. When mergers were referred for inquiry to the MMC/CC, the strength of evidence of Synergy decreased, while evidence of Hubris increased. Mergers that were not completed contained the strongest evidence of Hubris. Surprisingly, unlike similar earlier research in the US, only weak evidence of Managerialism was found.

This chapter now provides a further discussion of the results presented in Chapters 6 and 7. It applies the findings to the original research questions of Chapter 1 and considers the literature discussed in Chapter 2, to form a complete picture. The chapter concludes by indicating where this work has contributed to knowledge and the implications arising from the work in the areas of theory, empirical findings, methodology and practice/policy. An assessment of the limitations of the research and indications for possible fruitful areas of future research are also covered.

8.2 Shareholder Returns Comparisons with Earlier Research.

Competition policy can be expected to impact on shareholder value during each stage of a merger inquiry process. Investors can be expected to reassess the probable final outcome of the inquiry at each step in the process, repeatedly revising the share prices of the merging companies. This research has examined the impact of UK competition policy on shareholder value based on 50 mergers investigated by the MMC/CC between 1989 and 2002. The study builds on earlier work on the effects of competition policy on shareholder value (especially Wier, 1983; Franks and Harris, 1993; Forbes, 1994) and additionally examines whether the regulatory process decreases efficient market behaviour in certain industry groupings.

The empirical results support the findings of earlier work in the US and UK regarding the general level of shareholder value created for the bidder and target companies with target company shareholders being the main beneficiaries. They also support earlier findings that, on average, high abnormal losses are incurred by target company shareholders when a decision is announced by competition authorities prohibiting a merger. However, taking the regulatory process from initial bid to the MMC/CC's final decision, the study does not support the conclusion of Wier (1983) that target shareholders faced with a prohibition decision make an overall loss. Instead, a small gain to target company shareholder value is recorded.

UK competition policy has been in existence for over 50 years and while it has gone through a number of changes, most recently with the Competition Act 1998 and the Enterprise Act 2002, investors should have developed an understanding of the likelihood of a referral to the MMC/CC and the likely decision of the Commission. This understanding will be based on past experience involving similar mergers. It is likely that with the benefit of experience, investors' judgements of possible competition policy outcomes will be reasonably stable. This offers one possible explanation for the small percentage losses to target company shareholders reported by Wier (1983) compared to the results from this study, which found a small gain to shareholders in target companies. Wier's study deals with a different competition regime, that of the US, and perhaps the US stock market had more difficulty in the period studied in correctly anticipating competition policy decisions. However, in view of the long period over which the US has had antitrust legislation, dating back to the 1890 Sherman Act and the 1914 Clayton Act, experience of the US regime should have been well documented and understood during Wier's study period of December 1962 to March 1979.

8.2.1 Industries with Industry Specific Regulators.

The results also indicated that mergers involving industries in the water, electricity and communications industries that were subject to competition inquiries showed less efficient market behaviour than those in other industries. The explanation for this possibly lies in the greater uncertainty that surrounded the response of dual regulators to mergers in these sectors. The water and electricity sectors had been given a particular organisational structure at privatisation and it was unclear whether the regulators would allow this structure to be altered through mergers. The government was known to take a special interest in the future of communications because of the perceived importance of this industry for national wellbeing. The "privatisation" cases may have experienced share price changes that were influenced by inexperience on the part of investors of the dual regulatory regime that exists for these sectors in the UK, involving both the MMC/CC and sector-specific regulatory offices. Another possible explanation relates to the large number of smaller shareholders in privatised firms as a result of government policy at privatisation. Small investors are likely to be less knowledgeable about competition policy than the financial institutions. Our research was unable to separate out these different possible explanations because the method used was not suitable for investigations of that nature.

In summary, the study identifies that where a competition policy regime is stable and understood, there is no evidence of adverse overall costs due to share price movements for shareholders of target companies, when a merger bid is taken in its entirety from announcement to completion. Cases were also tested for evidence of efficient market behaviour using Propositions 1 and 2 as formulated in Chapter 5, section 5.5.1 and with the results reported in Chapter 6, section 6.3. Both Propositions (repeated below in *italics*) are based on the assumption of efficient market behaviour and provide a yardstick against which cases are tested directly.

- *Proposition 1. In merger cases where the deal is prohibited by the regulator or abandoned by the companies, the value change arising from bid specific events to the target company, from bid announcement to bid abandonment, is expected to be zero.*

- *Proposition 2. In merger cases where the deal is allowed (but not conditionally allowed) the value change arising from bid specific events to the target company from bid to deal close is greater than zero.*

Conditionally allowed cases were excluded from tests of these propositions because their outcomes can vary widely. They represent a continuous spectrum of decisions in the middle ground between allowed (as presented by the bidder) and prohibited, and depend on the nature and degree of remedies required by the MMC/CC. As such they present a classification problem for use in these tests, and have been omitted.

While the "other" industry group cases matched both propositions, the "privatised" industry group failed to match in about half of the cases. This provides evidence that the market behaviour differed for the two groups. The "other" industry group, operating in a more stable, mature and less complex regulatory regime, showed evidence of efficient market behaviour having taken place. However the "privatised" industry group with the dual (or even multiple) regulatory structure, of which investors had less experience, showed evidence of less efficient market behaviour. The evidence is consistent with a stable regulatory regime supporting efficient market behaviour. This finding suggests that where major changes to merger policy are introduced, it is to be expected that a period of adjustment will follow for investors, during which experience is being gained, before more efficient market behaviour returns, and investors, managers and policy makers should be cognisant of this when making plans.

8.3 Motivation Results.

This research has considered the stock market's perceptions of Managers' motivations for mergers and the possible impact of competition policy on those motivations. Collectively, stock market investors made judgements of the merger related announcements. These investors' judgements were then reflected in the market price movements. The classifications of Managers' motivations were inferred statistically from these share price movements for the merging firms resulting from the announcements specifically related to merger related events. The motivations were then classified into the three groups Synergy, Hubris and Managerialism. The results of Chapter 7 therefore reflect how capital market investors collectively interpreted and judged Managements' behaviour through information contained in the related merger announcements and information already released to the markets before the bid was announced.

In summary, the research results suggest that during the study period investors perceived Synergy as the dominant motivation for mergers which were "waived through" by the OFT. For those mergers referred to the MMC/CC by the OFT for a full competition investigation, the results indicate the "referred completed" group being motivated by Synergy and by Synergy coexisting with Hubris. However, in the three groups of merger cases where the deals were not completed Hubris dominated. Interestingly, there was an almost complete lack of evidence of Managerialism in the results with only weak evidence of it in the "prohibited" group. This stands in stark contrast to earlier US research findings. We will now discuss the results and their meaning in more depth.

8.3.1 Motivations in Cases Waived Through by OFT.

Of the 19 cases "waived through" by the OFT a total of 12 had positive gains for the combination (bidder plus target shareholders), while seven had negative combined gains. The cases overall showed evidence of Synergy dominating, but they also indicated it co-existed with Hubris. As these cases were "waived through" by the OFT, capital market investors would probably have been less concerned about the bidders' assessment of the possibility of regulatory intervention in the bidders original bid proposal and more concerned about possible valuation errors in bids. In the negative combined group only evidence of Hubris was found.

The results suggest that the group of cases “waived through” by the OFT were motivated by Managers seeking benefits, savings and synergies from combination. However the results also suggest that markets detected some signs of overpayment for the shares of the target firm, hence leading to reduced shareholder value for bidders’ shareholders. The risk of regulatory intervention would be low in this group, and therefore the capital market is less likely to have perceived Managers had incorrectly underestimated this risk.

8.3.2 Motivations in Cases Referred to the MMC/CC by the OFT.

In the UK, competition policy has been based on preventing mergers where there would be a detrimental effect on the public interest and more recently where mergers can be expected to lead to a substantial lessening of competition. Where the OFT suspect mergers fall into this group they refer them to the MMC/CC for an inquiry and decision on the competition issues of the cases. It is not the role of the OFT and the MMC/CC to protect shareholders from ill-founded mergers that lead to a reduction in shareholder value. Neither are competition authorities concerned with policing mergers for Hubris and Managerialism. Nevertheless, our findings suggest that, *as a by-product*, the competition regime may have these effects.

The almost universal presence of Hubris in the initial bids of referred cases does suggest that these merger bids are perceived as error prone from the outset. However, in some of the groupings where Hubris was perceived, the mergers were not completed i.e. they were withdrawn and fall into the categories of “laid aside” and “allowed not completed”. It is possible, therefore, that because a competition inquiry by the OFT and especially by the MMC/CC delays the conclusion of a merger and turns the spotlight on it, the effect is to reduce the prevalence of Hubris and Managerialism. In particular, during a competition inquiry managers are asked to provide much information about the merger and its rationale. They also can be expected to seek advice from consultants (legal, economic and financial) and are accountable to major shareholders for the outcome of the inquiry. It is probable, therefore, that the competition inquiry provides time and the opportunity for Managers to rethink the case for the merger and to unearth errors in previous calculations and rationales for the merger. In this sense, the competition inquiry process may provide an unintended opportunity for Managers to reflect on cases and reconsider if they should proceed with their bid. This would eliminate some mergers motivated by Hubris and Managerialism and the associated value destruction. We will now look at the motivations associated with the referred cases.

8.3.2.1 Motivations in Referred Cases Allowed to Proceed After Inquiry.

In any cases referred to the MMC/CC for inquiry, the OFT has doubts about competition and regulatory aspects of these merger bids. When bid details are announced any aspects of regulatory doubt will be placed before the capital market and the collective judgements of investors will be exercised in the pricing. The referred cases have more competition issues than those “waived through” by the OFT, and therefore have greater potential for managers to underestimate the risk and consequences of regulatory intervention in addition to valuation errors. As with the valuation errors, over-estimation by bidders of the likelihood of regulatory intervention and an adverse finding would have made the merger more unattractive at the planning stage resulting in it not being pursued. Hence over-valuation errors and under-estimates of regulatory intervention are the only errors likely to be seen by capital markets.

The “referred completed” group includes seven “allowed” decisions and 14 “conditionally allowed” decisions (six involving behaviour remedies and eight with structure remedies). The “conditionally allowed” cases involve bidders agreeing remedies with the OFT in return for the merger being allowed to proceed. The behavioural remedies involve a change or restraint to operations of the combined entity, and would typically involve measures such as voluntary price restraint. Structural remedies involve changes to the structure of the proposed combined operation. Typically this involves organisational changes to combined corporate assets, often involving divestments and sales of assets of either the bidder or target companies, thereby limiting the degree of operation of the final merged entity in a market. The agreed remedies can have a significant financial and economic impact on the predicted outcome of the proposed merger from that originally described by the bidder in the initial bid announcement.

Cases likely to be referred will have unresolved regulatory issues when they are first announced. Bidders have an opportunity to negotiate an undertaking with the OFT in lieu of being referred, which can take place between the bid announcement and the OFT referral decision. Failure to address potential regulatory issues in advance of the OFT referral announcement would therefore be consistent with under estimation of the regulatory issues and the bid could be perceived by the capital markets as motivated by Hubris. The greater the significance of the unresolved regulatory issues when a bid is referred, the more likely capital markets would perceive the bidder's Management are motivated by Hubris.

The empirical findings for the "referred allowed" group are consistent with this argument. An increase in Hubris would be expected while Synergy would be expected to decrease. This would apply to merger cases that the capital markets expect to be referred even when there is a good chance of the merger eventually being allowed to proceed after inquiry.

8.3.2.2 Motivations in Referred Cases which were not Completed.

Referred merger cases that were referred but not completed fall into three decision groups, "laid aside, "prohibited" and "allowed not completed". Cases are laid aside during an inquiry when the bidder and target companies decide not to proceed with the merger and give undertakings to the competition regulator that the merger will not proceed. This may occur if the background to the bid changes (e.g. a new bidder makes a competitive bid for the target and the original bidder does not wish to enter a competitive bidding competition after the inquiry is completed). Alternatively, the bidder and the target may not wish either to take the risk of the deal being prohibited or the imposition of certain conditions on the deal by the MMC/CC and the OFT. Management in cases in the laid aside group reconsidered their positions after referral and obtaining further information. This makes this course of action consistent with the bidder being motivated by Hubris and discovering errors or over-confident assumptions in their initial bid. The empirical findings of the laid aside group, being motivated mainly by Synergy coexisting with Hubris, is consistent with this scenario with Management taking the opportunity to reconsider during the inquiry process.

In the prohibited merger cases the MMC/CC would have found evidence that the mergers are against the public interest, even though synergies may be significant in some mergers if allowed to proceed. Why then should our findings show the prohibited group of cases were initially perceived as dominated by Hubris rather than pure Synergy? Is this an artefact of the methodology and an aberration of the lens through which we are interpreting motivation, or is there an explanation of deeper significance?

A manifestation of Hubris is when a bidder's Management believes merger benefits are present and realisable at a level greater than the publicly available facts and data might support. For example, this could occur when the information available to the bidder about the target is limited during the bid process, and over-optimistic valuation judgements are made. In these circumstances, the capital market could arrive at different conclusions to the Management of bidding companies regarding the degree of value likely to be created by the merger. This difference of opinion is reflected in the pattern of bidder and target firms' share price movements and gains. The reported perception of Hubris in prohibited cases is consistent with over-optimistic Management in the bidding firms, underestimating the likelihood of regulatory intervention. Such over-optimism about the degree of anticipated regulatory intervention could arise, for example, from taking inadequate professional advice during bid preparation, ignoring professional advice, over-confident opinions by the bidder of their abilities to persuade the OFT or the MMC/CC of the merger's merits, "we will worry about it later if it happens" or "they wouldn't dare stop this deal because it's a special case…". Our finding of Hubris in prohibited cases is consistent with over-confident and unrealistic assessments by Managers of their abilities to persuade the regulators of their case and the possible impact of the subsequent regulatory intervention.

The “allowed not completed” group consists of merger cases that completed their inquiry and were allowed to proceed either conditionally or unconditionally. Events subsequent to the MMC/CC decision resulted in the bidder not completing the deal. There are only six cases of this in the full sample of mergers analysed and the details of the cases are shown in Table 8-1 to provide a better understanding of this group. All the cases were involved in competitive bidding and Table 8-1 shows the relationship to the competitive bidder. All the cases in the “allowed not completed” group are losers in competitive bidding situations who had announced the first bid. The regulatory treatment of the bidding competitors was very similar with both cases being referred and receiving similar decisions in five of the six cases. In the other case (PacifiCorp and Energy Group) the initial bid was referred and allowed to proceed. After the decision was announced Texas Utilities entered the bidding and this merger was waived through by the OFT.

Allowed not Completed Cases					**Winning Competitive Bidder**	
Bidder	**Target**	**Bid date**	**Reg decision**	**Bidding order**	**Winning bidder**	**Reg decision**
Yale Valor	Myson	21 Jul 89	A	Initial	Blue Circle	A
Unichem	Macarthy	11 Jul 91	A	Initial	Lloyds Chemists	A
Brit Aerospace	VSEL	12 Oct 94	A	Initial	GEC	A
Unichem	Lloyds Chemists	18 Jun 96	CA	Initial	GEHE	CA
PacifiCorp	Energy Group	11 Jun 97	A	Initial	Texas Utilities	WT
Carlton	United News & Media	26 Nov 99	CA	Initial	Granada	CA

Key to regulatory decisions;

A is allowed, CA is conditionally allowed, WT is waived through.

Table 8-1 Allowed not completed cases shown with winning bidders

A bidder may have only a few permissible situations to allow them to disengage from a merger bid at a late stage without serious risk of litigation by the target company. It is usual for merger bids to be conditional on obtaining the necessary regulatory approvals and other legal essentials such as shareholder approval, but there are usually only a small number of other circumstances in the agreed contract that might allow a bidder to withdraw from their purchase. Hence, once the regulatory approvals have been given the most likely reason for withdrawing is the intervention of rival bidders.

The empirical findings for this group indicated the highest level of Hubris, and Synergy coexisting with Hubris, for any group. These findings are consistent with investors perceiving over-valuation errors or over-confident estimates in the pre-referral bids but which have a reasonable chance of regulatory approval. Under the pressure of competitive bids, perceptions of Hubris would be expected to increase as Managers struggle to improve offers involving increased premiums. Ultimately one of the bidders realises that the premium required to win the merger battle is too great to be funded by realisable synergies and benefits, and withdraws. It may also be at this late stage that Managers become more aware of any weaknesses in their original bid and take the opportunity to withdraw from further bidding. A further explanation also exists based on one bidder knowingly over-bidding to force up the price, but allowing the competitor finally to win only after considerably over-paying for the purchase (i.e. the winner's curse). We will never know what precisely happened in the minds of the bidders or the covert games being played in each case, but the behaviours associated with losers of competitive bidding could be interpreted as evidence of Hubris. The relationship between Managers' motivations and possible behaviours is discussed further in Appendix 1.

8.3.3 Overview of Motivations by Regulatory Outcome.

Two major points of interest can be drawn from the results of this study in addition to the finding on the absence of Managerialism. Firstly Synergy is well represented as the perceived motivation for mergers, but it does decline in cases referred for inquiry to the MMC/CC or which ultimately failed to be completed ("prohibited", "laid aside" or "allowed and not completed" by the bidder). It appears the more that a merger bid is perceived to be motivated by Synergy, the greater are its chances of proceeding through the competition regulation process without impediment. Secondly, the role of Hubris is important. As Synergy declines Hubris increases. When account is taken of its ability to coexist with Synergy, it is a major factor in reducing value creation. In some groups where it co-exists, the evidence suggests that Hubris may dominate over Synergy.

Overall, the study findings suggest that in the UK between 1989 and 2003, mergers subject to scrutiny by the competition authorities were considered by capital market investors to be mainly motivated by Synergy seeking behaviour. However the capital market also suspected a degree of Hubris was present. Insofar as investor perceptions were correct, this means that the mergers analysed were mainly driven by value creation motives. Where value was destroyed it appears to have been more by accident (Hubris) than managerial conspiracy (Managerialism). Interestingly, the few cases where the capital market initially perceived Managerialism to be present, namely the prohibited group, the mergers were later prohibited by the regulatory process on competition grounds.

8.3.4 Absence of Evidence of Managerialism.

The absence of perceptions of Managerialism as the motivation for mergers in the research results stands in stark contrast to the findings of Berkovitch and Narayanan (1993) and Seth et al. (2000), where both found evidence of Managerialism using broadly the same method and relying on investors' perceptions. The difference in findings may be explained by the different data sets used and by the fact that the US studies were based on gains from bid to close for completed mergers and would therefore include the effects of auctions when bids became competitive. Neither Berkovitch and Narayanan nor Seth et al. were concerned specifically with mergers subject to competition policy vetting. In this study we were concerned with the effects of competition policy on merger motivation and therefore with both completed and non-completed bids. To investigate if the different results might be due to using initial bid results rather than full bid results for completed deals, as a check full bid results were used for the merger deals in this study. No evidence of Managerialism was found in these completed cases when the full deal was taken into account (for the full discussion see Chapter 7, section 7.6). This finding suggests that the use of gains from the initial bids only does not explain the relative lack of evidence of Managerialism in this UK-based study compared to the earlier US studies.

The sample used in this study was developed to focus on merger regulation by the UK competition authorities, and it is quite small in terms of the number of cases analysed. The finding of only weak evidence of Managerialism may reflect the difficulty of separating out Hubris from Synergy and Managerialism given the statistical method used. In this regard, Hubris could be considered as an intermediate category between Synergy and Managerialism as far as stakeholder value effects are concerned in this sample.

In addition to including completed and uncompleted mergers, this study also includes different time periods to the earlier studies, using data on more recent mergers. As capital markets and the market for corporate control become more competitive, it is possible that the opportunity for Managerialism may decrease.

8.3.5 The Role and Importance of Hubris.

The results of this research demonstrate that capital markets perceive that mistakes are present in the initial merger bids and that it is Hubris rather than Managerialism that predominates in explaining the disappointing performance of many mergers. In addition Hubris increases and Synergy decreases as the possibility of regulatory intervention rises. This suggests that management needs to become more skilled with respect to understanding the competition regulation regime when undertaking merger deals.

The relative importance of Hubris could be usefully tested by further research on a larger and more general sample of UK mergers. If Hubris is confirmed as the major cause of shareholder value reduction in UK mergers, it leads directly to the question of what can be done to UK practice and policy to improve matters.

8.4 Overall Summary of Discussions in Relation to the Research Question.

The research question formulated in Chapter 1 asked: -

> *"What effect does the regulation of mergers by the competition authorities in the UK have on shareholder value and managers' motivations for undertaking mergers?"*

The discussion above can now be summarised to answer this question.

The shareholder value effects of merger regulation by the UK competition regulator have been similar in the period studied by this research (1989 to 2002), compared to earlier research by Franks and Harris (1993) and Forbes (1994) over the period from the late 1960s to around 1990. This research has added some detail to earlier findings about the shareholder value effects when cases are laid aside, having a similar effect to the merger being prohibited. The research was not able to confirm findings in US mergers by Wier (1983) which showed an overall loss to target company shareholder when the merger was prohibited.

In addition, the findings of this research showed that mergers of companies in privatised industries behaved differently to mergers in other industries. Market efficiency appears to have been reduced in the cases of the so-called "privatised industry" mergers compared to the mergers in the other industries. The mergers involved dual regulators (industry specific regulators working in tandem with the competition regulator), and were the first merger cases involving privatised companies with capital markets having little previous experience of regulatory outcomes. In addition, the shareholder structure had a higher than normal proportion of small investors. All these characteristics of the privatised companies at the time differed from companies in other industries and could have interfered with efficient market operation.

The second part of the research question, relates to Managers' motivations for mergers. This research provides evidence that investors perceive Managers to be mainly motivated by seeking Synergy when mergers were waived through by the competition regulator. However, there was also evidence that Synergy coexists with Hubris in this group.

In merger cases referred to the MMC/CC the evidence of Synergy decreased while evidence of Hubris increased. Hubris was found to exist almost universally across the sample in all groups related to MMC/CC decisions and appears to be the largest motivation associated with value destruction. Only weak evidence was found of Managerialism in the prohibited group. This lack of Managerialism is in contrast to findings in earlier US studies (Berkovitch and Narayanan, 1993; Seth et al., 2000). It appears that the competition regulator unintentionally is more likely to become involved in cases motivated by higher levels of Hubris and Managerialism, while cases motivated by Synergy have the best chances of proceeding without involvement of the regulator. This research suggest that Hubris, rather than Managerialism, is the more common motivation associated with shareholder value loss in mergers.

8.5 Contributions to Knowledge.

There are several new findings in this research that contribute to knowledge. They occur in the results relating to: -

- The impact of merger regulation on shareholder returns
- Comparisons with similar work both in the US and the UK
- Aspects of the methodology used
- Findings of the effects of regulatory scrutiny on Managers' motivations for mergers.

A conceptual matrix framework has been adopted, to systematically embrace the items contributing to knowledge and to allow them to be grouped. The form of the matrix is shown below in Table 8-2. The four categories of contributions are: -

- Theory
- Empirical Findings
- Methodology

- Policy and Practice.

Each of these categories is examined to identify if the contribution is: -

- Non-confirmation of previous findings
- Confirmation of previous findings
- Developments of previous findings
- A new finding.

This approach covers the possible forms of the research contribution. Since this research does not put ticks in all boxes it also shows where contributions have not been identified, giving a comprehensive overview of what contributions have been made and where. In the matrix the items listed are in straight text format, each subparagraph representing the contents of each of the cells in the matrix. The appropriate subparagraph numbers below, including the relevant discussion, are contained in the cells of Table 8-2.

Areas of Contribution	**Not confirmed**	**Confirmed**	**Development**	**New**
Theory	8.5.1.1	8.5.1.2	8.5.1.3	8.5.1.4
Empirical Findings	8.5.2.1	8.5.2.2	8.5.2.3	8.5.2.4
Methodology	8.5.3.1	8.5.3.2	8.5.3.3	8.5.3.4
Practice and Policy	8.5.4.1	8.5.4.2	8.5.4.3	8.5.4.4

Table 8-2. Matrix of Contributions to Knowledge arising from the research (showing subparagraph numbers).

Using this matrix-based concept the contributions to knowledge are discussed below.

8.5.1 Implications for Theory.

Implications for theory arising from the findings of this research are concentrated around the impact of regulatory policy on market efficiency, and the relative importance of Agency and Hubris theories on value destruction in mergers.

8.5.1.1 Aspects of Theory Not Confirmed.

- Managerialism which is related to Agency theory, is not confirmed as being the major motivation associated with shareholder value destruction in either mergers referred to the MMC/CC for inquiry or in cases waived through by the OFT. Hubris appears to be a far more important source of shareholder value reduction from the results of this research. Therefore this research does not support the view that Managerialism was the sole or major cause of shareholder value reduction in mergers between 1989 and 2002, at least in the subset investigated in this thesis, namely those mergers subject to UK competition regulation.

8.5.1.2 Aspects of Theory Confirmed.

- Hubris is confirmed as being present in Managers' motivations in UK mergers, particularly those referred to the MMC/CC between 1985 and 2002.
- Evidence of Synergy seeking behaviour is also confirmed in UK mergers between 1989 and 2002, though evidence also suggests it coexists with Hubris.

8.5.1.3 Implications for Theory Development.

In this research, for UK mergers between 1989 and 2002, the findings suggest that: -

- A positive relationship exists between the degree of Hubris in Managers' motivations for mergers and the degree of regulatory intervention present in the final decisions of MMC/CC inquiries.
- A negative relationship exists between the degree of Synergy in Managers' motives for mergers and the degree of regulatory intervention present in final decisions by the MMC/CC inquiries.

8.5.1.4 New Implications for Theory.

The research in this thesis has not revealed findings that provide new theories.

8.5.2 Implications for Empirical Findings

Earlier empirical research that can be compared with the findings of this research are contained in the work on shareholder value by Wier (1983) in the US, and Franks and Harris (1993) and Forbes (1994) in the UK. There have not been any previous studies relating to motivations for mergers in the context of competition regulation in the US or UK. General findings relate to earlier studies by Berkovitch and Narayanan (1993) and Seth et al (2000).

8.5.2.1 Empirical Findings Not Confirmed.

- This research indicates different findings to Wier (1983) whose research was based on US cases over the period 1962-1979. Wier's finding of a loss to US target company shareholders of –3% when a merger was cancelled was not confirmed by this research.
- Findings in two earlier US studies using a broadly similar event study methodology to this research by Berkovitch and Narayanan (1993), and Seth et al (2000), found stronger evidence of managerialism in their samples. This research does not support the earlier US findings in this respect. Evidence of Hubris is greater than evidence of Managerialism, which suggests Hubris is the main cause of poor performance in UK merger deals, rather than Managerialism, at least in the sample of competition cases included in this study.

8.5.2.2 Empirical Findings Confirmed.

- This research, based on UK merger cases between 1989 and 2003, updates work by Forbes (1994) and Franks and Harris (1993) whose findings were based on UK cases of regulated mergers over the period 1965 to 1990. The findings show broadly similar impacts of regulatory decision announcements as in the earlier period for both bidder and target company shareholders
- For UK target company shareholders, the finding of no overall impact when a merger is prohibited, is consistent with earlier findings (Franks and Harris, 1993). UK target shareholders suffered statistically significant losses on referral announcement of -3.2% compared to –9% reported by Franks and Harris

(1993). On a prohibition, decision losses of -8.9% were found compared to –9% reported by Franks and Harris (1993). However, overall these losses did not exceed the gains made on initial announcement of the bid, leaving target company shareholders with a small gain overall (4.8% compared to an equivalent inferred gain by Franks and Harris (1993) of 3%). In the context of the findings on target shareholder gains, the effect of the UK merger regulation policy during the second half of the regime (1989 to 2002) is similar to the first half of the regulatory regime (1965 to 1990).

8.5.2.3 Developments and the Empirical Findings.

- This work extends the knowledge of the impact of the regulatory decision announcements in "Laid aside" and "Conditionally allowed" decisions, which were categories not previously reported in earlier research.

8.5.2.4 New Empirical Findings.

- Evidence of inefficient market pricing was found in some mergers of companies in UK "privatised industries". These industries were not included in the earlier studies because privatisation and the creation of new regulatory structures did not occur until from the mid 1980s.
- The research on the effect of regulatory scrutiny on Managerial motivation for mergers offers new insights about the effect of the regulatory process on Managerial behaviour. The research finds initial Managerial motivation for mergers is correlated with the ex post regulatory outcome. The group of cases waived through by the OFT contained greater evidence of Synergy compared with groups of cases referred for investigation by the MMC/CC in which Hubris dominated the findings. However evidence of Hubris occurs to varying degrees in all groups.
- The competition regulatory process seems to detect cases where there is lower evidence of Synergy, rather than deterring Managers in the first place from making decisions motivated by Hubris. This is interesting since competition-reducing mergers (i.e. referred cases) could be expected to be highly motivated

by Synergy seeking, with Management pushing the regulatory authorities to allow the increased scale of operations even where the merger may reduce competition.

8.5.3 Implications for Methodology.

Methodologically this research has been based on previously used approaches that have been refined and adapted to suit the nature of this particular research. Summated announcement returns have been used in place of wide event windows to calculate shareholder value returns, and earlier methods of assessing Managers' motivations have been developed to allow comparisons between groups and to include both completed and uncompleted merger cases in the comparison.

8.5.3.1 Aspects of Methodology Not Confirmed.

This research has not revealed any findings that contradict existing knowledge of methodology as used in this thesis.

8.5.3.2 Confirmed Aspects of Methodology.

- The use of event study to measure shareholder short-run, announcement returns for time-bounded events in studies of regulatory impact is confirmed.
- The hypothetico-deductive methodology using event study measurement of announcement returns is confirmed for comparative testing of market efficiency between two groups of mergers.
- The hypothetico-deductive methodology based on event study measurement of announcement returns is confirmed for the assessment of investor perceptions of Managerial motivations for undertaking mergers.

8.5.3.3 Development Aspects of Methodology.

- Method of measurement using summation of announcements gives more discrimination against confounding events than previous event study research using measures with a single, wide event window.
- Use of summated announcement returns allows selective measurement of a specific time period with greater precision than using a wide event window. In the case of this research, it allows the returns to be measured up to referral, however long that period was.

8.5.3.4 New Aspects of Methodology.

- The use of summated announcement returns allows comparison of uncompleted merger bids, abandoned or prohibited after referral, with completed bids on the basis of initial motivations before referral occurred.
- The methodology used to assess Managers' motivations has been extended beyond that in previously reported research to allow the ranking of motivations between comparative study groups.

8.5.4 Implications for Practice and Policy.

The findings of this research have implications for the formulation of, and changes to, regulatory policies. They indicate when policies may cause side effects on the functioning of capital markets and hence have shareholder value implications.

Findings related to Managers' motivations for mergers have implications for Corporate Governance mechanisms associated with best practice and policies for merger. These contributions are considered in more depth below.

8.5.4.1 Aspects of Policy and Practice Not Confirmed

- Managerialism is not confirmed as a dominant motivation, and hence the main motivation associated with shareholder value reduction, in the UK merger cases studied between 1985 and 2002. This implies that Corporate Governance, merger practice and merger policy initiatives and improvements aimed at minimising the worst aspects of Agency relationships may yield increasingly diminishing returns in terms of "hoped for" performance improvements. General assumptions by UK practitioners and policy makers that all value destruction in mergers is due solely to Agency Theory are questionable based on the findings of this research.

8.5.4.2 Aspects of Policy and Practice Confirmed

- The findings of this research indicate that over the period 1989 to 2002 the shareholder value impacts of competition regulation involving mergers are consistent with research findings of earlier UK research covering the period 1965 to 1990.

8.5.4.3 Development Aspects of Policy and Practice

- Hubris has been identified as the major Management motivation associated with shareholder value reduction in the group of mergers studied covering 1989 to 2002. This implies that professional practitioner best practice and merger policy measures aimed at improving merger performance should focus to a greater extent on minimising losses associated with Hubris than losses associated with Managerialism and Agency Theory.
- Appendix 1 discusses behaviours in typical circumstances and their classification into Synergy, Hubris or Managerialism. Some important situations associated with Hubris include the following: -
    - Accurate valuation in conditions of information asymmetry
    - Accurate assessment and management of the risk of regulatory intervention
    - Overpayment in competitive bidding situations

  These situations can have major impacts during the preannouncement stage when deals are being assessed and valuations carried out. They are also important in the competitive stages of the post-announcement phase when competitive bids are being reviewed and responses planned. In both of these phases the bid details and tactics are highly confidential. Decision-making and involvement is usually limited to a small number of senior Managers and their professional advisors in these early stages.

- Processes, procedures, training, qualifications and organisational structures used during the bidding process, including the possible roles and responsibilities for independent intermediary professionals, should be reviewed, revised and developed with the principal aim of improving the performance of mergers. From the finding that Management motivated by Hubris is an important value reducing aspect of mergers in practice, there would appear to be potential benefits justifying a greater focus on and closer examination of practice aimed at reducing the prevalence of Hubris. Both the development of management training and Corporate Governance may provide economic benefits if there is an increased focus on the causes and circumstances associated with Hubris and on best practice measures to reduce its occurrence.

8.5.4.4 New Aspects of Policy and Practice

This research found that there was evidence of market inefficiency with mergers in “privatised industries” associated with the new dual regulator structure. However, over the same period, “other industries” using the long-standing, single competition regulator structure did not show evidence of market inefficiency. Managers, investors and policy makers need to be aware that following introduction of major policy changes it is to be expected that a period of adjustment will follow for investors, during which experience is gained, before more efficient market behaviour returns.

8.5.5 Summary of the Contribution to Knowledge.

To aid the reader, the overall view of the contribution to knowledge is shown in Table 8-3. The concept of a matrix framework, used above, to present the contributions has been employed. The information in the sub-sections of section 8.5 above has been summarised to fit in to cells, showing where contributions have been made and areas where knowledge has not been increased.

Areas of Contribution	Not confirmed	Confirmed	Development	New
Theory	M	M	M	X
Empirical Findings	S & M	S	S	S & M
Methodology	X	S & M	S & M	M
Practice and Policy	M	S	M	S
S = contributions to knowledge about Shareholder value effects of merger relation M = contributions to knowledge about Managers' motivations for mergers X = contributions to knowledge have not been identified in this area				

Table 8-3 Summary of areas to which knowledge has been contributed.

8.6 Limitations of the Research

This section summarises the limitations of the research. These points have already being covered in other sections of this thesis, either implicitly of explicitly. Suggestions for future research to investigate beyond the limitations of this study are discussed under Further Research, in sections 8.7.1 and 8.7.2 below.

8.6.1 Nature of Companies and Size, Timing and Territory of the Merger Deals.

The group of companies involved in the researched mergers had the following characteristics: -

- Bidder and target companies were publicly quoted on a stock exchange from at least one year before the bid announcement, during the bid and to close of the deal. Daily share price data and records of company announcements were available from public records.
- The merger deal was above the statutory qualifying limits of: -

    - £30 million value of combined assets from 1984
    - £70 million value of combined of assets from 1990 to the present or,
    - 25% of market share.
- The deal involved a quoted UK bidder or target company (or both).
- The merger deal was announced between 1989 and 2002

The characteristics of companies and deals need to be considered when deciding how the findings and conclusions of this research might apply to companies and deals which fall outside these characteristics (e.g. the applicability of these findings and conclusions to smaller mergers, below the qualifying limits, and between private companies).

8.6.2 Event Study Returns over the Merger Deal.

An event study methodology has been used throughout this research. All measurements of shareholder returns and conclusions drawn are therefore under-pinned by this methodology. This research has not investigated shareholder value changes after closure of merger deals by using either an event study or accounting data approach. No conclusions have been drawn relating to the longer-term economic performance after the closure of the deals.

8.6.3 Motivation Assessments linked to Three Broad Categories.

The assessment of motivation evidence is based on the three broad categories of Synergy, Managerialism and Hubris. These categories are described in the work of Penrose (1959), Jensen and Meckling (1976) and Roll (1986) respectively. However there are no precise definitions of what associated behaviours fit into which category. Appendix 1 has been written to help clarify this matter, but the precise fitting of associated behaviours and circumstances to the motivation categories may be open to different interpretation by some readers.

8.7 Further Research.

The research in this thesis has raised some questions or identified limitations that still require further work before answers can be provided. The methodology used is not able to provide answers to these questions and different approaches may be needed to gain greater insights. In particular, some findings have been discussed that present a different view to that available from earlier studies, which would invite further work to clarify the situation. Five broad areas could provide fruitful research opportunities for the future.

8.7.1 Expanding Research Beyond the Limitations of Firm Size, Nature, and Event Study Announcement Returns of this Thesis.

This research in this thesis has investigated side effects of UK competition policy on publicly owned companies quoted on stock exchanges on the basis of their returns between deal announcement and deal close. This has ensured that the larger merger cases have been studied, but the limitation of event study has resulted in private companies involved in UK mergers regulation not being studied, as discussed in sections 8.6 above. Research based on accounting measures to compare shareholder value side effects on publicly quoted companies and private companies could usefully indicate how far the findings of this research can be generalised to all companies in merger regulation by the UK competition authorities. Such a study could also compare the longer run profitability of mergers regulated by the UK competition authorities with the short run measures of performance in this study. While such future research based on accounting measures would not be able to investigate the effects of each regulatory step, it would be able to establish overall shareholder losses or gains beyond the deal close, and broadly complement findings in this research.

8.7.2 Categorisation of Management Behaviours and Motivations for Mergers.

The research in this thesis has identified that Hubris is a prevalent motivation for Managers involved in mergers regulated by the UK competition authorities. This knowledge offers a possible route to improving merger performance if the degree of Hubris can be reduced. Further research could develop a better understanding of how

Hubris is involved in Management decisions. Section 8.6.3 identified that there was an absence of clear definitions and categorisation of behaviours with respect to the three motivational theories used in this thesis for assessing Management motivation for mergers. To help overcome this, Appendix 1 was written to categorise behaviours, but different interpretations may be adopted by some readers. Future research to associate management behaviour in mergers with the three motivation theories of Synergy, Hubris and Managerialism would create a more comprehensive taxonomy of Management behaviours in mergers as a foundation for further research into improving the management of mergers and their performance.

8.7.3 Managers' Motivations for Mergers in the UK versus the US.

The findings of this research relating to merger motivation suggest that motivations may not be identical in the UK to those found in the US. While both countries have broadly similar legislation and corporate governance, at a detailed level there are many significant variations in approach, policy and practice. This could lead to different understandings of Managements' motivations for mergers between the US and the UK.

- The mergers studied in this research did not show strong evidence of Managerialism. Since "absence of evidence" cannot be interpreted as "evidence of absence", further research is needed to assess if there are differences in the levels of Managerialism between the US and UK. New research findings in this area could have profound implications for policy and practice in relation to measures designed to reduce shareholder value destruction by mergers.

- Over time, an increase in the intensity of competition in the capital market and/or the market for corporate control may result in reduced opportunities for Managerialism. Research to investigate the relationship between the presence of Managerialism and the degree of competition in the capital market and the market for corporate control could lead to an explanation of the low level of Managerialism found in this study.

8.7.4 Circumstances and Behaviours Associated with Hubris.

This research identifies that Hubris in mergers is an important element in reducing shareholder value. However the methodology used in this research is not able to quantify the contributions of particular circumstances or behaviours to this overall broad conclusion. Some investigation of the following aspects would add knowledge about the causes and impact of Hubris.

- Can skill and process deficiencies in merger teams, particularly at the pre-bid stage, be improved? For example would the use of independent and impartial intermediaries as advisors prior to bid announcement improve valuations and remove uncertainty by reducing information asymmetry between bidder and target companies?
- Would the reduction in information asymmetry lead to lower risks of overpayment in mergers?

8.7.5 Reduced Efficiency of Market Pricing in Privatised Industry Mergers.

This research identified that in the case of mergers in the “privatised industries”, market pricing was less efficient than in mergers in the other industries. In Chapter 6, section 6.3, possible causes of this pricing inefficiency were suggested, but the methodology used in this research is not able to identify the causes directly. Further research could usefully identify the underlying causes of reduced market pricing efficiency in the cases of the privatised industry mergers considered. Increased knowledge of this topic could have implications for policymakers and practitioners in the future related to regulatory structures and the impact on capital markets.

8.8 Summary of Conclusions.

The aim of this research was to investigate any side effects, or by-products, of the regulation of mergers by the UK competition authorities, specifically relating to the impact on shareholder value and Managers’ motivations for undertaking mergers. The research in this thesis has demonstrated that these side effects do exist, and has categorised and quantified the effects of them. Therefore it has answered the research question in Chapter 1, and established that side effects to the UK merger regulation policy do exist, and that the impact of UK competition policy is wider and more complex than the primary aims embodied in the relevant UK legislation.

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APPENDICES

1 A Discussion of Synergy, Hubris and Managerialism: Associating Managerial Motivations with Possible Behaviours and Situations.

1.1 Overview

Mergers are initiated and carried out for a wide variety of reasons. These reasons are usually part of the agenda of senior managers involved with implementation of a broad strategy for a company. Often this strategy and the associated agenda have public and private faces. What can be discussed and considered behind closed doors within the company is often much wider than can be disclosed publicly at any time. The two main reasons for this arise from: -

- The need for commercial confidentiality to protect the company's competitive position
- Strict rules controlling how listed companies make public disclosures of information that might be considered as price sensitive

Senior managers who are central to the merger deal may also have personal objectives that are not openly disclosed or discussed with anyone else in the bidder company or outside it. As a result, bidder companies have a publicly discussed agenda, and also may have one or more "secret" agendas. External parties, i.e. the general public, investment community and most company employees, are only told of items on the public agenda as part of the senior management's public explanation of the rationale of the proposed deal.

External parties usually compare their own views of the proposed merger with the official company disclosure statements. They may agree with the published view, or judge the publicly disclosed explanation does not fully accord with their view of the likely merger outcomes. If they have a differing view, external parties may feel a need for more information to enhance their understanding of management's pursuit of the merger and will make assumptions to complete their own explanation of the merger bid. In forming these assumptions, external parties will take a view on missing items of company information, and may speculate on managers' personal objectives and motives, and how they may possibly also influence the merger bid. This appendix seeks to develop a better understanding of these motivations, and how they are related to situations and observed behaviours.

Management "motivations" have been proposed by researchers to explain broad categories of managerial behaviour. These theoretical proposals were discussed in Chapter 2 Literature Review, Chapter 4 Methodology, and Chapter 5 Methods and Data. This appendix looks at the Synergy, Hubris and Managerialism motivations and discusses typical behaviours and situations that might fall into each category. Some situations, which do not fall neatly into one particular category, are discussed later in this appendix. The purpose of this appendix is to clarify the meaning of the three motivational groups by reference to specific situations and behaviours. Before looking at each motivation, we first discuss what is meant by management in the context of this research. We then go on to discuss each of the motivations and associate some of the typical situations and behaviours that might be found in mergers.

1.2 Who Exactly is referred to by the Term "Management"?

In this appendix "Management" refers to the small group of a company's managers that are the prime initiators of merger decisions. This is limited to the following corporate roles: -

- Chairman
- Chief Executive Officer (CEO)
- Chief Financial Officer (CFO)
- Limited other members of the senior management team involved in the bid preparation (e.g. Chief Operating Officer in some companies or Business Development Director)

Within this very small group the CEO or Chairman is often the active leader of the bid.

All other managers in the company can be considered as part of the general pool of employees for the purpose of considering motivations to initiate and execute a merger deal. Of course, once the deal is finalised and closed, numerous other managers in the company become intimately involved in the subsequent implementation and integration activities. These managers will be implementing the merger integration activities in an attempt to deliver the original publicly announced merger objectives, even though they may not have been involved in the preparation of the merger bid or consulted about the merger plan. The degree of involvement varies from case to case and company to company, but only a few managers are involved in the initial very secretive process of preparing the initial merger bid for a target company. For the purpose of this appendix, the term “Management’s motivation” will refer to the reasons the small select group of senior managers listed above have for carrying out mergers.

These Management motivations therefore represent the composite motivation of this small senior management group of the bidding company, and reflect the public, private and personal agendas of that group. There may be conflicts between individuals’ personal agendas within the group, but these tensions remain internal to the group and are not considered in the three broad motivational groups Synergy, Hubris and Managerialism. The broad motivational groups will now be discussed in more depth below, combining the theoretical origins of the grouping with examples of practical situations and behaviours falling into each.

1.3 Synergy

The term Synergy, as used in this thesis, is shorthand form for "synergy seeking motivation". Theoretically, it represents behaviour by a group of managers who have agendas to seek out synergies that may arise from combining companies, thereby creating increased value for the combined company and its shareholders. The concept is that the combination of the companies will yield increased value in excess of the premium paid to the target shareholders (to convince them to agree to the deal), and the administrative cost of the deal and the post-deal integration of the companies.

The theoretical basis of this motivation arises from work by Penrose (1959) in the "Theory of the Growth of the Firm", which is discussed in Chapter 2. The term “synergy seeking” includes seeking savings and benefits from combination, and the sharing of operational assets, capacity and processes. This applies to Synergies arising from both the area of marketing and sales activities, as well as other cost savings and benefits throughout the company.

1.3.1 Typical Synergistic Situations

Benefits and savings may be found in the following list of examples: -

- Rationalisation of sales channels, facilities and processes.
- Improved asset utilisation.
- More efficient use of processes due to increased scale and rationalisation.
- Sales of surplus assets.
- Reductions in the number of employees and managers through rationalisation of organisational structures.
- Reduced cost of finance due to increased scale.
- Reduced costs of supplies and raw materials due to increased scale leading to increased bargaining power.

Managers seeking such legitimate synergies in excess of the cost of acquiring them, create value for their shareholders. However Managers’ rewards may not necessarily align fully with the rewards to shareholders. Poor alignment between the rewards of shareholders and managers might lead Managers to act to improve their rewards rather than attempt to maximise shareholder value. The nature of rewards to Managers can be radically different to shareholders. Managers contract with the company for a salary, usually a performance related bonus and other benefits in compensation for exercising their specific skills, knowledge and judgement in the interests of the company. The Manager might bring widespread benefits that are difficult to measure and assess. By contrast shareholder rewards are quite specifically limited to the payment of dividends and increases (or decreases) in the market value of the company. Unless the Manager is either an owner/manager or has a significant shareholding in the company, it is unlikely the Manager's rewards (and hence motivations) will correspond with shareholders rewards under differing levels of company performance. However this does depend on the form of the Manager's contract and in particular the nature of bonus payments and the circumstances under which they are paid.

In principle, if shareholder value is created Synergy seeking behaviour is considered to be present in the Manager's motivation. In an attempt to explain the pursuit of value destroying mergers by Managers two other theories, Managerialism and Hubris, have been proposed. We will now discuss these with regard to examples of typical behaviour that can be involved.

1.4 Managerialism

Managerialism was first proposed by Jensen and Meckling (1976) and developed from the theory of the principal-agency problem, which considers the issues of finding suitable reward mechanisms for agents so that they also produce the required rewards for the principal. When applied to corporate mergers, the agent (or in this case the Manager) does just sufficient to satisfy the principal (or in this case the company owner, or shareholders). However agents also concentrate on increasing their rewards. While Synergy seeking embodies the concepts of *maximising* and *optimising* profitable opportunities, Managerialism embodies the concept of *satisficing* or following satisfactory rules until something becomes unsatisfactory, when managers look for new rules, which will be satisfactory.

This agency problem is most apparent when contract terms for the agent result in objectives adopted by the agent that are incompatible with those of the principal. The theory also assumes the concept of a clearly identifiable principal who can quickly react to enforce the contract against abuse. In some companies a Manager can dominate the company Board, and shareholders are a fragmented group, consisting of numerous small investors. It is then possible for Mangers to receive little organised controlling restraint, and the amount of satisficing by Managers for shareholder interests can be low.

However, shareholders may eventually become sufficiently concerned and organised to take effective enforcement action to discipline Managers.

1.4.1 Typical Managerialist Situations

In such situations Managers may pursue mergers that do not create additional shareholder value and also divert value away from the shareholders to increased Management benefits. These Management benefits resulting from undertaking mergers can include: -

- Increased remuneration (for managing a larger organisation)
- Bonus payment for carrying out a merger
- Increased job security for bidding company Managers (mergers may reduce possible future takeover bidders and increase the cost of a future take over)
- Job security and enhanced benefits for target company Management (negotiated by target managers in return for agreeing the bid and recommending it to target shareholders).

In Managerialism in its most pure form, Managers would cynically view the merger as an opportunity to extract greater personal benefits with minimal concern for shareholder value creation. Typically merger proposals driven by Managerialism might: -

- Suggest the purpose of the merger was to gain strategic advantages such as size, access to geographic territory or new markets, BUT:
- Contain few, if any, genuine potential synergies, benefits or acquisition of unique strategically important assets arising from these strategic moves, AND:
- Contain hints that significantly enhanced benefits may be provided to Managers as a result of the merger, AND/OR:
- Be proposed by companies with weak Corporate Governance structures, not complying with corporate best practice (see below).

1.4.2 Control of Managerialism in Companies

The effects of such Managerialist merger proposals can lead to the value created from combining firms being insufficient to cover the premium paid to the target shareholders and to cover administrative costs of the deal and integration of the companies. Managerialism is characterised by its cynical and deliberate attempts to divert value to Managers and satisficing when meeting the needs of shareholders. Because of the potential danger of Managerialism to shareholder value, some Corporate Governance practices are used to reduce the risk of Managerialism taking hold in a company. Examples of such measures are: -

- Splitting of Chairman and CEO roles
- Outside Board member representation
- Encouraging Managers to hold shares in the company
- Excluding the CEO from being a member of the Remuneration Committee
- Other ways of limiting the power of principally the CEO to avoid Board domination.

The existence of large block shareholders in a company (e.g. investment funds and insurance companies) can also act as a significant deterrent to Managerialism. If these large shareholders hold less than 50% of the equity, but can quickly form alliances with other block shareholders to reach a voting majority, they can call General Meetings and collectively have power to discipline Management if they believe they are not acting in the best interests of the shareholders.

The final control over Managerialism is referred to as the “market for corporate control”. Companies with poor performance become undervalued on the capital market, thereby inviting takeover bids from companies identifying their weaknesses. If the merger deal is completed it often results in the ineffective management (motivated by managerialism) being removed in the subsequent reorganisations. This option usually occurs when there is insufficient shareholder power, often due to a fragmented shareholding with many small shareholders unable to effectively discipline wayward Management behaviour more directly.

1.5 Hubris

The Hubris theory was proposed by Roll (1986) as a further cause of value destruction in mergers (see Chapter 2, Literature Review). Unsatisfied that the Synergy and Managerialism theories covered all merger cases, Roll proposed that managers proceeded with the best of intentions to create value, but they made random valuation errors resulting from Hubris. If the error undervalued the combination, the merger would not proceed. However if the error overvalued the combination, the merger would go ahead and subsequently result in damage to the value of the completed merger.

Hubris is defined by the Oxford English dictionary, as "arrogant pride or presumption". Management judgements based on elements of information presumed to be true, rather than based on fact or logical estimates grounded in facts, would therefore be considered as involving hubris. Where mergers are subject to regulation, merger proposals that appear to external parties to fall foul of the prevailing regulatory regime may also be viewed as motivated by Hubris. Management would need to deal specifically with the regulatory issue in the proposal and argue their reason for proceeding. If it appears Management had failed to understand or fully assess the risk of regulatory intervention the case could be considered to be driven by Hubris.

1.5.1 Company valuation error

The valuation of a possible merger combination involves valuation of bidder and target companies, in addition to estimating the value of the combined firm after implementation and integration is completed. While the valuation of existing bidder and target companies is relatively straightforward, particularly if they are traded on a public stock exchange, the valuation of the combination is more difficult. The bidder is faced with the problem of evaluating sources of savings and benefits (synergies) before the bid is announced. While the bidder Management has a good knowledge of the bidder company, they have a far less clear understanding of the detailed operations of the target company. This information asymmetry therefore requires assumptions to be made where key data on the target company is not available to the bidder Management.

When Hubris is present in decisions, the assumptions can turn into presumptions. Rather than using assumptions based on logical estimates of magnitude and probability, the overconfidence of Hubris leads to presumptions of outcomes based on belief, hunch, rumour or speculation. While it is necessary to make assumptions and estimates, they should be based on realism, linked to logically supportable facts. However, the presumptions of Hubris are less well grounded in reality and fact, and in extreme cases may be little more than fanciful beliefs lacking logical support and evidence.

1.5.2 Typical Hubris Situations

Hubris involves innocent errors by Managers while attempting to create value, rather than deliberate, cynical attempts to divert value away from shareholders and towards Managers. It represents accidental damage to shareholder value rather than a deliberate attempt to capture value from shareholders.

Since Managers will be trying to create value by identifying synergies in a proposed bid, this makes it difficult to identify mergers motivated by Hubris from mergers motivated by Synergy. However external parties may not be able to agree with valuations of savings and benefits in the bid proposal and consider them to be optimistic. This also relates to the external parties' view of the reality of the assessment of possible regulatory intervention. Unsubstantiated over-optimism to either valuation or regulatory issues may be the best indication of Hubris in a bid.

Suggestions that Managers believe thoughts such as the statements below would amount to Hubris being present, although it is unlikely that a bid would contain such direct statements as: -

- "I know there is extra value in the target, but we can't confirm it until we complete the deal and have full access to target information" or
- "The Regulator wouldn't dare intervene in this case because it has special significance"
- "We will worry about it (regulatory intervention) later if it happens"

Hubris can be present whether shareholder value is created or destroyed, and it can be considered as an intermediate stage between the value creation of pure Synergy and the deliberate capture of value from shareholders of pure Managerialism.

1.5.2.1 Difficulty of valuation of a target company when information asymmetry is present.

When considering a possible merger target at the planning stage before a bid is announced and even before the target company CEO has been approached, it is important to try to estimate the value of the merged combination as accurately as possible. In particular, it is important to try to evaluate the benefits and synergies that may make the merged combination worth more than the sum of the parts. Unless there are sufficient benefits available from combining to pay for the premium necessary to convince the target shareholders to sell their shares, the deal will be doomed to create a loss of shareholder value for the bidder shareholders.

However, the valuation process is fraught with difficulty. The bidder Management will have a very good knowledge of their company in a financial, personnel and operational sense, but their knowledge of the target may be scant, flawed and have large gaps. The more detailed information they need to make an accurate valuation may not be available from the public record. This information asymmetry means that the bidding management team usually has no option but to make assumptions where information about the target company is weak or missing. The judgements involved in making these assumptions are critical to the accuracy of the valuation and price offered in any subsequent bid. The greater the degree of information asymmetry, the greater the need to rely on assumptions.

When making assumptions in a valuation it is possible for Managers to be over confident and follow their beliefs about what might result from a combination, even though these beliefs may be not be fully supported by reasonable public evidence. Investors, who are likely to take a view of a bid based more on publicly available evidence and information, will detect this over-confidence or over-optimism in the merger bid when announced. It will not be until due diligence has been undertaken or the deal is completed that the bidder becomes fully aware of the true position. By this time Management may find it is too late to withdraw from deal, but following the bid announcement the capital markets will have priced the bidder and target shares to take investor concerns into account. Hence the greater the degree of information asymmetry, the greater the need to rely on assumptions and the greater the possibility of Hubris entering into the bid process.

1.5.2.2 Risk of regulatory intervention

It is worth noting here that mergers, which substantially increase market power or reduce competition, are not permitted by the UK Competition Regulator, the OFT. While such a merger bid might have benefits from combining companies, external parties, including the capital markets, would realise that this proposed bid would result in regulatory intervention. Parties external to the bidder would expect modification or prohibition of such a bid. They are also unlikely to consider such a bid to be motivated by Synergy in the context of this research because the final outcome, after regulatory intervention, is likely to be different from that originally proposed by the bidder. In many cases the estimated impact of a merger on markets and competition is not straightforward to identify and involves significant amounts of professional judgement. The prediction of the outcome of an inquiry in a case referred to the MMC/CC involves a degree of risk, which varies from case to case. However it is likely that the higher the risk of regulatory intervention, the more external parties would judge the merger to be motivated by Hubris, even if significant synergistic benefits were predicted, unless the competition issues were openly and realistically addressed in the bid statements. However Management may not be willing to do this voluntarily, or feel it inappropriate to be sufficiently open on this matter, to allay concerns of the capital markets.

1.5.2.3 Mergers involving competitive bidders

When more than one bidder enters a competition to buy a target company there is a risk that the winning bidder will have bid beyond what he believes the target company is worth in order to win the subsequent “auction”. The over-payment for the target can result in the bidder being unable to create any value from the deal. This is what economists know as the “winners’ curse” – the bidder won the auction but over-paid in the process, leaving the bidder with a long-term problem. How should this be interpreted in term of Managers’ motivations for mergers? Let us assume a bid failed to create any value for the bidder, should the act of over-paying at the auction be considered as Hubris or Managerialism? Since the target company could be estimated to be worth different amounts to each of the bidders, the price paid at the “auction” does not help us to come to a conclusion about the motivation of the winning bidder.

If the over-payment was the result of over-enthusiasm to win at the auction, the effect is exactly the same as a simple over valuation error leading to over-payment. In that case it would be reasonable for external parties to judge that Hubris was the motivation. However if the winning bid had factors associated with the bid indicating an attempt to transfer value to Managers, and over-paid for the target in order to reinforce the original merger plan, the act of over-paying could be considered as being motivated by Managerialism.

The effect of an auction on the price paid in a merger would not seem to be a factor in deciding what motivation was at play by Managers in the bidding company. The key points that would decide what motivated the Managers would be: -

- Evidence of whether the bidder over-paid, and if so
- Were there any other aspects of the merger indicating unnecessary transfer of value to Managers?

As a result, over-payment in a competitive bid cannot be classified simply as a result of a competition for the target. It needs to be considered further on the grounds discussed earlier relating to evidence in the bid proposal and whether a valuation error had taken place or if the merger was a vehicle for unnecessary transfer of value to Managers.

1.6 Comparisons of behaviours associated with Synergy, Managerialism and Hubris.

Management motivated by Synergy makes accurate valuations and only proposes mergers that will create value for both the bidder and target shareholders. Bidders motivated by Synergy would not propose deals that would not create value in the combined firm. Capital market investors would largely concur with bidders' decisions on the basis of their own analysis of information in the public domain. The bidder's proposals would reflect a professional understanding of the regulatory issues involved in the bid. The capital market investors would judge the merger to have a good chance of passing through the regulatory regime with minimal regulatory intervention, based on likely outcomes from the historic record of cases handled by the regime.

Management motivated by Hubris would make valuation errors and so capital market investors would not completely agree with the bidder's proposal of the savings and benefits available from the combination. In addition, the capital markets may find it difficult to accept that the competition regulator will allow the deal to proceed without intervention and modification to the original deal. They may even consider that the competition authorities will prohibit the merger. However, investors may find that the merger proposal does not cause concern with regard to the unnecessary transfer of value from the bidder shareholders to Management by way of enhanced benefits or protection to Managers.

Capital market investors would find difficulty agreeing with valuations made in the bid announcement by Managers motivated by Managerialism because: -

- Investors would have difficulty reconciling their view with the bidder's view of the deal when examined on the basis of publicly available information.
- Bidder explanations of the rationale for the merger may focus on reasons other than value creation (e.g. size, industry position or territorial opportunities)
- Investors' assessments of the likely regulatory outcome may suggest a risk of regulatory intervention and hence deal modification or prohibition.
- Investors would find unnecessary increases of economic welfare to bidder's Management and perhaps also to the target Management. They may also find some arrangements with the target Management that could frustrate the extraction of the claimed synergies in the integration phase (e.g. unnecessary retention of some of the target's senior managers).

1.7 Conclusions

This appendix summarises a number of aspects regarding the three theoretical motivations, Synergy, Hubris and Managerialism, adopted in this thesis and how they relate to common situations and behaviours. The discussion highlights the main managers whose motivations influence merger bids, and key situations and behaviours that could differentiate between Synergy, Hubris and Managerialism.

- Only a small number of managers in a bidding company can be considered to influence merger bid preparations. These include the Chairman, CEO, CFO and perhaps one or two other key senior managers. It is the motivations of these key managers that influence the nature of the merger bid.
- Synergy is always involved when value is created by a merger.
- Managerialism is always associated with value destruction and the transfer of value from shareholders to managers in excess of that required to make the merger effective.
- Hubris can be associated with both value creation and destruction, depending on the degree involved. It is associated with over valuation errors by Management, but does not involve unnecessary transfer of value to Managers.
- Failure to fully appreciate the likelihood or degree of regulatory intervention, or not to have taken pre-emptive actions would have a similar effect on investors' perceptions as a valuation error. The merger could therefore be interpreted as being motivated by Hubris, if there is an absence of circumstances indicating unnecessary transfer of value to Managers.