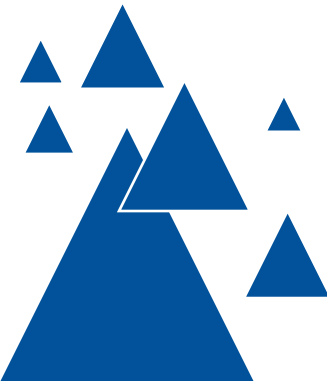


THE
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Corporate Governance and Corporate Performance: UK FTSE 350 Companies

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CORPORATE GOVERNANCE AND CORPORATE
PERFORMANCE: UK FTSE 350 COMPANIES

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OREWORD

In the wake of the recent financial crisis, attention has once again turned to corporate governance, with policy reviews of UK corporate governance being undertaken by the FRC and the Walker Review.

One key question may relate to the purpose of corporate governance – is it about the control of risks, the improvement of performance, or both? If this could be clarified, criteria could be developed to measure the success of corporate governance procedures or codes.

This research investigates whether companies with particular corporate governance characteristics outperform other companies and have lower levels of risk. The governance characteristics investigated in the report are: board independence; board size; directors' ownership of equity; and extent of ownership by large block holders.

The effects of these characteristics were measured over two three year periods between 1999 and 2004. Three measures of performance were used: one stock market measure (market to book ratio); and two accounting based measures (return on assets and ratio of sales to total assets). Risk was measured in three ways: total risk; systematic risk; and a measure of sudden share price falls.

The findings reveal no clear systematic relationship between governance factors and improved performance, and no strong evidence that governance reduces either total or systematic risk.

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expressed do not necessarily represent those of ICAS itself, but hopes that the project will add to the knowledge about the interaction between corporate governance factors, company performance and risk.

David Spence
Convener, Research Committee
September 2009

A

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E XECUTIVE SUMMARY

Corporate Governance and Corporate Performance

In the period from 1998 to date the UK stock market has gone through two cycles of boom and bust. The ‘credit crunch’, in which troubles in the financial sector were rapidly transmitted to the non-financial sector, illustrates the need to understand how corporate governance interacts with financial performance in all stages of the economic cycle. The research presented in this report investigates corporate governance and corporate performance through most of the first cycle and the beginning of the second and so has relevance to the continuing development of companies as Britain enters a further phase of the economy. Corporate performance is measured by: market value to book value; return on assets; and sales to total assets ratios. The results of the investigation show, for the most part, a picture of robust governance fitted to the circumstances of individual companies. However, the report recommends further scrutiny of the appointment of independent directors by companies with a large proportion of shares held by directors, and further investigation of the role of boards in evaluating and challenging executive directors’ strategic plans.

Reasons for undertaking the research

There has been a considerable amount of research on the relationship between governance and performance but most of it was undertaken before companies had assimilated the provisions of the Combined Code and covers a period during which there was a long bull market. The current research examines a period when companies had largely adjusted their internal structures to comply with the Code guidance and when

very different market conditions prevailed. The period also straddles the collapse of Enron and Worldcom and the ensuing crisis in the United States leading up to the Sarbanes Oxley Act. The work not only extends the knowledge of governance and performance but also examines the relationship between governance and risk.

Corporate Governance

Until the publication of the Cadbury Report in 1992, the governance of companies was regulated by custom and practice together with stock exchange requirements and some basic rules laid down by company law concerning boards of directors, financial reporting and audit.

In the post-Cadbury era, listed UK companies have gradually converged towards a set of internal arrangements covering the structure of the board and its sub-committees, together with systems of internal control and risk management that conform to a model embodied in the Combined Code.

Prior research

Governance and performance

The results of previous research on governance and measures of performance have been mixed. Few studies have found a positive relationship between corporate governance and measures of performance. In information rich, competitive stock markets, such as those of the UK or the USA, it would be surprising to find that companies with particular governance arrangements consistently provided a higher return to their shareholders. Markets can observe governance arrangements and predict outcomes so that any predictable good or bad performance is likely to be reflected in the price of a company's shares. Shares will be priced such that a normal return will be earned upon them, relative to the level of risk involved. If well-governed companies perform better, their shares will stand at a premium in the market. Accordingly, much prior research

has concentrated on measures of valuation or accounting performance rather than market returns. In particular, attention has focussed on measures of companies' market value to book value (called 'Tobin's Q' or 'Q', for short) because Q measures the extent to which the company is expected to earn an above average return on its invested capital.

When the effects of other influences on performance are taken into account, most prior studies have found either a negative influence or no influence of measures of 'good governance' (such as the independence of the board) on corporate performance. Some studies, however, have found that a period of poor performance may precede governance improvements and it has been suggested that investors do not concern themselves much with governance when companies are performing well, but that boards come under pressure to change their governance in periods of underperformance.

Governance and risk

The nature of the mechanisms that have been recommended for improving governance raises the question 'Why should performance improve after the adoption of recommended governance measures?' For example, appointing independent directors and separating the roles of Chair and CEO are designed not so much for the improvement of performance, but for the avoidance of costly disasters. A substantial reduction in downside risk would, other things being equal, raise the average level of performance. However, if there were also a reduction in upside potential, then average performance might remain unchanged, or, if risk reduction is costly, decline slightly.

In the mid-1990s there was considerable resistance to the growing regulation of governance on the grounds that it was inhibiting entrepreneurial activity by companies, that is to say that governance was causing boards to be excessively cautious. If boards were rejecting risky, but potentially profitable projects, then a negative relationship between governance and performance might be expected. These concerns led to the Hampel review of governance recommendations and its consolidation in the Combined Code.

Surprisingly, few prior studies have examined the relationship between governance and risk, and none have focussed specifically on unexpectedly large negative performance by companies.

Companies in the study and timescale investigated

The research investigates non-financial companies that were members of the FTSE 350 in 1999 and/or in 2004. The reason for choosing two different dates was to mitigate statistical bias while maintaining a relatively constant population. The results of companies in the six periods ending 30th June 1999 to 30th June 2004 formed the basis of the analysis.

Findings

Trends in governance and ownership

Despite the maturity of guidance on governance, board structures are still evolving. Average board size decreased over the period 1999-2004 and the fraction of independent directors increased so that by the end of the period, on average, nearly half of FTSE 350 non-financial companies' boards were made up of independent directors and the average board size had decreased to nine directors from more than ten in 1999.

By 2004, 93% of FTSE 350 non-financial companies had separated the roles of Chair and CEO; in 76% of cases the Chair was not a previous CEO of the company. The companies that survived in the FTSE 350 index over the period were more likely, probably on account of their larger size, to separate the roles of chair and chief executive than companies that were promoted to the index between 1999 and 2004.

Also by 2004, the typical board was made up of four executive directors and five non-executives of whom four were independent, but it was only in 2004 that the number of independent non-executives on the board achieved equality with the number of executives.

The average number of members (percentage independent directors) of the main board committees at the end of the period were: audit committee 3.5 (81%); remuneration committee 3.6 (82%) and nominations committee 4.2 (62%). The percentage of independent members increased significantly over the period.

Total directors' remuneration increased well above inflation throughout the period with double digit increases in the first three years and 8% increases in the last two years.

On average, directors and connected parties controlled 5.7% of the shares of the companies while the top ten holders of large blocks (>3%) controlled 27% of the shares. The holders of large blocks were mainly institutions but also included a number of individuals and foreign investors. A few companies had more than 50% of their shares controlled by blockholders and, for a small percentage of companies, directors appeared to have voting control (>50% ownership).

Governance and survival

As might be expected, larger companies were more likely to survive in the FTSE350 index than smaller ones. In the period under review, property companies were more likely to survive, and technology companies less so. Survival was not related to corporate governance characteristics.

Governance and shareholder activism

Shareholder activism, as measured by opposition to directors' recommendations at AGMs and the advice of a leading proxy adviser, was greater during the period of market decline. There were indications that companies that had high market to book values at the beginning of the period, or which had large boards, were more likely to be subject to shareholder opposition.

Governance and performance

Initially, three measures of corporate performance were investigated - the market to book ratio (Q), accounting return on assets (ROA), and the ratio of sales to total assets (SASET). These variables are inter-related both with previous values of themselves, and with each other. For example, the level of Q is strongly positively related to both the level of Q in the previous period and the change in SASET over the period.

Corporate governance is a slowly changing phenomenon and any relationship between it and performance needs to measure longer-run effects, rather than transient ones. Accordingly, and again following previous research, the relationship was investigated over two three-year sub-periods 1999-2001 which correspond to the relatively stable period at the peak of the long bull market in technology stocks and 2002-2004 which is the subsequent period of declining prices and the beginning of the recovery.

The results show that the relationship between governance and performance varies with the time period investigated, so that, while in the earlier period there is some evidence that board independence is related to Q, suggesting that the market valued independence, the relationship does not persist into the later period. Companies with high independence have low SASET ratios in both periods. There is no relationship between independence and ROA in the first period, but a negative one in the second period.

Although larger board sizes are positively related to Q in the first period, there is no relationship in the second period. Companies with large boards had low ROA and Sales to Assets ratios in both periods. In both periods large companies tended to have low Q values but high ROA. There is a strong positive relationship between the performance of individual companies and industry average performance at all times. The possibility that the industry control variable was masking an underlying relationship was explored by adopting an alternative formulation of the industry control; there was no substantial change to the results.

Summarised results of relationship between independence, board size and performance measures

	Q	SASET	ROA
<u>1999 - 2001</u>			
Independence	+	-	none
Board size	+	-	-
Company size	-	+	+
<u>2002 - 2004</u>			
Independence	none	-	-
Board size	none	-	-
Company size	-	+	+

Q (Market value of equity + minority interests + total liabilities)/total assets

ROA Operating income/total assets

SASET Sales/total assets

+ Positive relationship with performance

- Negative relationship with performance

Substantial shareholdings and governance

While there is no apparent relationship between independence or board size with the presence of outside block holdings there is a very strong and consistent negative relationship between the proportion of shares held by directors and the independence of boards, even when controlling for size and industry membership.

Prior performance

The influences that prompt companies to change their governance practices are not well-researched although it is clear that the Cadbury report and the Combined Code were followed by relatively rapid changes leading to compliance. It is quite possible that non-compliant companies are able to maintain their governance arrangements while

their performance is perceived as good by their shareholders, but that when there is a period of poor performance, they come under pressure to comply with the Code. In this respect there is the possibility of ‘reverse causation’ in which poor performance causes changes in governance arrangements. The research examines whether there is a tendency for companies with poor performance in one year to improve governance in later years, as some prior research has found.

In this analysis, independence of the board was found to be negatively related to board size and directors’ ownership and positively related to company size. The tendency of companies with a large fraction of shares held by directors to have less independent boards may indicate a reluctance of directors, who are already in a powerful position, to be subject to monitoring. There was some evidence that companies react to large price declines by increasing the fraction of independent directors on the board.

Risk

The concern for corporate governance that gave rise to the Cadbury Committee and subsequent developments arose because of a number of high profile corporate scandals and collapses. Concern was not so much that companies were performing inadequately but that there were unacceptable risks if boards controlled by executive directors or dominant CEOs were not balanced by the presence of non-executive directors. Corporate governance is as much about the control of risk as it is about corporate performance.

If outside directors bring experience and strategic expertise, together with vigilance in monitoring management decisions, it is plausible that they are effective in preventing strategic mistakes and/or opportunistic behaviour by management. However, the results of the analysis do not provide much evidence that governance reduces risks. The corporate governance variables do not explain either total or systematic risk. So far as the risk of large negative returns (downside risk) is concerned, greater board size is related to downside risk in two out of the three

years in the earlier period (smaller boards were associated with smaller downside risk), and independence was associated with larger risk in two out of the three years in the later period. Possible explanations include a lack of effectiveness of independent directors in assessing the riskiness of proposed strategies and challenging management proposals. Another explanation is that companies, that are more risky than others of a similar size and in the same industry, attempt to reassure stakeholders by improving governance. A third explanation is that better governed companies feel more able to take risks. Although further research is needed to differentiate these explanations, any expectation that more independent boards would reduce the risks faced by investors seems not to have been realised.

Conclusions, policy implications and further research

In what is now a mature system of governance regulation, companies make choices about such characteristics as appointment of independent directors and board size in conjunction with strategic decisions, and take into account the industry and ownership of the company. This research aids in the interpretation of previous research. In particular, both positive or negative prior findings about the relationship between governance and performance are likely to be time specific. As well as providing evidence on trends in independence of boards and board size, the work has discovered some interesting regularities. One of these is the apparent negative relationship between board independence and Sales to Total Assets and between board size and Sales to Total Assets. Another is the negative relationship between independence and the proportion of shares controlled by directors (even allowing for the effects of size and industry membership).

Policy implications and further research

The main results of the research lend confidence to the robustness of large companies' governance through the various stages of the economic cycle. That is, governance does not appear excessively costly, nor are companies missing opportunities to increase shareholder value by improving governance. There are, however, two areas where there may be cause for concern:

- Companies that have a relatively large proportion of shares controlled by directors have a lower proportion of independent directors. The consequent concentration of power in the hands of executive directors deserves further scrutiny by regulators to ensure that the companies are applying the spirit of the Combined Code as well as complying with its letter.
- There is little evidence that governance arrangements are effective in reducing the risks for investors. Companies with larger boards or a higher proportion of independent directors have no lower risk of large adverse share price movements than others. As one of the aims of appointing independent board members is to reduce the incidence of strategic mistakes, more investigation of the role of independent directors in strategy-making is warranted, together with a review of the training needs of independent directors in evaluating and challenging managements' plans.

Further research is indicated to extend the research to smaller listed companies and to differentiate competing explanations of the relationship between governance, performance and risk. In particular the importance of the presence of active shareholders in promoting changes in performance levels and governance arrangements, the influence of private equity and whether there is an optimal proportion of independent directors or board size could be worthwhile extensions of this work.

1 INTRODUCTION

Introduction

Corporate governance issues have been vigorously debated by academics, practitioners and policy makers for the last two decades. Corporate governance - the system by which companies are directed and controlled - is the process of managing and controlling the activity, direction and performance of companies and, by extension, other institutions. The scope of governance is a contested area, some commentators interpret it narrowly as referring to the maximisation of shareholder wealth, whereas, for others, governance has evolved to include corporate accountability, corporate social responsibility, risk management and the protection of interests of other stakeholders apart from shareholders. The 1992 Cadbury Report on governance and the Combined Code are now well established and an evaluation of aspects of their impact on company performance seems timely.

Objectives of the research

This study investigates the performance of non-financial FTSE 350 companies in the UK market, in relation to their governance structures. The main objectives are to investigate whether:

- (1) good governance or other characteristics are associated with improved corporate performance;
- (2) governance variables are interdependent with other firm characteristics;

- (3) companies react to poor performance by appointing additional independent directors; and
- (4) companies with good corporate governance or other characteristics have lower risk than other companies.

Research approach

The research uses financial information, corporate governance data and ownership data, derived from Thomson Financial Datastream and Pensions Industry Research Consultancy, for non-financial companies in the FTSE 350 as at 31 December 1999 and/or 30 June 2004. The data were collected for each year as at 30 June for the period of 1998 to 2004. The research employs multiple regression analysis controlling for the effects of industry membership and company size.

Outline of the report

Chapter two describes the evolution of corporate governance in the United Kingdom (UK). The chapter goes on to review prior research on corporate governance and corporate performance. Chapter three discusses the research approach and trends in governance. Chapter four reports findings on corporate governance and firm performance using three performance measures: market to book ratio, (Q), return on assets, and ratio of sales to assets, and goes on to test the robustness of the results. Chapter five investigates governance and risk. Chapter six provides a summary and conclusion of the research.

2 LITERATURE REVIEW

Introduction

Corporate governance has been under scrutiny since the 1930s, and has been the subject of much regulatory effort and academic study since the report of the Cadbury Committee was published in 1992. Following the publication of the Cadbury Report, codes of governance have proliferated around the world, many of them drawing heavily on the Cadbury Code and its successors. One of the reasons for the enormous influence of the Cadbury Code was the relative lack of competing guidance from the United States, where governance is subject, in part, to federal securities laws, and, in part, to the jurisdiction of individual states (Bush, 2005).

The Cadbury Code of 1992 was augmented in 1996 by the recommendations of the Greenbury Committee on directors' remuneration (Greenbury Report, 1995), and, after review by the Hampel Committee (Hampel Committee, 1998), the first Combined Code was published in 1998. Following further reports by committees chaired by Turnbull (internal control and risk management) (Turnbull Report, 1999), Myners (promoting active shareholders) (Myners Report, 2001), Higgs (role of non-executive directors) (Higgs, 2003) and Smith (audit committees) (Smith Report, 2003) a further edition of Combined Code was published in 2003 (Combined Code, 2003), with minor revisions in subsequent years.

Corporate governance deals with the rights and responsibilities of a company's board of directors, its shareholders and various stakeholders. In the past two decades, corporate governance has become the focus of attention of managers, academics and policy makers owing, among other

things, to an increasing concern over the incidence of corporate fraud and fraudulent financial reporting arising from scandals and corporate collapses. The attention given to the corporate governance structure of firms seems to imply that it has a critical impact on the strategies and policies and hence their performance. However, the evidence linking quality of corporate governance and corporate performance is very mixed, as shown by a review of previous research in this chapter and by an analysis of UK experience in chapters four and five.

The nature of corporate governance and its regulation

While the Cadbury Report's (1992, p2) definition of corporate governance as 'the system by which companies are directed and controlled' is frequently cited, other authors have also attempted to characterise and define governance. The OECD's Principles of Corporate Governance (OECD, 2004, p11) suggests:

Corporate governance involves a set of relationships between company's management, its boards, its shareholders and other stakeholders.

Banks (2004, p471) defines governance as:

The structure and function of a corporation in relation to its stakeholders generally, and its shareholders specifically.

And Solomon & Solomon (2004, p14) suggest that:

Corporate governance is the system of checks and balances, both internal and external to companies, which ensures that companies discharge their accountability to all their stakeholders and act in a socially responsible way in all areas of their business activity.

Tirole (2001, p4) defines corporate governance as:

The design of institutions that induce or force management to internalise the welfare of stakeholders.

While the definitions above acknowledge a broad group of stakeholders, others have focused governance more narrowly:

Corporate governance is the manner in which organisations, particularly limited companies are managed and the nature of accountability of the managers to the owners'. Dictionary of Accounting, Oxford University Press. (Hussey, 1999, p97)

With a similar view on corporate governance, Shleifer and Vishny (1997, p737) relate it to the return on investment. That is:

Corporate governance deals with the ways in which suppliers of finance to corporations assure themselves of getting a return on their investment.

Mitton (2002, p212), in his study on five East Asian countries, defines corporate governance as:

The means by which minority shareholders are protected from expropriation by managers and controlling shareholders.

In a survey of institutional investors, Solomon *et al.* (2000) presented a range of definitions and found, perhaps unsurprisingly, that respondents preferred a definition focusing on the interests of shareholders to more broadly-based ones. The Cadbury Report definition was least liked by respondents to the survey.

Development of Corporate Governance

The financial collapse of major corporations such as Enron, Barings Bank, Daiwa Bank and Sumitomo Corporation of Japan and the Asian Financial Crisis are frequently cited as reasons for addressing the issue of corporate governance. It is received wisdom that good governance is of value in improving firms' accountability and shareholder value. This growing sense of the importance of good governance is reflected in the proliferation of Codes of Best Practice (at the time of writing the European Corporate Governance website (www.ecgi.org) lists 212 versions of codes and other guidance issued at various times by bodies around the world). In the UK, the first concerted approach to the issue was the establishment of a committee on the Financial Aspects of Corporate Governance in 1991, under the chairmanship of Sir Adrian Cadbury (the Cadbury Committee). The committee was established because of continuing concerns about standards of financial reporting and accountability caused by an earlier generation of corporate scandals including Maxwell, BCCI, Polly Peck, Coloroll and others. There was, at the time, concern about the widespread use of creative accounting, the lack of authority of Accounting Standards, and the weakness of auditors. Corporate behaviour was seen as threatening to the City's system of self-regulation and the Cadbury Committee was one contribution towards reinforcing it. The semi-statutory support for the work of the Financial Reporting Council and its Review Panel was another important reform. The subsequent development of UK governance is summarised in Table 2.1

Table 2.1 Development of UK Governance

Report	Recommendations
Cadbury (1992)	Deals with the issue of quality of company's financial reporting. Outlines provisions relating to board composition, the appointment and independence of non-executive directors, executive directors' contracts and remuneration, and companies financial reporting and controls. The Report requires a company to have a minimum of three non-executive directors.
Greenbury (1995)	Focuses on board remuneration, particularly the issues on the role of the remuneration committee in setting the remuneration packages for the CEO and other directors, disclosure of directors' remuneration, service contracts and remuneration policy.
Hampel (1998)	Reviews the implementation of the Cadbury and Greenbury Reports, particularly to avoid 'box-ticking' by companies. The emphasis is on the positive contribution that good governance can offer and the need not to stifle entrepreneurship.
Combined Code (1998)	Consolidates all principles and recommendations outlined in the Cadbury, Greenbury, and Hampel Reports. The Code was then updated in 2003 incorporating recommendations from Higgs Review (2003) and Smith (2003). The Code requires at least one-third of the board to be non-executive directors.
Turnbull (1999)	Deals with the issue of internal control and risk management. Where the board is responsible for ensuring that an internal control system is in place and requires companies to report on their systems of internal control and risk management, but not to give an opinion of the systems' effectiveness.
Myners (2001)	Deals with the role and responsibilities of institutional shareholders.
Higgs (2003)	Examines the role of non-executive directors and suggests companies should state, in the annual report, the number of meetings of the board and its main committees and attendance records. An evaluation of board performance should be carried out at least once a year.
Smith (2003)	Looks at the role of audit committee, particularly the issue of how to ensure that financial reporting and the internal control are in the best interest of shareholders.
Combined Code (2003)	Emphasises that there should be no concentration of power in one or two individuals; at least half of the board should be independent non-executive directors. The code provision A.3.2 states that except for smaller companies, at least half of the board, excluding the chairman, should comprise non-executive directors determined by the board to be independent. A smaller company should have at least two independent non-executive directors (p.11). Minor revisions were made to the Code in 2006 and 2008.

The UK corporate governance framework is now well developed and covers all the main corporate governance mechanisms: board structure; leadership structure; ownership structure; internal control systems; and institutional investors. Recent reviews have revealed no widespread appetite for radical reform on corporate governance (Fraser and Henry, 2003; Financial Reporting Council, 2006). Research by Mallin and Ow-Yong (2008) concludes that governance is also well established in the UK's junior Alternative Investment Market (AIM).

Various studies have analysed codes of governance and identified the issues covered by codes (Gregory, 2001; Gregory and Simmelkjaer, 2002; Mallin, 2007). These can be summarised as:

- Separation of the roles of board chair and CEO;
- Independent non-executive directors;
- Appointment, re-election and training of directors;
- Availability of information for directors;
- Service contracts and remuneration of directors;
- Financial reporting;
- Internal control;
- Audit committees and auditors; and
- Relationships and dialogue with significant shareholders.

The FTSE and Institutional Shareholder Services (2005) reviewed a wide range of accepted standards and codes globally. The review enumerated more than 60 corporate governance criteria which were grouped into five broad themes: structure and independence of the board (44% of the criteria); equity structure (21%); compensation systems for executive and non-executive directors (17%); executive and non-executive stock ownership (9%); and independence and integrity of the audit process (9%).

Ownership structure, financial and stakeholder relations, financial transparency and information disclosure, and board structure and process are the main dimensions of governance focused on by 'ratings' agencies such as Standard and Poor's and GMI Ratings (mainly US) and PIRC (UK). The American agencies, where shareholder protection is not so strongly entrenched in law and regulation as it is in the UK, also focus on shareholder rights and anti-takeover provisions. In this research three of these themes are examined: structure and independence of board; directors' holdings; and equity structure.

Governance mechanisms

Previous studies have ascribed four main functions to the board of directors: the agency/control function of supervising management; the strategic decision and policy support role; the resource acquirer role (Lasfer, 2006); and maintenance of firm legitimacy and reputation (Filatochev *et al.*, 2006).

The most widely used framework for analysing the relationship between the firm and its shareholders is agency theory. The theory refers to the relationship between one party (principal/shareholder) that entrusts resources for management to another party (agent/manager). Under business settings with incomplete information and uncertainty, the principals/shareholders cannot ascertain whether the agent/manager has put maximum effort into increasing their wealth. There are three categories of mechanisms that have been identified and can be used to align the interests and objectives of managers with shareholders: use of executive compensation plans that align managers' interests with shareholders; legal and regulatory protection; and bonding agreements under which management contract to behave in certain ways and achieve certain goals together with the monitoring of management actions and their outcomes. Monitoring arrangements include the use of financial reporting, auditing and non-executive directors. Sometimes, it is

assumed that it is costless to write a contract between the principal and the agent. However, in practice, it is not possible to write contracts to cover all eventualities, because contracting costs may be large. Costs that have been associated with the costs of contracting include: cost of time taken to consider all the different options that might occur; negotiating costs; and enforcement costs. Hart (1995) suggests that governance mechanisms can be regarded as potential solutions to the problems of incomplete contracts and agency costs.

Agrawal and Knoeber (1996) examine the use of seven mechanisms to control agency problems between managers and shareholders. They identified the following mechanisms: shareholdings of insiders; institutional shareholdings; large block holders; use of outside directors; debt policy; the managerial labour market; and, the market for takeover or 'corporate control'. They note that the use of each mechanism depends upon the choices of other mechanisms as well as other factors such as technology of production, markets in which the firm operates, and characteristics of the CEOs. Concern with raising standards of corporate governance (Hermalin and Weisbach, 1988; Bhagat and Black, 1999) has centred on top management (board of directors) and how executives are appointed and controlled, together with the role of non-executive directors.

Theory does not tell us in what circumstances mechanisms are substitutes and when they reinforce each other. For example, if a company has large outside shareholdings, is the oversight of large shareholders a substitute for monitoring management activity by independent directors, or does the presence of large shareholders mean that they use their influence to encourage the appointment of additional independent directors? Bathala and Rao (1995) find that board composition is systematically related to a number of other variables including institutional holdings, growth, volatility, and CEO tenure. They document an inverse relationship between the proportion of external members on the board and managerial stock ownership,

dividend payout, and debt leverage. They argue that individual firms choose an optimal board composition scheme depending upon alternative mechanisms employed by the firm to control agency conflicts.

Dedman (2000) investigates whether compliance with certain recommendations of the code contained in the Cadbury Report (1992) is related to firm size, ownership structure, performance and the level of entrenchment of top executives. She finds firms are likely to comply with the Code requirement for at least three non-executive directors following poor performance. Larger firms are more likely to comply with the Code. One dimension of governance is the ability of external stakeholders to replace management, if it is not performing in accordance with their wishes. Management that is hard to replace is described as 'entrenched'. Dedman found CEO 'entrenchment' was negatively associated with the number of non-executives, but the influence of CEO ownership reduced significantly following the introduction of the Cadbury Code. Dedman found no evidence of an active role of the institutional investors in intervening with their investee companies' governance structure. Dedman (2002) finds that while there is evidence of widespread compliance with the Code, existing research fails to find any direct relationship between the number of non-executives on UK boards and firm value. Nevertheless, she suggests there is evidence that compliance with the 1992 Report led to a reduction in accounting manipulation and that top executives were more likely to be disciplined for poor performance.

Agency theory also provides insights into how governance can affect firms' interactions with other stakeholders. In the US, Bhojraj and Sengupta (2003) attempt to link firm governance structure with bond ratings and yields. They propose that governance mechanisms can reduce default risk by mitigating agency costs and monitoring managerial performance through the reduction of information asymmetry between the firm and lenders. They use institutional investors and outside directors to proxy for the governance mechanisms employed in the firms.

The findings indicate that greater institutional ownership and stronger outside control on the board leads to lower borrowing costs and higher ratings of a firm's new bond issues.

In a review of mainly US studies, Hermalin and Weisbach (2003) conclude that empirical studies of boards have produced a number of consistent findings:

- board composition, as measured by the insider-outsider ratio, is not correlated with firm performance;
- the number of directors on a firm's board is negatively related to a firm's financial performance;
- board actions appear to be related to board characteristics;
- boards appear to evolve over time depending on the bargaining position of the CEO relative to that of the existing directors; and
- firm performance, CEO turnover, and changes in ownership structure appear to be important factors affecting changes to boards.

They suggest two important issues that may complicate empirical work on governance, the interdependence of different factors and the extent to which governance arrangements and other factors can be regarded as being in equilibrium.

Board structure

According to the Cadbury Report, the effectiveness of a board is buttressed by its structure and procedures (Cadbury Report, 4.21; 1992). Following Cadbury, firms are required to appoint audit, nomination and remuneration committees. The board is required to meet regularly and disclose the number of board meetings with details of attendance of each individual director. Previous research on board structure focuses

on board size, board composition, board committees and leadership structure. Anderson *et al.* (2003) examine the information content of earnings and board structure. They report that the market attaches more credibility to earnings announcements when boards and audit committees are both independent and active.

A survey by Russell Reynolds Associates (2002) highlights the views of FTSE Chairmen, that is Chairmen of the largest British companies quoted on the London Stock Exchange, including 68% of the FTSE 100. The survey concludes that the key to a successful board is its capability, not its structure. The majority of Chairmen confirm that board structure, diversity, ratio of executive to non-executive directors (NEDs) and independence are of secondary importance to the effectiveness of the board. Another issue that is highlighted is experience which should include international experience and foreign nationals on the board for international businesses. However, a majority of the Chairmen are supportive of the British unitary board system. In addition, 61% of the respondents think that the ratio of NEDs to executive directors is an important issue. Many of them consider that if NEDs representation is less than half of the board, their influence is muted and that the Chairman's role is critical to board effectiveness and the quality of the contribution from the NEDs. In addition, it is important to have executive directors on the board as they provide direct communication about the company to the NEDs. But some respondents suggested that executive directors have a minor role to play on the board as they are always likely to support the CEO, who has a strong influence on their compensation and continued tenure.

Empirical studies in several disciplines have investigated whether changes in board structure can influence outcomes that have significant implications for shareholders' interests. In the United Kingdom, research has focused on the change in board composition since the introduction of the Cadbury Report. Young's (2000) and Dahya *et al.*'s (2002) findings indicate that there have been changes in board composition

during the period immediately pre and post-Cadbury. In particular Young found that increased demand for NEDs was more pronounced in firms classified as having excessively manager-dominated boards in the pre-Cadbury period. His examination includes the changes in board composition, compliance decisions, and 'knock-on' effects of NEDs on other governance elements. The analysis of the 'knock-on' effects is restricted to three variables (number of executive directors, managerial share ownership and dividend policy) that appeared to be jointly determined with the number of NEDs. There is little evidence that an increase in NEDs causes firms to adjust other governance elements to restore the optimum level of monitoring. In addition his findings show that the proportion of NEDs is significantly lower for firms with a combined Chairman and CEO, for firms with smaller boards and less diversified firms. Dahya *et al.* (2002) document a general increase in board size among UK companies for the period between 1988 to 1996, an increase in the fraction of outside directors, and an increase in the number of firms with two different individuals holding the position of CEO and Chairman. The results are consistent with companies appointing additional NEDs to comply with Cadbury.

In the USA, Berry *et al.* (2006) find, for newly listed companies, that board independence and the proportion of board seats held by venture capitalists increase as CEO ownership declines. Overall, these studies provide little evidence that governance mechanisms are substitutes, rather, as governance increases in one area, it is also likely to increase in others.

Laing and Weir (1999) investigate the extent of Cadbury compliance and its impact on performance of UK quoted companies. They randomly selected 115 companies which appeared in the Times 1,000 for the years 1992 and 1995. The governance mechanisms in this study are non-executive director representation, leadership structure and board committees (presence of both remuneration and audit committees). Their findings indicate: strong evidence of compliance amongst UK

quoted companies, especially larger firms; combined leadership structure is more common in the largest companies; strong evidence in favour of committee-based monitoring rather than monitoring based on the strength of non-executive director representation; little evidence that the mechanisms have had a positive impact on performance.

In an Australian study, Clifford and Evans (1997) investigate the level of board independence among 100 Australian companies and found that large companies have slightly larger board sizes and a greater representation of non-executives. However, 35% of the non-executives in their sample were not independent because they: were advisers, directors/employees of interrelated companies; had loans from the company; or were suppliers or customers of the company.

Weir and Laing (2001) examine the extent of Cadbury compliance in 320 non-financial UK-based listed companies for the years 1995 and 1996. They collected the governance data from the 1995 annual reports and the performance measures were taken from the 1996 annual report. They report widespread compliance (separating the role of Chair and CEO, sufficient number of non-executive directors on the board and adoption of a remuneration committee) with the Cadbury Code. In addition, they evaluate the link between governance structure and corporate performance as measured by return on assets. They found: combined leadership structure was common in the two highest quartile groups; the highest performing quartiles had the lowest proportions of non-executive directors on their boards; and the best performing quartiles had the lowest representation of unaffiliated non-executive directors. In their interpretation, the benefits of combining the role of Chair and CEO outweigh those of separation and, merely adopting a specified set of governance structures will not automatically mean that a company will improve its performance.

Fama and Jensen (1983) suggest that boards that are structurally more independent from management are better able to control management decision-making on behalf of shareholders. For instance,

boards composed largely of inside directors are considered less likely, than those with many outside directors, to override management decisions that threaten shareholders' interests, because inside directors are subordinate to, and therefore dependent on, the CEO. Abrahamson and Park (1994) provide some evidence that independent boards limit the concealment of negative outcomes in letters to shareholders. In addition, Westphal and Zajac (1994) found that board independence reduced the adoption of 'symbolic' incentive plans that appeared to align management's and shareholders' interests without putting CEO pay at additional risk.

Recent empirical studies focus on the evolution of board structure over time, and changes in board structure post-Sarbanes-Oxley (SOX). Chhaochharia and Grinstein (2004) found that between 2000 and 2003 boards became smaller and more independent. In addition there was a reduction in multiple directorships and fewer cases of interlocking directorships. Other research focusing on board characteristics includes Ferris *et al.* (2002) and Fich and Shivdasani (2006). Ferris *et al.* (2002) find that 'busy' boards, where directors hold multiple directorships in other companies, do not harm shareholder wealth whereas Fich and Shivdasani (2006) suggest that the extent to which outside directors are 'busy' determines the effectiveness of monitoring by the board.

Doble (1997) found little impact of the Cadbury Code on board composition in UK newly-quoted companies. Weir (1997) investigates the relationship between internal monitoring mechanisms and acquisitions occurring during the period 1990 to 1993 in the UK. The sample consists of 94 acquired and 94 non-acquired firms. He finds that acquired firms are less profitable than non-acquired firms. The findings evidence a lower proportion of non-executive directors on the boards of the acquired firms and these firms are more likely to have dual CEO and chairman. Later, Weir and Laing (2003) investigate 104 UK firms that were the target of friendly acquisitions during 1998. They hypothesised that targets of uncontested bids are more likely to have a board structure consistent with the Codes of Best Practice than non-target companies.

However, the results indicate that there was no difference in the extent of adoption of the Cadbury Code of Best Practice between acquired and non-acquired firms. In addition, the results illustrate a relatively low degree of compliance with the governance structures set out in the Cadbury Code by the both sample and match-pairs. The results also suggest acquiring firms do not seek out firms with poor governance structures.

Using 1997 survey data, Dulewicz and Herbert (2004) evaluate the link between a set of independent governance variables (board size, number and proportion of independent directors, board tenure, pay, leadership structure, board committee) and firm performance (cash flow return on total sales, and sales turnover). Generally they find no significant relationship between the governance variables except for the proportion of inside directors. The authors suggest that:

There may be some critical threshold for the appropriate number of executive directors; one that enables those who are not over-stretched with executive responsibilities better to fulfil their boardroom roles and, thereby, enhance the firm performance. (p270)

Dulewicz and Herbert also investigate the link between board practices and firm performance. The findings indicate that boards that can improve monitoring of performance, supervision of management, and communication are likely to achieve higher firm performance.

Griffith (1999) examines the impact of board composition (ratio of inside to outside directors) on firm value. The study analyses a sample of 969 firms obtained from Standard and Poor's 1996 ExecuComp database. The findings indicate a strong evidence of a non-linear relationship between insiders on the board and the market to book ratio (Q). The value of the firm first increases then decreases as the percentage of insiders on the board increases. The maximum Q-value is reached when 50% of the board is comprised of insiders. The rise and then fall in firm

value as board composition increases is consistent with improvements in governance as monitoring of management increases, but that boards become 'unwieldy' as the number of outsiders increase.

Board size

A number of studies find board size is positively related to measures of the private benefits available to insiders - including industry concentration and, in the USA, the presence of takeover defences. However, it is negatively related to proxies for the cost of monitoring insiders, including the market to book ratio, the firm's R&D expenditure, the variance of returns, and CEO ownership. These findings are consistent with arguments put forward by Raheja (2005) that board size reflects a trade-off between the firm-specific benefits of increased monitoring and the costs of such monitoring. Accordingly optimal board size and composition may vary across firms, and change over time, to accommodate the specific growth, monitoring, and managerial characteristics of a firm.

A large body of research has also centred on the relationships between the size of firms' boards of directors and a number of organisational outcomes (Cascio, 2004). Boards of directors may vary significantly in size, from small (five to seven members) to very large (30 or more) members. However, there is no consensus as to whether larger or smaller boards are better with respect to their impact on firm performance. As with board composition and leadership structure, there is conflicting evidence about the relationship between board size and firm performance. Cascio finds both some evidence that smaller boards are more beneficial but that there is also evidence that larger boards are more effective.

Canyon and Peck (1998) investigate the relationship between board size and firm performance (measured as return on equity and market to book ratio, Q) for United Kingdom, France, Netherlands, Denmark and

Italy from 1992 to 1995 and found that board size is inversely related to firm performance. They suggest that, for their UK sample of firms, an increase in board size from 10 to 11 members would be associated with a decrease in performance of 1.36%.

Larger boards are sometimes thought to be better than smaller ones because they enable the firm to form critical commercial connections and secure scarce resources (Hillman and Dalziel, 2003). However, some writers (e.g. Jensen, 1993) argue that larger boards may function ineffectively and may be easier for a CEO to control. Larger boards are confronted by such problems as 'social loafing' and decreased group cohesiveness.

Zahra and Pearce (1989) argue that larger boards may not be as susceptible to CEO domination as smaller boards. By combining the results of other studies, Dalton *et al.* (1999) find larger boards to have a small positive association with firm financial performance, especially among smaller firms. In terms of firm oversight, there is no consensus as to whether larger or smaller boards are better able to monitor the firm. Compared to small boards, large boards are likely to be more diverse and less cohesive which may lead to conflict and debate (Dalton *et al.*, 1999). A large board also possesses more specialised skills and opinions among its members compared to a small board; larger boards are better equipped to obtain and process a large amount of information about the firm and its environment (Agrawal and Knoeber, 2001). A larger board may also be better equipped to monitor the firm's top management team through the establishment of specialised oversight committees (Pearce and Zahra, 1992). Rival political coalitions can emerge in larger boards, and serve to challenge the top management team, and the political factions it has created (Ocasio, 1994). Coles *et al.* (2004) argue that certain classes of firms benefit from larger boards. Their findings indicate a positive association between firm performance (measured by Q) and board size for diversified firms, larger firms, and high leverage firms. Other earlier studies (Yermack, 1996; Eisenberg *et al.*, 1998) find a significant negative association between board size and

firm performance. Brown and Caylor (2004) find that firms with board size between six and fifteen members have higher returns and higher net profit than firms with board sizes outside this range.

Board independence

There is a large body of empirical work on the relationship between board composition and firm performance. Results of previous empirical studies do not indicate any statistically significant positive relationship between the degree of board independence and better financial performance. Bhagat and Black (2002) found no positive correlation between the degree of board independence (measured as the fraction of independent directors minus the fraction of inside directors) and four measures of firm performance (Q, return on assets, sales to assets ratio and market adjusted stock price returns), controlling for a variety of other governance variables, including ownership characteristics, firm and board size, and industry. However, they found that poorly performing firms were more likely to increase the independence of their boards, but there was no evidence that this strategy resulted in improved performance.

A particular problem of research has been inferring the directions of causality of relationships. For example, it is possible that companies with poor previous performance are more likely to adopt corporate governance recommendations rather than the adoption of recommendations leading to changes in performance; a company that has passed through turbulent times may choose to appoint independent non-executive directors as a means of deflecting criticism from the executive directors. But, according to Bhagat and Black (2002), firms with more independent boards do not perform better than other firms; there is no evidence that greater board independence leads to improved firm performance. If anything, there are hints that greater board independence may impair firm performance. The results in Bhagat and Black (2002) and similar results from other research do not support the conventional wisdom favouring a high

degree of board independence. MacNeil and Li (2006) examine FTSE 100 serial non-compliers over a period of 2000 to 2004. Their findings suggest that there is a link between share price performance and investors' tolerance of non-compliance with the Combined Code; companies are likely to increase their compliance with governance recommendations after a period of poor performance.

Baysinger and Butler (1985) also found no significant same-year correlation between board composition and various measures of corporate performance. A few studies provide evidence that firms with a high percentage of independent directors may perform worse. Yermack (1996) reported a significant negative correlation between the proportion of independent directors and Q but no significant correlation for several other performance variables such as sales/assets, operating income/assets, and operating income/sales. However Lawrence and Stapledon (1999) found that, for 1995, the proportion of independent directors is positively related to a company's assets, net profit and EBIT. They point out that this is probably an indication that large firms have more independent directors rather than the independent directors contributing to the firms' growth (larger assets, net profits and EBIT). Agrawal and Knoeber (1996) suggest that fraction of outsiders on the board of directors is an internal decision; therefore it is expected to have a positive effect on the firm value. However, their results indicate otherwise. They have no ready explanation for this finding. They suggest the findings of Hermalin and Weisbach (1989) as a possible explanation; outsiders are added to the boards of poorly performing firms, although this explanation is not entirely consistent with their results.

Klein (1998), in a study of US firms' performance and board committee structure, found no significant relationship between firm performance and the percentage of insiders (executive directors). However, her findings indicate a positive linkage between the percentages of inside directors on finance and investment board committees with accounting and stock performance measures. Her interpretation is

that insiders are better informed and knowledgeable about the firm's operations. There was a weak but positive relationship between firm performance and the presence of outside directors. Vafeas and Theodorou (1998) investigate the link between corporate board characteristics (board composition, managerial ownership, leadership structure and board committee) and corporate performance (measured as market to book ratio) in 250 UK plcs. They find no clear link between board structure and firm performance. Fosberg (1989) reported that boards with a majority of outside members have significantly lower sales/assets ratios; however, he found insignificant results for a number of other performance measures.

Overall the majority of research finds either no relationship or a negative relationship between independence and performance. There are many explanations as to why increasing the independence of a board does not translate into improved firm performance. One major reason is that having a reasonable number of inside directors could add value. According to Baysinger and Butler (1985), an optimal board has a combination of independent, inside, and perhaps also affiliated directors, who bring different knowledge and skills to the board.

Inside directors may be better at strategic planning decisions; this is consistent with Klein's (1998) finding that insider representation on the investment committee of a board has a correlation with improved corporate performance. Finally, having inside directors on the board may make it easier for other directors to evaluate them as potential future CEOs (Weisbach, 1988). For example the 'mixed board' justification supports Klein's (1999) evidence that affiliated directors are more likely to be found on the boards of firms that need the affiliated director's expertise.

MacAvoy and Millstein (1999) consider a different measure of board independence in linking it to corporate performance. They hypothesise that companies with professional boards exhibit better economic performance, on average, than other companies. They use

three criteria as the measure of board independence: independent board leadership; scheduled meetings of outside/independent directors without management present; or substantial adherence to the 'General Motors' guidelines. Using Economic Value Added (EVA) as the measure of corporate performance, they find a positive relationship between an active and independent board and EVA, where the added returns to investors associated with the presence of professional boards are positive and significant.

A study of UK non-financial companies by Beekes, Pope and Young (2004) indicates that board composition is an important factor for financial reporting. Their findings show that there is greater timeliness in earnings with respect to bad news in firms with more than the median proportion of outside board members.

ICAEW (2007) discusses the independence criteria for directors in the US and the UK. The Institute argues that the criteria set out in Sarbanes-Oxley Act in the US, and the Combined Code in the UK deal primarily with 'independence in appearance'. It is suggested that board effectiveness is better achieved by independent leadership, objective decision-making processes and improved boardroom dynamics, rather than by appointing independent directors for the sake of the appearance of independence.

Research by Byrd and Hickman (1992) indicates that independent directors of a company are more beneficial to shareholders than non-independent 'affiliated' or 'grey' directors. Clifford and Evans (1997) investigated the independence level of Australian companies' boards. They classified the directors into 'insider', 'grey', and 'independent outsider'. The results reveal that one-third of the NEDs fall within the 'grey' category. They suggest that there is a possibility that the objectivity and effectiveness of the board may be compromised when grey directors are on the board.

Ownership structure

Dispersed shareholding in public companies creates the need for firms to have mechanisms in place to monitor management because shareholders may have little incentive to monitor management on their own. Holders of a small proportion of shares have little prospect of changing company policies and consequently are unlikely to incur the costs of monitoring management. However, holders of a substantial fraction of shares may be able to change policies, if necessary, in concert with other large shareholders. Consequently a company with a large proportion of its shares in relatively few hands may be governed differently from a company with dispersed shareholdings. Evidence on whether ownership structure affects firm behaviour is mixed.

Ang *et al.* (2000) find that management owned firms have lower expenses than ones with external shareholders. Mehran (1995) finds that firms where ownership is concentrated in a few hands use less equity-based compensation for executives. In a series of international studies Pedersen and Thomsen (1998, 2000) and Thomsen and Pedersen (1999) find systematic differences in ownership patterns across industries and countries, but no association between ownership concentration and profitability.

Managerial ownership

Various studies, for example, Hermalin and Weisbach (1991), Short and Keasey (1999) and Lau (2004) look at the relationship between managerial ownership and firm performance. Hermalin and Weisbach find that the relationship changes as management ownership increases; at low levels of ownership, performance (as measured by Q) increases with ownership. However, at levels of ownership greater than 20%, Q decreases with management ownership. The results suggest that with increases in ownership above 20%, the management becomes more

entrenched and can extract value from the company by means other than shareholder return. In a three country study, Lau (2004) finds support for a model in which corporate value depends on the square and cube of managerial ownership, as suggested by Short and Keasey (1999). Morck *et al.* (1988) examine the relationship between insider ownership and firm performance for 371 Fortune 500 firms for the year 1980. They found a positive relationship between Tobin's Q and managerial ownership for the 0-5% board ownership range, a negative relationship in the 5-25% board ownership range as boards become entrenched, and a positive relationship again for board ownership exceeding 25%. Similarly, McConnell and Servaes (1990) find a significant curvilinear relation between Q and corporate insiders' ownership. They find that the curve slopes upward until insider ownership reaches approximately 40% to 50% and then slopes slightly downward.

Davies *et al.* (2005) suggest a complex relationship between managerial ownership and performance (measured as Q). Their analysis on 802 UK industrial companies provides evidence that corporate value, firm level of investment and managerial ownership are all interdependent. Chung and Pruitt (1996) studied 404 large US companies and found CEO equity ownership to be positively related to Q. Core and Larcker (2002) show that the adoption of share incentive plans for top executives is associated with increases in managerial ownership and firm performance.

Loderer and Martin (1997) find a weak positive relationship between executive ownership and acquisition performance. Their findings indicate that performance appears to affect how much stock executives want to hold in their firm where a higher Q induces executives to reduce their holdings while more profitable acquisitions encourage larger stockholdings by executives.

Griffith (1999) examines the influence of CEO ownership of a firm's common stock on the value of a firm. He hypothesised that the amount of CEO ownership has a dominating effect on the value of a firm. The

findings indicate that Q increases when the CEO owns between 0 and 15% of the firm, then declines as CEO ownership increases to 50% and rises again thereafter.

In contrast, other studies propose that insider ownership and firm performance are unrelated or that the direction of causation runs from performance to ownership. For example, in examining 511 US corporations in 1980, Demsetz and Lehn (1985) found no significant relationship between ownership concentration and accounting profit rates. Himmelberg *et al.* (1999) could not conclude that changes in managerial ownership affected firm performance. Rather their findings indicate that managerial ownership and firm performance are determined by common factors. Cho (1998) finds that investment determines corporate value, and that corporate value has an effect on ownership structure. Demsetz and Villalonga (2001) find no statistically significant relation between ownership structure and firm performance.

Peasnell *et al.* (2003) investigate the links between the use of outside directors and managerial ownership using UK data. They find that outside board members help to reduce agency costs associated with the separation of ownership and control only at low levels of managerial ownership. This suggests that, at the higher level of managerial ownership, the managers become entrenched. Faccio and Lasfer (1999) report a weak relationship between firm value and managerial ownership. Hutchinson *et al.* (2005) examine director entrenchment and governance problems in US companies. They use the free cash flow (FCF) problem identified by Jensen (1986) as a measure of corporate governance problems. They find boards are motivated and incentivised to monitor the firms' earnings effectively whenever they have a stake in the firm's residual profit. However, they also find that as the stock ownership increases, the board becomes entrenched and the agency costs increase.

Studies have also investigated the relationship of managerial ownership to other aspects of firm performance. Cosh *et al.* (2006) find that while takeovers in the UK generally have an adverse effect

on long run shareholder returns of the bidding company, this is not the case where the CEO of the bidder has a substantial shareholding. In a US study, McWilliam (1990) finds that as managerial ownership increases, stock market reaction to the announcement of anti-takeover amendments becomes increasingly negative. Rosenstein and Wyatt (1997) find a positive market reaction to the announcement of insider board appointments where there is a moderate (5-25%) level of insider ownership, and a high proportion of external directors and good prior performance.

In a recent UK study, Mura (2007) finds a relationship between executive stock ownership and performance that is not a simple straight line. Such 'non-linear' relationships suggest that performance increases as directors' ownership increases up to a certain point, but that further increases in ownership are associated with declines in performance. Mura also finds a positive relationship between the proportion of non-executives' ownership and stock performance and a negative relationship between external blockholdings and performance. Kurshed *et al.* (2007) find a negative association between institutional ownership and directors' ownership, whereby the more institutional investors hold, the less is held by board members.

Large external shareholdings

In addition to the above findings on managerial ownership, Mura (2007) suggests a negative association between firm performance and the proportion of shares held by large shareholders. He concludes that owners of large positions do not appear to monitor the management effectively. However, Dalton *et al.* (2003) carry out an analysis combining the results of 229 empirical studies and find no substantive relationship between block holder equity and financial performance. Similarly, Loderer and Martin (1997) find no evidence that larger stockholdings lead to better performance. McConnell and Servaes (1990) find a

significant positive relationship between Q and the fraction of shares owned by the institutional investors.

A number of studies have examined the relationship between the presence of large external shareholdings and factors other than measures of performance. Positive relationships include:

- the proportion of external directors (Kurshed *et al.*, 2007)
- productivity (Hull and Snell, 1998)
- executive turnover (Denis *et al.*, 1997)

Cosh and Hughes (1997) find no relationship between the presence of large external shareholders and either executive compensation or the likelihood of dismissal. In an international study of performance, Thomsen *et al.* (2006) find relationships which suggest, in some jurisdictions, blockholders may be able to extract value in ways other than dividends or value increases. Donnelly and Lynch (2002) find the earnings announcements of firms with concentrated ownership are more informative and Borokhovich *et al.* (2006) find, in a US study, that external blockholders are regarded by the market as better monitors of managerial activity in the context of anti-takeover charter amendments.

Table 2.2 illustrates the mixed nature of findings relating governance to performance.

Table 2.2 Summary of previous findings

Governance variable	Relation-ship	Result (association with firm value)
Board size	+ + - nl	Dalton <i>et al.</i> (1999) small positive, but moderated by firm size. Coles <i>et al.</i> (2004) positive association with Q (diversified, large and high leverage firms) Conyon & Peck (1998), Eisenberg <i>et al.</i> (1998) and Yermack (1996) negative association Brown and Caylor (1994) board sizes between six and fifteen have better returns and net profit margin.
Board independence	+ + + - 0	Lawrence and Stapledon (1999) positive correlation Baysinger <i>et al.</i> (1991) positive association with R & D investment. Dahya and McConnell (2005) positive correlation with the appointment of outside CEO Bhagat and Black (2002), Brown and Caylor (2004), MacNeil and Li (2006), Yermack (1996) and Agrawal and Knoeber (1996) negative correlation Baysinger and Butler (1985), Vafeas and Theodorou (1998), Fosberg (1989) and Cotter and Silvester (2003) no clear link
Managerial ownership	+ 0 0 0 nl	Chung and Pruitt (1996) CEO equity ownership positively influences Tobin's Q Davies <i>et al.</i> (2002) interdependent with each other Himmelberg <i>et al.</i> (1999) could not conclude the effect Demsetz and Villalonga (2001) find no statistical significant relationship Hermalin and Weisbach (1991), Short and Keasey (1999), Lau (2004), Morck <i>et al.</i> (1988) and McConnell and Servaes (1990) non-linear relationship
External block holdings	+ + 0 -	McConnell and Servaes (1990) find a significant positive relationship Hill and Snell (1988) positive relationship between ownership structure and the firm productivity Dalton <i>et al.</i> (2003), Loderer and Martin (1997) and Thomsen <i>et al.</i> (2006) no evidence Mura (2007) negative association

+ positive relationship

- negative relationship

0 no significant relationship

nl non-linear relationship - increasing then decreasing relationship (or *vice versa*)

Other issues

The large volume of research in corporate governance has also investigated whether governance arrangements affect other firm characteristics that may be related to performance. Examples include:

- Outside directors
 - Peasnell *et al.* (2005) find outsider directors play an important role in maintaining the reliability and credibility of financial reporting.
 - Rosenstein and Wyatt (1999) and Defond *et al.* (2005) note that the appointment of outside directors with expert knowledge is treated as good news by the markets.
 - Page and Spira (2000) find UK firms appoint NEDs with UK honours (knighthoods etc) to signal governance quality.
 - Agrawal and Chadha (2005) find the probability of earnings restatements is unrelated to board independence or the existence of audit committees, but the probability is lower if there is an independent director with financial expertise.

- Separation of the roles of chair and CEO
 - Daily and Dalton (1997) find no difference in 'independence' characteristics of the board between companies with dual roles and others.
 - Brickley *et al.* (1997) find no evidence that companies with separate chairs outperform others. Palmon and Wald (2002) find that, for small US listed firms, the market regards splitting the roles of chair and CEO as 'bad' news, but for larger companies, 'good' news.

- Other directorships
 - Perry and Peyer (2005) find external appointments of a company's own executives are treated as good news for the company.
- Board meetings
 - Vafeas (1999) finds boards meet more frequently following poor performance (and performance then tends to improve).

Governance index studies

Several attempts have been made to combine governance indicators to create indices of governance quality and some research has found relationships between these indices and measures of performance.

Gompers *et al.* (2003) construct a US governance index to proxy for the level of shareholder rights for about 1,500 large firms during the 1990s. They divide the firms into a 'Dictatorship Portfolio' (firms with weak shareholder rights) and a 'Democracy Portfolio' (firms with strong shareholder rights). They find a strong correlation between corporate governance and stock returns during the 1990s and that the 'Democracy portfolio' outperformed the 'Dictatorship Portfolio'; an investment strategy that purchased the 'democracy portfolio' and sold the 'dictatorship portfolio' would have earned an abnormal return of 8.5% per annum. In addition they find that firms with stronger shareholder rights have higher firm value (measured by Q), higher profits, higher sales growth, lower capital expenditures, and make fewer corporate acquisitions. The authors suggest two explanations for their results; poor governance causes agency costs, and/or the governance index is associated with risk or other factors that affected the stock returns during the 1990s.

Subsequent studies by Cremers and Nair (2005) and Bebchuk and Cohen (2005) suggest that the results may be driven by takeover

vulnerability and that the institutional ownership by public pension funds and rotation of directors are also important factors. Core *et al.* (2006) find that firms with weak shareholder rights have lower operating performance, but that the takeover rate is similar for firms with weak governance and strong governance. Brown and Caylor (2004) also find that firms with weak governance perform relatively poorly.

GovernanceMetrics International (GMI, 2006), in a study based on their proprietary international database, find a correlation between their rating and accounting measures of performance. In a study of the same database Ashbaugh-Skaife and Lafond (2006) find that highly-rated companies have lower costs of capital and conclude this is because of lower 'agency risk'.

These findings are in a US or international environment where there is considerable variation in shareholder rights. In the UK, shareholder rights are generally at a high level because of the legal and stock market requirements.

Index studies provide some evidence that 'good' corporate governance is associated with good firm performance. However, the results need interpreting with care. There is some ambiguity about what the index is proxying for - governance or, for example, probability of takeover. Another problem is potential survivorship or self-selection biases. In addition, the construction of the index may be influenced by known firm performance introducing bias into the results. Time specificity may also be a problem.

Governance and risk

It has been claimed that shareholders and companies are 'leveraging' corporate governance both as a means of mitigating risk and as a route to enhancing value; poor governance becomes pervasive throughout the firm and leads ultimately to poor share price performance (FTSE and Institutional Shareholder Services (ISS), 2005). However, there is

little research which has explicitly investigated the connection between governance and risk.

In addition to their findings on performance variables, Brown and Caylor (2004) found firms with weak corporate governance to be riskier than firms with stronger corporate governance. They used six risk-related measures in their study: beta; volatility; z-score; price to book; price to earnings; and market value of equity. They conjecture that, if firms with weaker corporate governance are riskier, Corporate Governance Quotient (CGQ) scores should be negatively related to industry-adjusted Betas and volatility, and positively related to z-score, price to book, price to earnings, and market value of equity. The results for five measures were as expected but the coefficient of Beta had the opposite sign from that expected.

Using the corporate governance index, as used in Gompers *et al.* (2003), Ferreira and Laux (2007) study the relationship of corporate governance policy and idiosyncratic risk and find that a strong negative relationship exists between an index of a firm's anti takeover provisions, namely the Investor Responsibility Research Center (IRRC) governance index used by Gompers *et al.* (2003), and volatility. Brick and Chidambaran (2005), in a US study, find that measures of board monitoring are negatively related to measures of total risk and firm specific risk. Both these studies suggest governance may have an impact on firms' risk profiles (see chapter five).

Research questions

There is a large volume of research on corporate governance. According to Michaud and Margaram (2006), during 2004 there were about 200 draft and pre-published articles examining aspects of corporate governance posted on the Social Science Research Network (SSRN) website. The majority of the research was carried out in the USA during the long bull market that ended in early 2000. The current research aims to add to the body of evidence concerning corporate governance

in the UK, where shareholder rights are more firmly established than in the USA and many other jurisdictions, during a time period which covers different phases of the stock market. In particular, this report investigates the research question:

Do companies with particular governance characteristics outperform other companies?

For the purposes of this research governance is measured by four factors: independence of boards; board size; directors' ownership of equity; and the extent of ownership in the hands of large blockholders. If governance is related to performance in relatively straightforward ways the following relationships might be expected:

- Independence - performance improves with independence because of improved monitoring of management activity.
- Board size - within limits, performance improves with board size because of improved monitoring and the ability of bigger boards to communicate externally and gain resources. Beyond a certain limit boards may become 'unwieldy' - costs of decision taking increase and the board may divide into factions that management can play off against each other.
- Directors' ownership - performance is expected to increase with ownership as managerial objectives are aligned with those of shareholders, but, beyond a certain point, management may become 'entrenched' so that performance may deteriorate if management pursues non-value maximising strategies, such as over-priced acquisitions.

- Blockholders' ownership - performance is expected to improve in the presence of large external blockholdings owing to improved monitoring and reduction in entrenchment.

However, the relationship between governance and performance may not be straightforward. There are two possibilities that need to be considered. Firstly, poorly performing companies may come under more pressure to adopt approved governance practices than others so it is possible that the appointment of independent directors is more likely after a period of underperformance. Secondly, governance arrangements and performance may be interdependent, partly because they are jointly determined by other factors (Agrawal and Knoeber, 1996; McWilliams and Sen, 1997; Russell Reynolds Associates, 2002; Berry *et al.*, 2006).

Finally, corporate governance recommendations, such as the appointment of independent directors, appear to be directed at the reduction of strategic errors as much as day-to-day performance improvement, so there is a possibility that governance may be related to the risk characteristics of companies as much as to average levels of performance.

In the next chapter governance characteristics and trends for the sample period are described. Chapter four analyses corporate governance and corporate performance. Chapter five explores the relationship of governance with risk. Chapter six concludes the report.

3 TRENDS IN GOVERNANCE AND OWNERSHIP

Introduction

Public policy is largely concerned with large companies, so in common with previous research (e.g. Dedman, 2003; Lasfer, 2006; Peasnell *et al.*, 2000; Young, 2000), this research focuses on large, non-financial companies. Econometric analysis is required to handle large sample quantitative data of this kind. This chapter describes the companies chosen for analysis and how their characteristics changed over the period 1999-2004.

The companies

The sample chosen was the membership of FTSE index at two points in time, namely, 31 December 1999 and 30 June 2004. The companies studied comprise the non-financial members of the FTSE 350 as at 31 December 1999 and also the members of FTSE 350 as at 30 June 2004. Companies were chosen from the FTSE 350 because it is widely used and covers the economically most important companies. The analysis period is between 30th June 1999 and 30th June 2004. Accounting data is for the financial year ending in the year ended 30th June for each year.

An important statistical problem is survivorship bias. If only a sample of companies existing at the end of an analysis period is analysed, then nothing is learned about members of the population that ceased to exist during the period and results can be misleading about companies as a whole. Consequently an identifiable part of the sample needs to be selected as at the beginning of the analysis period. As shown in Table 3.1,

a substantial fraction of companies in the FTSE 350 in 1999 disappear over the analysis period and, in order to provide a representative view of the evolution of corporate governance over the period, it is necessary to replenish the sample with some of those entering in the period 1999-2004. One approach would have been to include all companies that were members of the index at any time during the period. However, this would have increased data cost and analysis demands greatly. An alternative approach was adopted in which the companies that were members of the FTSE 350 at the end of the period were also included. The changes in the FTSE 350 composition as referred to in *Notes on The Changes in the FTSE Actuaries Share Indices: 2000, 2001, 2002, 2003 and 2004* were used in deciding whether a company had been deleted, taken-over or relegated. The results for the different years suggest that this was a reasonable approach. There are two types of data employed in the research; corporate governance data and financial data. Corporate governance data was obtained from Pension Investment Research Consultants Ltd (PIRC). Financial data was collected from Thomson Datastream.

The PIRC database provides information on the 444 companies that were members of FTSE 350 at the appropriate dates in 1999 or 2004. In the final sample, financial and insurance companies and the companies that did not have information on corporate governance variables were excluded, leaving 365 companies. The sample is made up of non-financial companies that were members of the FTSE companies in 1999 (74.8%) (categories 1, 2 and 4, Table 3.1) and companies that were members in 2004 but not in 1999 (25.20%) (category 3, Table 3.1). Of the companies that were members in 1999, 13.97% were taken over or de-listed for some other reason (category 1) and 9.04% were demoted but continued in existence (category 2), thus, slightly over half the final sample (51.78%) were companies that were members of the FTSE 350 in both 1999 and 2004. Table 3.1 summaries the company survival categories.

Table 3.1 Companies based on survival category

Company survival category	Frequency	Percent
1	51	14.0
2	33	9.0
3	92	25.2
4	189	51.8
Total	365	100.0

Category: (1) Appears in 1999 list, then taken-over or de-listed
 (2) Appears in 1999 and subsequently demoted
 (3) Appears in 2004 list but not in 1999 list
 (4) Survives throughout the sample period

For the companies in the 1999 list which do not survive throughout the sample period, the movement of these companies is tracked by referring to the *Notes on The FTSE Actuaries Share Indices: United Kingdom*. Forty three companies in the 1999 list changed name, 51 were taken over, and seven companies merged. The data for the companies which were acquired by other companies is collected for as long as it is available. For example, data for Burmah Castrol, which was taken over in 2000 are collected only up to year 2000.

Data for companies that appear only in the 1999 list and are demoted is collected for the whole sample period. However, some of the companies undergo management buy-outs (McKechnie plc, 2000), or administration (Rail Track Group plc, Atlantic Telecom Group plc, 2001), in which case data is collected until they are deleted. Where data was incomplete efforts were made to hand collect it from, for example, company annual reports.

Survivorship

The companies that maintained their place in the FTSE 350 throughout the period are different from those that were demoted or which were taken over or de-listed for some other reason. Larger companies tended to survive in the index, as might be expected, whereas companies with large blocks of shares held by a few investors were more likely to be demoted or de-listed than companies with more widely dispersed share holdings. Companies in the property sector were more likely to hold their place whereas companies in the technology sector were less likely to survive in the index than other companies. Corporate governance arrangements (proportion of independent directors and board size) were not associated with survival in the index, nor was the level of borrowing, after controlling for industry membership (appendix one, Table one). The findings indicate the importance of controlling for survivorship bias as otherwise, for example, property companies would be over-represented and technology companies under-represented.

Board structure and committee membership

The majority of companies comply with the Combined Code guidelines relating to the separation of the roles of Chair of the board and CEO. Over the period, there are consistent trends of increasing separation of roles, decreasing board size and decreasing number of independent non-executive directors. Table 3.2 shows these trends.

Table 3.2 Board structure of sample companies

Year	SEPCHAIR %	CNCEO %	BSIZE %	XDIRS %	INED %
1999	87.9	76.3	10.1	5.1	3.0
2000	87.7	74.7	9.3	4.4	3.2
2001	90.2	73.0	9.3	4.3	3.2
2002	92.5	71.8	9.2	4.3	3.3
2003	92.0	74.2	9.0	4.0	3.5
2004	92.7	75.6	9.1	3.8	3.8

SEPCHAIR Average percentage of companies with separate Chair and CEO.

CNCEO Average percentage of companies where the present Chair is not the previous CEO.

BSIZE Average board size.

XDIRS Average number of executive directors on board.

INED Average number of independent non-executive directors on board (an independent director is as defined by PIRC as described in chapter four).

The change in separation of roles is not so dramatic as that found in previous research conducted in the post-Cadbury period (Canyon, 1994; Dedman, 2003). Given a high level of separation at the beginning of the analysis period, there was not much scope for a further increase and most companies had already moved towards compliance with the Combined Code. Companies that survived throughout the period had a higher level of separation of roles (95.7%) than new arrivals in the index (85.2%) because of their larger size.

Previous research has already shown that the proportion of non-executive directors also increased post-Cadbury (Peasnell *et al.*, 2000). Over the period, the percentage of independent non-executives increased from 31% (1999) to 42% (2004). Mura (2007) found that companies had increased the proportion of independent directors on their board between 1991 and 2001; this trend is continuing.

Board size

The trend of decreasing board sizes, shown in Table 3.2 is not an obvious result of the Combined Code or other corporate governance recommendations. As shown in chapter two, the results of prior research about the impact of board size on governance are mixed. Larger boards bring more resources to the company and, because they are less likely to be ‘captured’, may be more effective monitors of the executive directors. Conversely, smaller boards have lower information costs and costs of collective decision-making. The trend to smaller boards, which is at the expense of seats for executive directors, may be the result of an extended adjustment process following Cadbury and the Combined Code; firms may have increased board sizes, by appointment of NEDs, and later reduced board sizes if the board subsequently seemed too big or ‘unwieldy’.

Committee membership

The Combined Code emphasises the importance of key board committees on corporate governance. As shown in Table 3.3, the audit, remuneration and nomination committees were stable in size over the period. A typical company had three or four members on each committee. In the case of the audit and remuneration committees there was a majority of independent directors.

Table 3.3 Committee memberships - audit committee, remuneration committee and nomination committee

Year	Committee					
	Audit		Remuneration		Nomination	
	No.	% NEDs	No.	% NEDs	No.	% NEDs
1999	3.6	67.9	3.7	69.6	3.8	49.1
2000	3.6	70.4	3.7	72.2	4.0	50.5
2001	3.7	71.3	3.7	72.5	3.9	50.0
2002	3.7	73.4	3.6	74.4	3.9	52.2
2003	3.7	76.5	3.7	78.0	3.9	56.0
2004	3.5	81.4	3.6	82.1	4.2	61.8

No. Average number of Committee Members

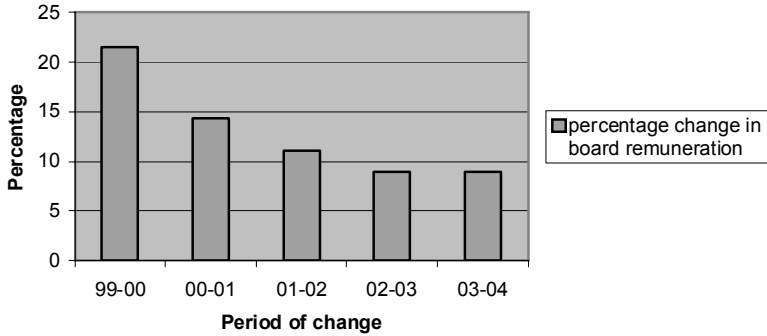
% NEDs Average percentage of independent non-executive directors on the Committee

Both the audit and remuneration committees showed an increasing and similar level of independence. In contrast, nomination committees had more involvement by executive directors. It is apparent that executive directors wish to maintain influence in the making of appointments to the board.

Remuneration

Although board remuneration is not a particular focus of this research, board compensation has been an issue of public concern. Figure 3.1 demonstrates that the average total compensation rewarded to the boards is increasing over the sample period but that the rate of increase has been declining. Figure 3.1 depicts the percentage change in board compensation for each year of the sample period.

Figure 3.1 Changes in board compensation - 1999 to 2004



Ownership

Another dimension of governance of a company is ownership. The PIRC database provides information on managerial ownership and block holdings. Managerial ownership is measured as the percentage shareholdings owned by the directors. Total block holdings represent the percentage of shareholdings owned by the ten highest shareholders that own more than 3% of the total shares in the company. It includes director, and related parties' holdings and the external block holdings exceeding 3%. The threshold of 3% is chosen as this is the level which triggers disclosure. Table 3.4 shows the trend of block holdings among the sample companies. Block holding increases over the sample period and the external block holding shows the same trend. However, the average directors' ownership increases over the first three years of the sample period, then decreases over the next three years.

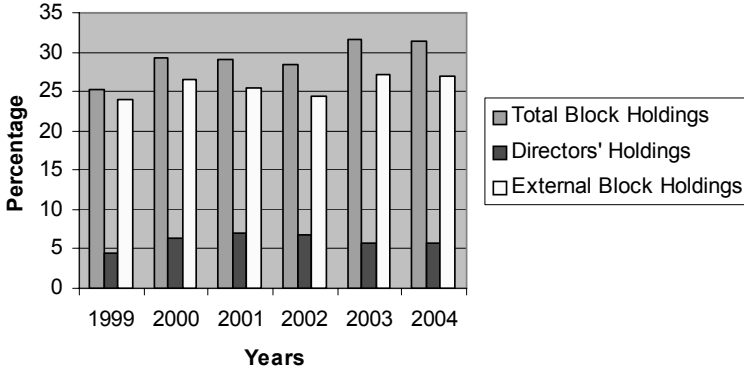
Table 3.4 Descriptive statistics; ownership structure

Year	BLOCK		DIRW		BLOK	
	N	%	N	%	N	%
1999	307	25.3	309	4.4	307	23.9
2000	301	29.2	301	6.4	301	26.5
2001	295	29.1	294	7.0	297	25.5
2002	295	28.5	294	6.9	296	24.5
2003	294	31.6	293	5.8	296	27.0
2004	306	31.5	306	5.7	308	27.0

- BLOCK total percentage block holdings, including directors' (up to ten highest shareholdings of more than 3%)
- DIRW Percentage shareholdings by directors
- BLOK Total percentage external shareholdings (up to ten highest shareholdings of more than 3%)
- N Number of observations

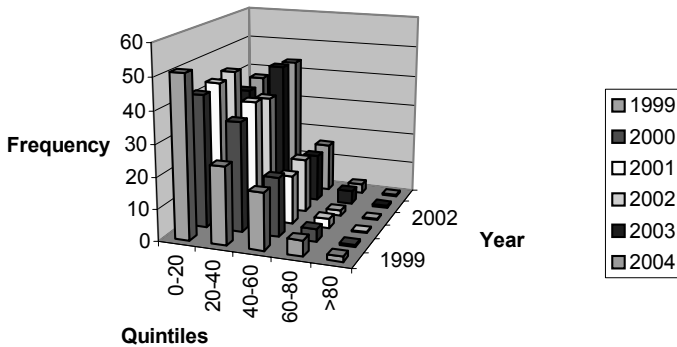
Considerable effort was necessary to verify the information on ownership and to separate blocks controlled by directors from other blockholders. Figure 3.2 shows the average total block holdings, directors' holdings and external block holdings over the sample period.

Figure 3.2 Ownership averages 1999 to 2004



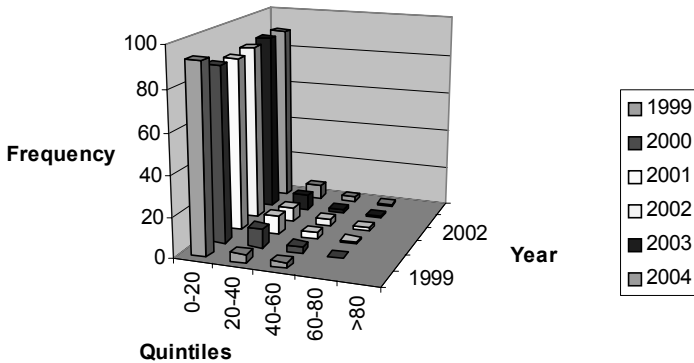
The mean of directors' holdings over the sample period is 6%, while for the external block holders the figure is 25.7%. This confirms that the block holders, rather than the directors, dominate the sample companies. However, Figure 3.3 of total block holdings shows that the bulk of the holdings fall below 40%.

Figure 3.3 External block holdings categorised into quintiles



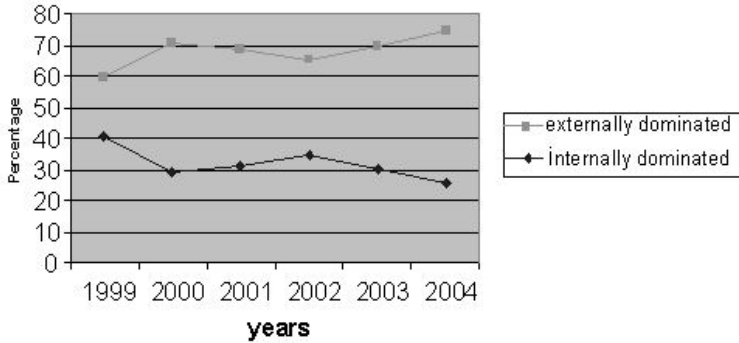
When categorising the external block holdings and managerial ownership into quintiles, no directors own shares more than 80% of the company's shares (Figures 3.3 and 3.4). However, there are some companies where external block holders own more than 80% of the shares.

Figure 3.4 Directors' holdings quintiles



Block holdings are of importance since block holders can form coalitions at relatively low cost to influence company behaviour by exercising the power of their combined holdings. However, where directors also hold a substantial fraction of the shares in a company, they may be able to mitigate or extinguish the power of block holders (Hutchinson *et al.* 2005). Companies have been classified as 'internally' or 'externally' dominated depending on whether directors shareholdings exceed block holdings or otherwise. Figure 3.5 shows changes in domination over the period. The mean for 'externally' dominated companies is 69%.

Figure 3.5 Domination categories



Analysis of the data provided by PIRC showed that external blockholders are mainly insurance companies, pension funds, other financial institutions and overseas investors. This is consistent with the statistics on shareholdings from the *National Statistics Share Ownership* (2004) (Table 3.5). According to the national statistics on share ownerships, as at 31 December 2004, over the period of 40 years the pattern of shareholdings in the UK has changed; the proportion of shares owned by individuals has reduced by 40%, while the shares owned by the insurance companies, pension funds and trusts has increased by 19%.

Table 3.5 Beneficial ownership of FTSE 100 and other companies - 31 December 2004

	Per cent of total equity owned:			Per cent invested in:		
	FTSE100	Other	All	FTSE100	Other	All
Rest of the world	35.0	23.5	32.6	86.3	12.7	100.0
Insurance companies	17.1	17.6	17.2	79.2	20.8	100.0
Pension funds	15.8	15.5	15.7	80.8	19.2	100.0
Individuals	12.9	18.9	14.1	64.9	35.1	100.0
Unit trusts	1.7	2.6	1.9	68.5	31.5	100.0
Investment trusts	2.9	4.8	3.3	68.8	31.2	100.0
Other financial institutions	10.4	11.9	10.7	77.6	22.4	100.0
Charities, churches etc.	1.0	1.3	1.1	76.5	23.5	100.0
Private non-financial companies	0.7	0.6	0.6	81.3	18.7	100.0
Public sector	-	0.5	0.1	-	100.0	100.0
Banks	2.6	2.9	2.7	78.3	21.7	100.0
Total	100.0	100.0	100.0	79.8	20.2	100.0

Source: National Statistics Share Ownership - A report on ownership of shares as at 31 December 2004 (page 16).

Shareholder activism

Institutional shareholders in the UK have traditionally taken a passive role in the management of the affairs of the companies in which they invest. If they have qualms about the effectiveness of the board or disagree with particular actions of management, institutional investors have tended to sell their shares rather than use their rights as shareholders to vote at AGMs to replace management or to vote against particular resolutions. This passivity has been the cause of concern. The *Myners Committee Report* (2001) inter alia recommended imposition

of a clear duty on pension fund managers and trustees to intervene in companies in the interests of shareholders and beneficiaries. A subsequent review by the government in 2006 recommended adoption of the Institutional Shareholders Committee's (ISC, 2007) *Statement of Principles on Responsibilities of Shareholders*. The Statement places a duty on institutional shareholders and trustees to intervene for the financial benefit of their ultimate clients such as pension scheme members and holders of insurance policies.

Intervention by institutional shareholders can take a number of forms including: meetings with management; communication through advisers; meetings with the Chair; as well as formally proposing resolutions. Becht *et al.* (2008) provides a clinical study of one activist fund's operations and shows that the majority of interventions are not publicly observable.

The duty of institutional shareholders to exercise their rights in general meeting has provided a demand for advice on voting and a number of 'proxy voting agencies' now provide that advice. One of the longest established is the Pensions Industry Research Consultancy (PIRC) which provided the governance data for this study. As part of the data, PIRC provided tables of the largest 'oppose' and 'abstain' votes relating to members of the sample companies in each year. PIRC provided data on the following numbers of companies where there were large abstain or oppose votes: 1999 - 11; 2000 - 30; 2001 - 40; 2002 - 42; 2003 - 81; 2004 - 37. It is apparent that the number of large votes evidencing dissatisfaction with boards' advice increased substantially over the period and was higher in the period of declining share prices, especially 2003.

There is little evidence that measures of shareholder dissatisfaction (multiple resolutions against the directors' advice or PIRC advice to abstain or vote against the directors) were systematically correlated with governance or measures of performance, although in three years out of six there was a positive correlation between shareholder dissatisfaction and board size and companies with high levels of Q in 1999 were more likely to be the subject of dissatisfaction in later years.

Independence of directors

For board composition, data on board size, number of non-executive directors, and number of executive directors were collected from the PIRC database. The database categorises members of the board as executive directors, connected non-executive directors, independent non-executive directors and other directors. The Cadbury Report initially concentrated on the need for non-executive directors (NEDS or outside directors), but over time emphasis has been placed on differentiating the outside directors into ‘affiliated’ and ‘independent directors’ (Byrd and Hickman, 1992). Accordingly, the number of independent non-executive directors available from PIRC database has been used to represent the independence of directors.

PIRC’s definition of independent directors (as described in chapter four) is very similar to The Combined Code (provision A.3.1). The Code requires the board to identify in the annual report each non-executive director it considers to be independent. The board is also required to state the reasons if it determines that a director is independent despite the existence of relationships or circumstances which may appear relevant to its determination, including if the director:

- has been an employee of the company or group within the last five years;
- has, or has had within the last three years, a material business relationship with the company either directly, or as a partner, shareholder, director or senior employee of a body that has such a relationship with the company;
- has received or receives additional remuneration from the company apart from the a director’s fee, participates in the company’s share option or performance-related pay scheme, or as a member of the company’s pension scheme;

- has close family ties with any of the company's advisers, directors or senior employees;
- holds cross-directorships or has significant links with other directors through involvement in other companies or bodies;
- represents a significant shareholder; or
- has served on the board for more than nine years from the date of first election.

For the purposes of this study, board independence is measured as the proportion of independent directors (as defined by PIRC) on the board minus the proportion of executive directors on the board. This definition is adopted from Bhagat and Black (2002). Board size refers to the total number of directors on the board.

Size and industry

In addition to the governance variables (independence, board size, directors' ownership and external block holders' ownership), a number of other variables that have previously been important in determining firm performance are included in the analysis. For this study, two other variables are used; firm size and industry. Firm size has been frequently used as a control variable (Booth and Deli, 1996; Yermack, 1996; Short and Keasey, 1999; Bhagat and Black, 2002; Cotter and Silvester, 2003; Hutchinson and Gul, 2003; Hayes *et al.* 2004). Other variables that have been used in the previous research include firm age, growth and leverage.

Size of the firms may affect corporate governance structure in several ways. For example, the cost of complying with the Code's requirement is likely to be a smaller proportion of profits for larger firms, but following non-compliance with the Code, larger firms are exposed to higher levels of media enquiry than smaller firms.

The other variable used in this study is an industry control. Coles *et al.* (2001) find that industry is a strong and significant driver of performance for their sample firms. Schmalensee (1985) finds that industry accounts for about 19% of the differences in accounting rates of return. Extending the Schmalensee study, Wernerfelt and Montgomery (1988) did not use the accounting rate of return, because accounting rates of return are distorted by the failure to consider differences in risk and tax laws, instead they used a market to book ratio. Their findings support Schmalensee's findings that industry effects are major determinants of firm success. In addition, factors like 'environmental dynamism' (Li and Simerly, 1998) may also vary by industry, together with the intensity of competition and industry maturity.

Measuring firm performance

Governance changes slowly whereas measures of firm performance are volatile. Shareholders are mainly concerned with returns on their investments. However, shareholders' returns are not a complete measure of performance for a number of reasons:

- returns are generated by price changes in an efficient stock market that anticipates future performance - if good governance results in better performance the additional value should be reflected in share prices when the market becomes aware of changes in governance quality, not over the period when better performance is realised;
- returns are highly variable, a generally well-performing company can have a bad year, and *vice versa*;
- market wide factors can overwhelm individual company factors so that returns need to be measured relative to overall market performance; and

- companies that have a large systematic risk ('Beta') are expected to earn higher returns than companies with lower systematic risk.

Tobin's Q

While the last two factors can be taken into account by accounting for industry membership, the first two factors are company specific and need a measure of performance that covers a period of years. One way of doing this is to look at the value created by the directors over the lifetime of a business which can be measured by the ratio of the total market value of the business to the value of the net assets. This ratio is known as Tobin's Q; it has some useful features as it is a more stable indicator of performance than a single year's returns to shareholders and, it is arguably, a measure of the success of the management of the business. However, there is generally no available, up-to-date measure of the value of the net assets of the business; in practice it is necessary to substitute book values for most assets. Q is highly dependent on the future prospects of the business, as reflected in the share price, and thus varies quite widely from industry to industry.

The excess of the value of the business over its component net assets is the value of the excess returns (in relation to a normal return on net capital) that the market expects the business to generate in future years. This includes the value of investments that the business is yet to make, and depends on decisions the directors have not yet taken. This is sometimes referred to as the 'investment opportunity set'. Although Q depends on events that have yet to take place, it captures the perceived success, or otherwise, of the management in the strategic positioning of the company. Q has been widely used in research on corporate performance and it is useful to include it for comparison with other work. Studies using Q as a measure of firm performance include: Cotter & Silvester (2003); Bhagat & Black (2002); Yermack (1996); Booth & Deli (1996).

In the next chapter, two other performance measures are used in addition to Q: the return on assets (ROA) and the ratio of Sales to Total Assets (SASET).

In most samples there are a few extreme observations known as outliers which can have a disproportionate effect on statistical measurements. In view of the large effect that they could have on the results in this research outliers were dealt with by replacing the outlying observations with the mean plus (or minus) three standard deviations (a process known as 'Winsorising').

Summary

This chapter has identified trends in corporate governance among large companies. Companies have been adding independent directors to their boards and reducing the representation of executive directors. Overall board sizes have been falling. As might be expected, large block holders own a large fraction of many companies and directors collectively own influential shareholdings in a substantial number of companies. The companies that survive in the FTSE 350 index tend to be the larger ones and, during the period of the research, property companies were more likely to persist in the index and technology companies less likely to do so. There was no systematic relationship between corporate governance characteristics and measure of shareholder activism. The chapter has also discussed alternative measures of company performance, including Q, the market to book ratio, which has been extensively used in other studies.

4 CORPORATE GOVERNANCE AND PERFORMANCE

Introduction

This chapter presents the main results of the analysis of the relationship between governance and performance, together with various tests of the robustness of the results. The chapter first addresses the question posed at the end of chapter two: ‘Do companies with particular governance characteristics outperform other companies?’ For this purpose performance is measured in three ways: market to book ratio (Q); return on assets (ROA); and Sales to Total Assets (SASET). The period covered by the research is 1st July 1998 to 30th June 2004 and the sample comprises non financial companies that were members of the FTSE 350 at the beginning or the end of that period.

Corporate governance and performance variables

The first step in the analysis is to document to what extent the various measures are associated with each other in pairs (univariate analysis). The next step is to measure the association using several variables at a time (multivariate analysis) so that the importance of individual measures can be assessed when other factors are taken into account. Finally the robustness of the results is checked by looking at other possible explanations of the results and by undertaking important statistical checks. The variables used in the analysis are set out in Table 4.1.

Table 4.1 Variables and definitions

Variable	Variable code	Definition
Board Independence	INDEP	The proportion of independent directors (as defined by PIRC) minus the proportion of executive directors.
Board Size	BSIZE	The total number of directors on the board.
Managerial Ownership	DIRW	The total percentage shareholdings of directors and related parties.
Block Holding	BLOK	The total percentage of large external shareholdings (up to ten highest shareholdings of more than 3%).
Tobin's Q	Q	The market value of equity plus the book value of minority interest plus book value of total liabilities divided by book value of total assets.
Mean average Q	QAV	QAV is the mean of average Tobin's Q for the period for the industry to which the company belongs.
Return on assets	ROA	The ratio of operating income to total assets.
Mean return on assets	ROAV	The mean of average ratio of operating income to total assets for the period for the industry to which the company belongs.
Ratio of Sales to Total Assets	SASET	The ratio of total sales to total assets.
Mean ratio of Sales to Assets	SASV	The mean of average ratio of total sales to total assets for the period for the industry to which the company belongs.
Size	LFSIZE	The natural logarithm of annual revenue.
Industry Control	IC	The mean of the independent variables i.e. industry mean of period average.

PIRC classifies directors as non-independent if they:

- have been on the board longer than 9 years;
- are disclosed as not independent by company;
- are former executives of the company;

- hold a notifiable shareholding (3%+);
- hold incentive awards/options;
- are in receipt of significant fees;
- are designated as a director in the company's Articles;
- are connected to the company's professional advisers;
- own a notifiable stake in the company;
- are a director of a customer or supplier;
- have other forms of commercial relationship;
- share a common directorship with another director on board; or
- have a family relationship with another director.

The measure of independence (INDEP) is one that has been used by other researchers (eg. Bhagat and Black, 2002). Its average value is negative for the first five years because, in total, the number of executive directors exceeds the number of independent non-executives. Over the period, the proportion of independent directors on boards increased so that by 2004 the mean value of INDEP had risen to zero, reflecting approximately equal numbers of executive and independent directors on company boards.

Description of the sample data

The Cadbury Report (1992) requires that at least three members of the board should be non-executive directors and recommends that they be independent. The Combined Code (1998) states that the board should include at least one-third independent members. The Combined Code (2003) provides guidance that at least one-half of the board should be comprised of independent directors. The requirement of the Code for 50% independent directors came into effect after 30th June 2004 and did not apply to the period covered by the research, except to the extent that companies may have anticipated the requirement for an increased proportion of independent directors.

Table 4.2 provides an overview of the independent variables (board independence, board size, directors' ownership, block holdings and firm size) and dependent variables (Tobin's Q, return on assets, and ratio of sales to assets). Independence is initially negative but increases to zero over the period and mean board size decreases. Company size is stable. Both return on assets and SASET show an initial decline followed by relative stability. Directors' ownership (DIRW) and block holdings (BLOK) have a large dispersion; a few firms had large directors' holdings or block holdings compared to the rest.

Table 4.2 Descriptive statistics for the (unwinsorised) variables under study

Variable code	1999		2000		2001	
	Mean	SD	Mean	SD	Mean	SD
INDEP	-0.19	0.24	-0.14	0.23	-0.12	0.23
BSIZE	10.11	3.10	9.33	2.57	9.30	2.60
DIRW (%)	4.4%	10.1%	6.4%	11.7%	7.0%	13.4%
BLOK (%)	20.1%	21.8%	21.8%	18.9%	20.7%	18.4%
LFSIZE	13.14	1.72	13.24	1.74	13.43	1.66
Q	2.94	3.34	3.35	6.82	1.99	1.87
ROA	0.10	0.11	0.09	0.12	0.08	0.12
SASET	0.98	0.83	0.90	0.91	0.84	0.76

Table 4.2 Descriptive statistics for the (unwinsorised) variables under study (Cont.)

Variable code	2002		2003		2004	
	Mean	SD	Mean	SD	Mean	SD
INDEP	-0.10	0.24	-0.05	0.24	-0.00	0.23
BSIZE	9.15	2.47	9.04	2.37	9.08	2.32
DIRW (%)	6.9%	13.4%	5.8%	11.5%	5.7%	11.3%
BLOK (%)	19.8%	18.2%	21.9%	18.9%	22.7%	17.9%
LFSIZE	13.50	1.62	13.57	1.59	13.66	1.58
Q	1.58	1.03	1.49	0.87	1.78	1.35
ROA	0.06	0.16	0.06	0.16	0.07	0.19
SASET	0.86	0.77	0.89	0.78	0.88	0.83

Variable code - see Table 4.1 for definitions

As shown in Figure 4.1, year 2000 is the high point of the UK stock market and, as Q is measured as the market value of the firm divided by the book value, its value is strongly influenced by the level of the market; Table 4.2 shows the peak average value is 3.35 in 2000 and the minimum is 1.49 in 2003. The dispersion of the (unwinsorised) values of Q is high, particularly in the earlier years because a number of companies, typically in technology and media, had small total assets relative to their stock market values. Overall, performance generally declined for all these companies until 2003, reflecting the stock market downturn and the poor operating performance of companies. The pattern of the market from 2004 to autumn 2008 is markedly similar to the period 1988-2004 covered by the research.

Figure 4.1 FTSE 100 index over 1985-2007 (log scale)



The inter-relationships between the three performance variables are set out in Appendix 1. As might be expected, each of the performance variables is strongly related to the previous values of itself, with the strength of the relationship diminishing over time. Some variables are also related with each other especially ROA and SASET. At the market peak in 2000 there is little relationship between the market-based variable, Q , and the solely accounting-based measures of performance ROA and SASET. However, during the market decline (2001 - 2003) the relationship with SASET is stronger. A possible explanation for the relationship between performance variables is the effect of the 'dot-com bubble'. During the period of 1997 to 2000, the stock market in the UK experienced a rapid increase in its value, specifically from growth in the technology sector. Brunnermeier (2008) states:

Bubbles refer to asset prices that exceed an asset's fundamental value because current owners believe they can resell the asset at an even higher price.

The definition implies that, during a bubble, growth in share prices is not related to earnings capacity. ROA and SASET are related to earnings while Q reflects the company's value.

Further, the market to book ratio, Q, has a mixed relationship with return on assets (ROA). In some years there is positive relationship between Q and ROA, in other years there is no relationship, or even a negative one. However the relationship with SASET is more consistent.

Table 3 in appendix 1 shows that Q is partly driven by the change in SASET; companies with high market to book ratios tend to be ones with high sales growth. This is consistent with an economic interpretation of Q as representing investment opportunities to exploit sales growth potential. Table 3 in appendix 1 shows that the positive relationship of Q with change in sales to assets is strong and consistent.

Average performance variables

For this study the companies were split into 10 industry groups. Industry membership was based on the FTSE Global Classification system. There are 102 sub sectors, classified into 36 sectors, which are grouped into ten economic groups. The number of companies in the sample in each economic group is set out in Table 4.3. All financial companies except real estate are excluded from the sample.

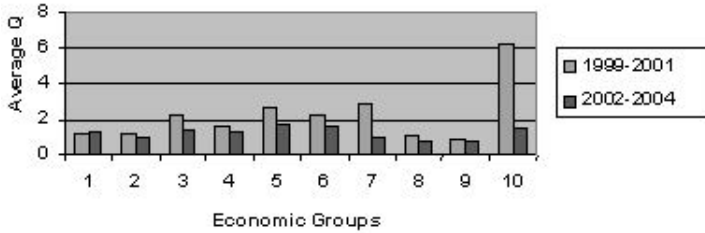
Table 4.3 Number of sample companies in each sector

Economic group	Industry	Number of companies
1	Resources	25
2	Basic Industries	47
3	General Industries	32
4	Cyclical Consumer Goods	6
5	Non-Cyclical Consumer Goods	36
6	Cyclical Services	133
7	Non-Cyclical Services	18
8	Utilities	16
9	Real Estate	22
10	Information Technology	30
	Total	365

In this research average performance variables are used to recognise that governance is a long-term phenomenon whose effects may be spread over different periods. The sample period is, therefore, split into two and performance is measured as the average for each sub-period.

Figure 4.2 shows the average Q for different economic groups within the sample period (1999 to 2004). Q9901 and Q0204 represent the average Q for each economic group over the three-year period 1999 to 2001, and 2002 to 2004 respectively. With the exception of the resources sector, Q is lower in the second period. The very high level of Q for the IT sector in the first period reflects the internet bubble.

Figure 4.2 *Tobin's Q industry average*

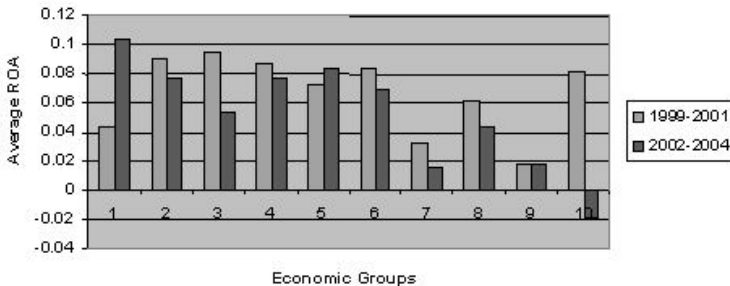


Q 1999-2001 (Q9901) = average of Q for 30 June 1999, 2000, 2001.

Q 2002-2004 (Q0204) = average of Q for 30 June 2002, 2003, 2004.

Figure 4.3 demonstrates the performance of the companies in terms of return on assets (ROA). Profitability is lower in the second period for all groups except for the resources (Group 1) and non-cyclical consumer goods (Group 5) groups. The worst hit is the information technology sector (Group 10) which has, on average, negative ROA in the second period.

Figure 4.3 *Return on assets industry average*

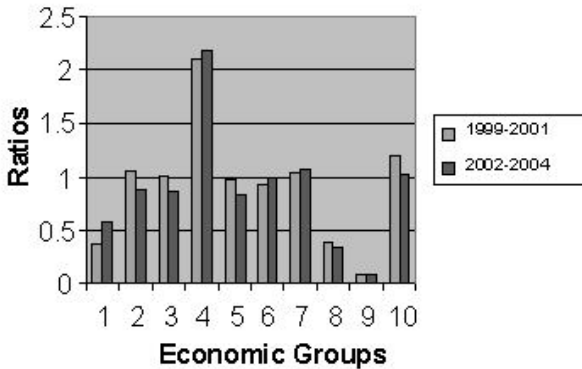


ROA9901 = average return on assets 1999-2001

ROA0204 = average return on assets 2002-2004

Figure 4.4 shows that the ratio of sales to assets for all sectors is relatively stable over the sample period. The cyclical consumer goods sector (Group 4) has the highest ratio and the real estate (Group 9) the lowest.

Figure 4.4 Industry average for sales to assets ratio (SASET)



SASET9901 = average sales to assets 1999-2001

SASET0204 = average sales to assets 2002-2004

Corporate governance and other variables

The corporate governance and control variables are generally highly correlated with previous values of themselves. There are also correlations between the different variables. Large companies tend to have bigger boards and a higher proportion of independent directors. Conversely large companies tend to have a lower proportion of shares in the hands of directors.

Performance measured by Q

Table 4.4 shows the extent to which the average level of Q is explained by corporate governance variables for the individual years, as derived from a multiple regression model. The table shows the corporate governance factors such as independence and board size as measured in 1999 and subsequent years. For each corporate governance factor the sign, either + or -, shows whether there is a positive or negative relationship for that factor explaining Q, and the asterisks show the statistical significance of each factor. For example, the plus sign on independence for the year 1999 means that the greater the independence, the greater the value of Q. The statistic 'Adjusted R²' measures how much of Q is explained by these factors. Thus, taken on its own, the first line of the table shows that 35.6% of the variation in average Q has been explained and that the proportion of independent directors in 1999 is an important factor in explaining the average performance as measured by Q over the 1999-2001 period. However, the next two lines of the regression suggest that the proportion of independent directors in 2000 or 2001 is not important, but that board size and holdings by block holders are important. In each year the size of the firm and its industry membership are important. In the later period 2002-2004 (the last three lines of the table) the relationship between Q and corporate governance factors is much weaker - the Adjusted R² is smaller and the corporate governance variables are at best weakly significant; nearly all of the explanatory power of the equations is due to size and industry. Moreover, although weakly significant in only one year, the sign on independence has changed so the influence of independence, if any, appears to have changed direction from one period to the next.

Table 4.4 Average Q against board and ownership

	CG	Const	INDEP	BSIZE	DIRW	BLOK	LFSIZE	IC	ADJ. R ²
Expected sign			+	?	?	+	-	+	
Q9901	1999	8.499 ***	+1.696 ***	-0.037	-0.009	-0.009	-0.516 ***	+0.847 ***	0.356
Q9901	2000	7.886 ***	+0.532	+0.151 ***	+0.001	-0.016 **	-0.612 ***	+0.882 ***	0.338
Q9901	2001	7.924 ***	+0.243	+0.185 ***	+0.008	-0.021 ***	-0.627 ***	+0.887 ***	0.331
Q0204	2002	1.789 ***	-0.284	+0.003	-0.002	-0.004 *	-0.118 ***	+1.103 ***	0.185
Q0204	2003	1.405 ***	-0.328 *	+0.009	-0.001	-0.003	-0.094 ***	+1.103 ***	0.173
Q0204	2004	1.361 ***	-0.310	+0.016	-0.005	-0.001	-0.096 ***	+1.095 ***	0.168

INDEP board independence

BSIZE board size

DIRW directors' ownership

BLOK percentage of external block holdings

LFSIZE log firm size

IC industry control

Q9901/0204 average Tobin's Q calculated as Market Value (Market Value of Equity plus minority interest plus Total Liabilities) divided by the Total Assets for three year period 1999 to 2001/2002 to 2004.

*** / ** / * denotes significant at 1% / 5% / 10% level respectively

CG year the corporate governance factors are measured

It is clear that the relationship of governance arrangements with Q are time specific at best. Independence, which is predicted to be positively related to performance, has a negative sign in the second period. The signs of board size are consistently positive but significant in only two periods. The sign of the block holding variable is consistently negative which is counter to expectation, thus, the larger the blockholding the lower Q. The size of directors' holdings (DIRW) is not significant and it changes sign.

There is, however, a strong positive industry effect and, since Q incorporates expectations of future growth, a negative relationship with company size because large firms are less likely to have exceptional percentage increases in sales and profits than smaller ones.

Further analysis of the association between Q and corporate governance variables was carried out using three sub-periods and a two-year average for Q instead of three years. The results provided the same patterns.

Performance measured by return on assets

When performance is measured using return on assets (Table 4.5), the association with corporate governance and control variables is weaker. Nevertheless, board independence and board size consistently have negative coefficients for both periods: less independent and smaller boards have better returns on assets. Although Adjusted R^2 is not large, both appear as significant in the second period. In comparison with the results for Q , independence has a consistent sign throughout but the sign of board size becomes negative, with some level of significance, in four out of six periods. Size and industry continue to be significant but the sign of company size changes from negative to positive suggesting large companies had higher return on assets than smaller ones.

Table 4.5 Return on assets against board and ownership

	CG	CONSTANT	INDEP	BSIZE	DIRW	BLOK	LFSIZE	IC	ADJ. R2
Expected sign			+	?	?	+	?	+	
ROA9901	1999	-0.097 **	-0.034	-0.002	+0.000	+0.000	+0.011 **	+1.019 ***	0.105
ROA9901	2000	-0.145 ***	-0.005	-0.005 **	+0.001 *	+0.000	+0.016 ***	+1.031 ***	0.123
ROA9901	2001	-0.174 ***	-0.027	-0.002	+0.001 *	+0.000	+0.014 ***	+1.133 ***	0.106
ROA0204	2002	-0.201 ***	-0.049 *	-0.005 *	+0.000	+0.000	+0.018 ***	+1.053 ***	0.153
ROA0204	2003	-0.174 ***	-0.061 ***	-0.004 *	-0.000	+0.000	+0.017 ***	+0.774 ***	0.136
ROA0204	2004	-0.172 ***	-0.055 **	-0.005 **	+0.000	+0.000	+0.017 ***	+0.794 ***	0.129

INDEP board independence

BSIZE board size

DIRW directors' ownership

BLOK percentage of external block holdings

LFSIZE log firm size

IC industry control

ROA9901/0204 average (operating income/total assets for three year period 1999 to 2001/2002 to 2004)

*** / ** / * denotes significant at 1% / 5% / 10% level respectively

CG year the corporate governance factors are measured

Performance measured by sales to assets ratio

When performance is measured by sales to assets ratio the results are stronger (Table 4.6). Board independence and board size again are negative and are significant in all but one case (board size in 1999). Directors' ownership and block holdings are positive and are significant half the time: large shareholdings by directors or external shareholders are associated with greater sales to assets ratios.

Table 4.6 Average sales to assets ratio against board and ownership

	CG	CONST	INDEP	BSIZE	DIRW	BLOK	LFSIZE	IC	ADJ. R2
Expected sign			+	?	?	+	?	+	
SASET9901	1999	-1.669 ***	-0.416 **	-0.009	+0.011 ***	+0.001	+0.137 ***	+0.849 ***	0.313
SASET9901	2000	-1.702 ***	-0.326 **	-0.071 ***	+0.009 ***	+0.003	+0.181 ***	+0.846 ***	0.354
SASET9901	2001	-1.657 ***	-0.559 ***	-0.042 ***	+0.003	+0.002	+0.161 ***	+0.824 ***	0.299
SASET0204	2002	-1.707 ***	-0.370 **	-0.058 ***	+0.005 *	+0.004 *	+0.171 ***	+0.850 ***	0.329
SASET0204	2003	-1.861 ***	-0.339 **	-0.077 ***	+0.006 *	+0.003	+0.203 ***	+0.761 ***	0.311
SASET0204	2004	-1.856 ***	-0.464 ***	-0.075 ***	+0.003	+0.006 **	+0.193 ***	+0.844 ***	0.324

INDEP board independence

BSIZE board size

DIRW directors' ownership

BLOK percentage of external blockholdings

LFSIZE log firm size

IC industry control

SASET9901/0204 average ratio sales to assets for three year period 1999 to 2001/2002 to 2004

*** / ** / * denotes significant at 1% / 5% / 10% level respectively

CG year the corporate governance factors are measured

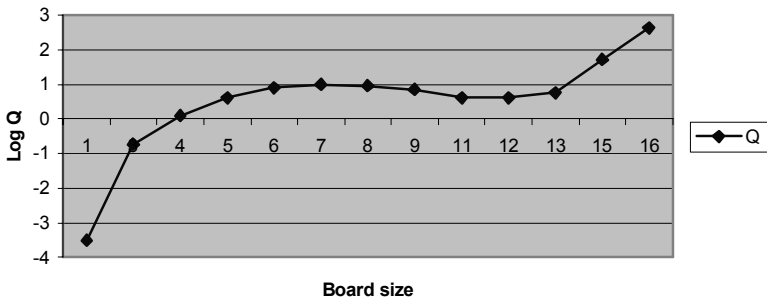
The strength and consistency of these results is intriguing. On an industry by industry basis, it might be expected that sales to total assets is a reasonable measure of efficiency and it has been suggested (Ang, Cole and Lin, 2000) that it might be an indication of success in controlling agency costs. If that is the case, it appears that smaller boards are to be preferred to more independent ones.

Discussion of results

There is little evidence that companies with more independent boards perform better in terms of the market to book ratio (Q) or profitability (ROA). If anything, independence appears to be negatively associated with performance. Sales to assets ratio (SASET) and board independence have a negative and significant relationship throughout the sample period. All performance measures have a strong and significant relationship with firm size and industry. Large firms have better return on assets and sales to assets than small ones, but worse growth opportunities (Q). Over the period, the board size variable shows a significant (1%) negative relationship with SASET¹.

The relationship between board size and Q was explored further. For illustrative purposes, Figure 4.5 shows the regression using the log of Q and board size. The following chart plots the results and shows that the relationship between board size and Q may not be uniformly increasing or decreasing. The curve extrapolates for board sizes greater and smaller than those observed in the sample.

Figure 4.5 Q to board size



The figure shows that for the fitted relationship and within the range of board sizes observed in practice, there is an optimal size of seven or eight members. An optimum may represent the balance between the increase in expertise and other benefits, as numbers increase, against the costs of coordination and delay in decision-making process, that also increase with board size. Yermack (1996) studies a sample of US industrial corporations (1984-1991) and finds evidence of the same general shape of curve. Too few companies had board sizes greater than 13 to say whether the upturn beyond that size is true in practice.

A convergence of interests between managers and shareholders is expected when managers own some of a company's shares. As managerial ownership increases from zero, a firm's performance improves, as managers are less inclined to draw away resources from value enhancement but, beyond a certain point, as boards become entrenched, performance may decline. However, the results indicate that managerial ownership has a mixed and insignificant relationship with Q, a generally positive but significant relationship with ROA and a positive and generally significant relationship with SASET. This is similar to the findings by Faccio and Lasfer (1999) that show a weak relationship between the firm value and managerial ownership. Their sample is UK non-financial companies for a one-year period only (June 1996 to June 1997). Directors' ownership seems to result in improved efficiency, but the market is not willing to pay a premium for it.

Outside owners with significant stakes can influence the behaviour of a firm's board of directors. In this study, the total of the ten largest holdings of more than 3% is used to measure the external block holdings (BLOK). Block holdings is negatively associated with Q, and shows a significant relationship for three years; 2000, 2001 and 2002. It has a positive association with SASET (significant in two years), but a mixed, insignificant relationship with ROA². The results do not provide support for the view that powerful external shareholders are effective in improving performance.

Further analysis

Further possible kinds of relationship in the data were explored. It is possible that performance may be affected by whether shareholdings are dominated by insiders (the board) or outsiders and whether the potential tension between the two groups is important. To this end, the data on ownership was used to calculate which is the difference between the INOUT (% external block holdings and % directors' holdings) and TENS (% block holdings multiplied by % directors' holdings). The rationale for the definition of TENS is that tension could be relatively high if both block holdings and directors' holdings are relatively large, but not otherwise. None of the results show any consistent relationships and the findings show no evidence that external shareholdings and directors' holdings interact in either a beneficial way or a negative way.

It is possible that companies may alter their governance arrangements in response to past or anticipated performance. In particular, it has been suggested that companies' governance arrangements are not a cause of concern to external stakeholders while things are going well, but that if performance is poor, companies may react by appointing additional directors or increasing the independence of the board. Such an effect would be a plausible explanation of a negative relationship between Q and independence. To test for evidence of this, the change in independence (CINDEP) and change in board size (CBSIZE) were used against prior period performance as well as ownership and company size, board size (in the CINDEP calculation) and independence (in the CBSIZE calculation). Again, no clear pattern emerged so there is no evidence that companies are changing their corporate governance arrangements as a result of prior performance. It is possible that, in the evolution of governance arising from the Cadbury Report and Combined Code, poor performers were early adopters of the guidance. In the more mature period investigated here, that effect, if it existed, may have disappeared.

The analysis reported thus far assumes that corporate governance structure affects corporate performance. Another possibility is that the corporate governance factors are interdependent. It is also possible that the results, so far, are affected by the choice of sub periods or the choice of industry. To test the extent of these effects, an approach using 'lagged variables' (adjusting time periods) was taken. The results were consistent with the other results; interdependence does not seem to distort the results. Appendix three sets out the technical detail of the approach.

Industry factors

The results so far show that size and industry are consistently important in explaining the performance of companies. The size variable (natural log of sales) is well-established, widely used and very highly correlated with other plausible measures of firm size. However, the variable for industry, 'IC', is not so widely used and contains some contribution from each firm's own results. To explore whether the results are sensitive to choice of measurement of the industry factor, another measure was also used.

As shown in Table 4.3, the sample is classified into ten industries; resources, basic industries, general industries, cyclical consumer goods, non-cyclical consumer goods, cyclical services, non-cyclical services, utilities, real estate and information technology. There is little variation in corporate governance characteristics among the different industries, although utilities, non-cyclical consumers and resources companies have the most independent boards. The same three industries, plus non-cyclical services, have the largest boards. Information technology, real estate and cyclical-services have the highest proportion of shares owned by directors and real estate general industries and non-cyclical services have the largest block holdings by outside shareholders. Qualitatively similar findings were obtained by Lasfer (2006) although he excluded real estate companies from consideration. For clarity of presentation and

to conserve statistical degrees of freedom, the number of industries was reduced to six: DIC02 (resource, basic industries, and general industries); DIC34 (Cyclical consumer goods, and Non-cyclical consumer goods); DIC56 (Cyclical Services and Non-Cyclical Services), DIC7 (utilities); DIC8 (real estates); and, DIC9 (information technology). Companies were ascribed the value one if they belonged to that industry and zero otherwise. No separate variable is included in the table for the information technology sector since membership is implied if the other industry variables have value zero.

Association with Q, ROA and SASET

The results of re-running the analysis against Q (see Table 4.7) show the same pattern of results for the corporate governance factors. The fact that all the statistically significant industry control variables have negative coefficients indicates that the omitted industry (information technology) had high levels of Q, which is known to be the case for the period. The results show that industry membership is important for performance as measured by Q.

Table 4.7 Regression estimates of Q against board and ownership structure

	CG	Const	INDEP	BSIZE	DIRW	BLOK	LFSIZE
Q9901	99	14.827 ***	+1.739 ***	-0.047	-0.009	-0.008	-0.638 ***
Q9901	00	14.744 ***	+0.525	+0.173 ***	-0.001	-0.017 **	-0.771 ***
Q9901	01	14.821 ***	+0.372	+0.207 ***	+0.006	-0.023 ***	-0.786 ***
Q0204	02	3.964 ***	-0.133	+0.019	+0.000	-0.004	-0.168 ***
Q0204	03	3.807 ***	-0.188	+0.027	+0.000	-0.003	-0.155 ***
Q0204	04	3.754 ***	-0.203	+0.027	-0.004	-0.001	-0.149 ***

	DIC02	DIC34	DIC56	DIC7	DIC8	ADJ R2
Q9901	-3.121 ***	-2.086 ***	-2.503 ***	-3.876 ***	-5.453 ***	0.366
Q9901	-3.354 ***	-2.684 ***	-2.618 ***	-3.660 ***	-5.942 **	0.352
Q9901	-3.402 ***	-2.531 ***	-2.584 ***	-3.819 ***	-5.948 ***	0.341
Q0204	-0.343 *	+0.134	-0.063	-0.536 *	-1.261 ***	0.167
Q0204	-0.442 **	+0.029	-0.156	-0.625 **	-1.379 ***	0.156
Q0204	-0.482 **	-0.011	-0.184	-0.682 **	-1.366 ***	0.152

INDEP board independence

BSIZE board size

DIRW directors' ownership

BLOK percentage of external block holdings

LFSIZE log firm size

Q Tobin's Q calculated as Market Value (Market Value of Equity plus minority interest plus Total Liabilities) divided by the Total Assets with industry control of dummy variables

DIC02 resources, basic and general industries equal to 1, others 0

DIC34 consumer goods equal to 1, others 0

DIC56 services equal to 1, others 0

DIC7 utilities equal to 1, others 0

DIC8 real estates equal to 1, others 0

*** / ** / * denotes significant at 1% / 5% / 10% level respectively

CG year the corporate governance factors are measured

Similarly when the analysis is performed with ROA and SASET a similar pattern of significance as in the previous analysis is discovered. Thus, the results do not change using a different definition of industry membership.

Two year average

In view of the time specificity of the results, it is possible that the choice of sub-periods is important. To explore this, the original regressions were repeated using two-year sub-periods. This not only explores the sensitivity of the results to choice of average periods but also accords roughly with different market conditions; the market was at its peak in 1999-2000, declining in 2001-2002, and recovering in 2003-2004. Qualitatively similar results were obtained as before, indicating that the results were not sensitive to choice of sub-periods.

Summary

This chapter evaluates the relationship between some corporate governance factors and corporate performance. Board independence, board size, directors' holdings and block holdings are chosen for the companies' corporate governance structures, while Tobin's Q, return on assets, and ratio of sales to assets are used as the performance measures. The sample period is 1999 to 2004, divided into two sub-periods; 1999 to 2001, and 2002 to 2004. Previous research, (eg Agrawal & Knoeber, 1996)) indicates that corporate governance factors are interdependent and that no one governance structure suits all firms. For example, the structure of governance for a firm will depend on the firm's economic characteristics, including industry and size.

The key findings of the various analyses reported in the chapter are:

- For Q (market to book ratio)
 - Large companies tend to have smaller values of Q.
 - Some evidence that more independent companies and companies with bigger boards had higher values of Q for 1999-2001, but a weaker relationship, if anything negative, in the later period.
- For ROA (return on assets)
 - Companies with more independent or larger boards tended to have lower levels of return on assets. The relationship was stronger in 2002-2004.
 - Larger companies tended to have larger ROA in 1999-2001, but not in 2002-2004.
- For SASET (sales to total assets)
 - A strong tendency for smaller companies and companies with more independent or larger boards to have lower SASET ratios.

After controlling for size and industry the results show no clear pattern of relationship between governance and performance that is sustained in both sub periods, except in one respect. There is a consistent and significant negative relationship between the ratio of sales to total assets and both the proportion of independent directors and board size.

The lack of relationship between governance and either a stock market based measure of performance (Q) or an accounting measure (ROA) is not unexpected as it would be unlikely that companies would consistently ignore an opportunity to increase shareholder value by rearranging their corporate governance. The finding can be interpreted as providing support for existing governance arrangements. If the Combined Code's requirements for independent directors were imposing

significant net costs on companies, a stronger negative relationships between independence and performance might be expected than has been found. There is also little evidence that ownership patterns are important in determining company performance or that large shareholders monitor managers in a way that results in improved performance.

ENDNOTES

- 1 Qualitatively similar results were obtained by Bhagat and Black (BB) (2002). Among other things, this study extends and replicates BB in UK market conditions. Comparing the results reported by BB to the present study's results, there are similarities but also some differences that may be due to different economic and regulatory environments and to time specificity. For example, BB find that board independence shows significant negative association with all three performance measures. The board independence in this study shows positive and insignificant relationship with Q for the first period (except for 1999), but negative associations in the second period and with the other two measures (insignificant with ROA and significant with SASET). Otherwise the results are qualitatively similar to BB.
- 2 Baghat and Black report a similar association between performance and large external shareholdings (measured as number of outside shareholders with more than 5%). Demsetz and Villalonga (2001) observe a similar relationship between Q and block holdings.

5 RISK AND CORPORATE GOVERNANCE

Introduction

There has been little previous research on risk and corporate governance, although there are grounds for expecting a relationship. Corporate governance mechanisms are likely to affect the risks attached to corporate performance as well as performance levels.

Effective monitoring of management decisions by independent directors should result in the rejection of strategic proposals that are high risk or which have been insufficiently thought through, even if that means, at times, rejecting high risk projects that could turn out to be successful. Moreover, insofar as shareholder value can be created by reducing a company's systematic risk (Beta), effective independent monitoring should tend to be associated with lower levels of beta, other things being equal.

Similarly, if large boards are more effective as monitors than smaller boards, the same effect might be expected. Where directors have a large proportion of their personal wealth invested in a company they can be expected to take less risky decisions, since they are unable to fully diversify the risks that they face. Finally, large external shareholdings have both the incentive to monitor managerial strategy and the power to discipline managers who make poor decisions, leading to a greater level of caution in management decision-making. That is to say, corporate governance factors are expected to be negatively associated with risk. However, riskier firms may require more effective governance mechanisms.

Few previous studies have examined the relationship between corporate governance and risks of various kinds. Brown and Caylor (2004) found that US companies with weaker governance had higher

volatility and lower profitability and liquidity than other companies. Other studies have found similar results for US firms and it may be that the results are driven by the probability of a takeover rather than other factors (Ferreira and Laux, 2007).

Risk and governance

In this study risk was measured in three ways: total risk, systematic risk and a measure of sudden share price falls.

Total risk and governance

Table 5.1 shows that, when the risk of a company's share price is measured by the variance of returns (the total risk), none of the corporate governance factors are consistently significant.

Table 5.1 Regression of variance against board and ownership structure, firm size and industry control

Dependent variable	CG	Const.	INDEP	BSIZE	DIRW	BLOK	LFSIZE
VAR9901	99	0.003	-0.002	+0.000	-0.000	+0.000	+0.000
VAR9901	00	0.004	-0.002 *	-0.000	-0.000 **	-0.000	+0.000
VAR9901	01	0.004	-0.001	-0.000	-0.000 *	-0.000	+0.000
VAR0204	02	0.001	-0.001	+0.000 **	-0.000	+0.000	+0.000 *
VAR0204	03	0.003	+0.000	+0.000	-0.000	-0.000	+0.000
VAR0204	04	0.003	+0.002	+0.000	+0.000	-0.000	+0.000

Table 5.1 Regression of variance against board and ownership structure, firm size and industry control (Cont.)

Dependent variable	DIC02	DIC34	DIC56	DIC7	DIC8	ADJ R2
VAR9901	-0.001	+0.000	+0.000	-0.002	+0.001	-0.014
VAR9901	+0.000	-0.000	+0.001	-0.001	+0.001	-0.004
VAR9901	+0.000	+0.000	+0.000	-0.002	+0.001	-0.017
VAR0204	-0.001	-0.002	+0.000	-0.003	-0.001	0.001
VAR0204	+0.000	-0.002	+0.000	-0.003	+0.000	-0.004
VAR0204	+0.000	-0.002	+0.000	-0.002	-0.001	-0.009

Industry:

INDEP board independence BSIZE board size
 DIRW directors' holdings BLOK percentage of external block holders
 LFSIZE log sales proxy firm size

DIC02 resources, basic and general industries equal to 1, others 0

DIC34 consumer goods equal to 1, others 0

DIC56 services equal to 1, others 0

DIC7 utilities equal to 1, others 0

DIC8 real estates equal to 1, others 0

*** / ** / * denotes significant at 1% / 5% / 10% level respectively

CG year the corporate governance factors are measured

Systematic risk and governance

The most widely accepted model of stock market valuation is the Capital Asset Pricing Model which reflects the appropriate measure of risk for the holder of a diversified portfolio of shares. The 'systematic risk' or Beta, is a measure of the undiversifiable risk of a company arising from the link between the share price movements of the company and the market generally. This risk is important to general investors who hold a diversified portfolio of shares. A stock whose returns tend to move more than the market as a whole will have a beta value greater than one, indicating that the stock is more volatile than the market. Conversely,

if a stock's returns tend to move less than the market, its beta value is less than one. A stock with a high beta value is riskier than one with a low beta. The beta is calculated as the covariance of a firm's weekly returns with the market weekly return divided by the variance of the market weekly return. The sample period, 1999 to 2004, is sub-divided into five over-lapping two-year periods. Then beta is calculated for each periods as: BETA9900, the beta for the period of 1999 to 2000 and so on. Regressions using the values of the governance and control variables are calculated for each year of the relevant period.

Table 5.2 shows that the coefficient of the independence variable is consistently negative, as expected, but only on three occasions is it significant and the results overall are not very good at explaining risk. Further exploration using two-stage least squares and alternative sub-periods confirmed this finding. There is only one significant value for directors' ownership and three for blockholdings. Taken together, there is little evidence that companies with more independent boards, boards of a particular size, or companies with different ownership structures have a different systematic risk from other companies.

Table 5.2 Beta against board and ownership structure, firm size and industry

	CG	Const.	INDEP	BSIZE	DIRW	BLOK	LFSIZE
BETA9900	99	0.322	-0.165	-0.002	-0.003	+0.001	+0.025
BETA9900	00	0.449	-0.293 **	-0.006	-0.006 **	-0.002	+0.018
BETA0001	00	0.579	-0.524 ***	-0.019	-0.010	-0.003	+0.012
BETA0001	01	0.393	-0.204	-0.014	-0.004	-0.003	+0.033
BETA0102	01	0.669	-0.092	-0.009	-0.001	-0.006 *	+0.022
BETA0102	02	0.800	-0.158	-0.036	-0.005	-0.006 *	+0.039
BETA0203	02	1.173 ***	-0.203	-0.014	-0.002	-0.006 ***	-0.004
BETA0203	03	1.040 **	-0.156	-0.002	-0.001	-0.003	-0.003
BETA0304	03	0.737 *	-0.298 *	-0.002	-0.003	-0.001	+0.012
BETA0304	04	0.877 **	-0.104	-0.012	-0.002	-0.002	+0.015

Table 5.2 Beta against board and ownership structure, firm size and industry (Cont.)

	DIC02	DIC34	DIC56	DIC7	DIC8	ADJ R2
BETA9900	-0.022	+0.002	-0.008	-0.190	+0.063	-0.015
BETA9900	+0.064	+0.116	+0.080	-0.091	+0.151	0.011
BETA0001	+0.066	+0.087	+0.156	+0.016	+0.214	0.007
BETA0001	+0.050	-0.046	+0.035	-0.031	+0.171	-0.017
BETA0102	+0.028	+0.051	+0.058	+0.030	+0.230	-0.019
BETA0102	-0.064	-0.046	-0.018	+0.001	-0.171	-0.009
BETA0203	-0.153	-0.012	-0.106	+0.000	-0.064	0.007
BETA0203	-0.182	-0.113	-0.166	-0.012	-0.183	-0.020
BETA0304	-0.252 *	-0.163	-0.237 *	-0.098	-0.181	-0.007
BETA0304	-0.320 **	-0.233	-0.282 *	-0.171	-0.195	-0.014

Industry:

INDEP	board independence	BFSIZE	board size
DIRW	directors' holdings	BLOK	percentage of external block holders
LFSIZE	log sales proxy firm size		
DIC02	resources, basic and general industries equal to 1, others 0		
DIC34	consumer goods equal to 1, others 0		
DIC56	services equal to 1, others 0		
DIC7	utilities equal to 1, others 0		
DIC8	real estates equal to 1, others 0		
*** / ** / *	denotes significant at 1% / 5% / 10% level respectively		
CG	year the corporate governance factors are measured		

One of the functions that corporate governance may serve is that of reducing the probability of large adverse share price movements or 'nasty surprises', such as occur when firms fail or major strategic errors are revealed. The research seeks to identify large adverse share price movements, if there were any. In order to do this, for each company the lowest quarterly return in each year is calculated using a weekly return index. This calculation provides six minimum return figures for the

sample period; minimum return for 1999, 2000, 2001, 2002, 2003, and 2004. The effect of the calculation is to identify any quarterly period in which companies had particularly large negative returns.

Table 5.3 shows that a reasonable amount of the lowest total return is explained, but most of it is, as usual, due to industry and size. The sign of independence is predominantly negative, with some significance in only two out of six periods. If anything, therefore, there is a tendency for companies with more independent boards to suffer greater adverse returns than otherwise; this tends to refute the suggestion that companies with more independent boards are less likely to suffer relatively large negative returns.

Table 5.3 Annual lowest total return against board and ownership structure, firm size and industry

Dependent variable	CG	Constant	INDEP	BSIZE	DIRW	BLOK	LFSIZE
NTR99	99	-0.450 ***	-0.047	+0.003	+0.000	-0.001 ***	+0.002
NTR00	00	-0.616 ***	+0.010	-0.007 **	+0.000	+0.000	+0.013 **
NTR01	01	-0.986 ***	-0.026	-0.009 **	+0.000	+0.000	+0.037 ***
NTR02	02	-0.657 ***	-0.070 *	-0.005	-0.001	+0.000	+0.015 **
NTR03	03	-0.392 ***	-0.086 **	+0.003	-0.002 **	-0.001 *	-0.003
NTR04	04	-0.621 ***	-0.042	+0.001	+0.000	+0.001 *	+0.022 ***

Table 5.3 Annual lowest total return against board and ownership structure, firm size and industry (Cont.)

Dependent variable	DIC02	DIC34	DIC56	DIC7	DIC8	ADJ R2
NTR99	+0.087 ***	+0.128 ***	+0.092 ***	+0.238 ***	+0.191 ***	0.201
NTR00	+0.215 ***	+0.204 ***	+0.202 ***	+0.232 ***	+0.298 ***	0.220
NTR01	+0.330 ***	+0.335 ***	+0.290 ***	+0.380 ***	+0.509 ***	0.416
NTR02	+0.180 ***	+0.224 ***	+0.146 ***	+0.294 ***	+0.352 ***	0.220
NTR03	+0.192 ***	+0.184 ***	+0.140 ***	+0.287 ***	+0.236 ***	0.148
NTR04	+0.134 ***	+0.157 ***	+0.128 ***	+0.206 ***	+0.261 ***	0.235

NTR lowest total return for the year

INDEP board independence

BSIZE board size

DIRW directors' holdings

BLOK percentage of external block holders

LFSIZE log sales proxy firm size

Industry:

DIC02 resources, basic and general industries equal to 1, others 0

DIC34 consumer goods equal to 1, others 0

DIC56 services equal to 1, others 0

DIC7 utilities equal to 1, others 0

DIC8 real estates equal to 1, others 0

*** / ** / * denotes significant at 1% / 5% / 10% level respectively

CG year the corporate governance factors are measured

Does poor performance cause governance changes?

It is possible that poor performance causes firms to adjust their governance structure as a means of diverting criticism (MacNiel and Li, 2006). Although this study has not shown evidence of this occurring, additional work on the relationship between annual lowest total return

and the governance arrangements were carried out using independence and change in independence (Tables 5.4 and 5.5).

The results in Table 5.4 are interesting. Although relatively little is explained overall (6.6% to 12.4%), larger companies have more independent boards, companies where directors own a large proportion of the shares have less independent boards and companies with larger boards have a lower proportion of independent members.

Table 5.4 Board independence against lag annual lowest total return, board size and ownership structure

Dependent variable	CG	Constant	NTR _{t-1}	BSIZE	DIRW	BLOK	LFSIZE
INDEP00	00	-0.507 ***	-0.343 ***	-0.004	-0.005 ***	-0.001	+0.020 **
INDEP01	01	-0.367 ***	-0.072	-0.011 *	-0.004 ***	+0.000	+0.028 **
INDEP02	02	-0.291 *	-0.102	-0.016 **	-0.005 ***	+0.000	+0.023 **
INDEP03	03	-0.683 ***	-0.391 ***	-0.014 **	-0.004 ***	-0.000	+0.042 ***
INDEP04	04	-0.505 ***	-0.111	-0.015 **	-0.005 ***	+0.000	+0.047 ***

Table 5.4 Board independence against lag annual lowest total return, board size and ownership structure (Cont.)

Dependent variable	DIC02	DIC34	DIC56	DIC7	DIC8	ADJ R2
INDEP00	+0.025	+0.102 *	+0.097 *	+0.211 **	+0.146 **	0.116
INDEP01	-0.035	+0.030	-0.014	+0.057	+0.039	0.066
INDEP02	+0.007	+0.129 *	+0.061	+0.049	+0.076	0.084
INDEP03	+0.053	+0.129 *	+0.053	+0.229 **	+0.132 *	0.124
INDEP04	-0.030	+0.013	-0.033	+0.040	+0.037	0.120

NTRn-1 lowest total return for the previous year INDEP board independence
 BSIZE board size DIRW directors' holdings
 BLOK percentage of external block holders LFSIZE log sales proxy firm size

Industry:

DIC02 resources, basic and general industries equal to 1, others 0

DIC34 consumer goods equal to 1, others 0

DIC56 services equal to 1, others 0

DIC7 utilities equal to 1, others 0

DIC8 real estates equal to 1, others 0

*** / ** / * denotes significant at 1% / 5% / 10% level respectively

CG year the corporate governance factors are measured

It is no surprise that larger companies have boards that are more independent, since large companies are generally more mature and more subject to scrutiny from analysts. The strong negative relationship between independence and directors' ownership suggests that directors who own a significant stake in a company are reluctant to be monitored by outsiders, indicating a possible weakness in governance¹. The negative relationship with board size arises because of the effective requirement for a minimum of three independent directors, who thus make up a larger proportion of a small board than of a big one.

The lack of a relationship with block holdings suggests that large external shareholders rely on their own influence, rather than on independent directors, to monitor and control management.

The sign of the relationship with lowest returns in the previous period is consistently negative and are highly significant in two of the five periods. This might be thought to indicate that companies that performed badly responded by appointing additional independent directors. However, when changes in independence are analysed (Table 5.5) the explanatory power is low and, on the two occasions when return variable is significant, the coefficients have opposite signs. Overall this does not provide evidence that companies react to adverse results by adding independent directors to the board.

Table 5.5 Change in board independence against lag annual lowest total return, board size and ownership structure

Dependent variable	CG	Constant	NTR _{n-1}	BSIZE	DIRW	BLOK	LFSIZE
CINDEP1	00	0.059	-0.069	-0.007	+0.000	+0.000	-0.003
CINDEP2	01	0.029	-0.113	-0.004	+0.000	+0.000	-0.002
CINDEP3	02	-0.044	-0.010	-0.010 **	-0.001	+0.000	+0.008
CINDEP4	03	-0.252 **	-0.149 **	-0.001	+0.001	+0.001	+0.021 **
CINDEP5	04	0.108	+0.157 ***	-0.001	-0.001	-0.001	+0.007

Table 5.5 Change in board independence against lag annual lowest total return, board size and ownership structure (Cont.)

Dependent variable	DIC02	DIC34	DIC56	DIC7	DIC8	ADJ R2
CINDEP1	+0.080 *	+0.139 ***	+0.103 **	+0.005	+0.149 ***	0.022
CINDEP2	+0.043	+0.047	-0.005	+0.005	+0.008	-0.009
CINDEP3	+0.043	+0.080	+0.056	-0.020	+0.028	0.001
CINDEP4	-0.040	-0.076	-0.076 *	+0.076	-0.033	0.038
CINDEP5	-0.079 *	-0.128 ***	-0.083 **	-0.192 ***	-0.051	0.025

NTRn-1 lowest total return for the previous year CINDEP change in board independence
 BSIZE board size DIRW directors' holdings
 BLOK percentage of external block holders LFSIZE log sales proxy firm size

Industry:

DIC02 resources, basic and general industries equal to 1, others 0

DIC34 consumer goods equal to 1, others 0

DIC56 services equal to 1, others 0

DIC7 utilities equal to 1, others 0

DIC8 real estates equal to 1, others 0

*** / ** / * denotes significant at 1% / 5% / 10% level respectively

CG year the corporate governance factors are measured

Summary

The Combined Code's main principle is that every company should be headed by an effective board, which is collectively responsible for the success of the company. In addition, the Code emphasises that non-executive directors are responsible for monitoring the performance of management and the reporting of performance. If the reasoning behind the Code is well founded, it might be expected that the greater the compliance by companies, the lower their risk will be. This chapter examines the link between the board structure using board independence

and board size as the governance mechanisms with companies' risk profiles.

Risk is measured in three ways: variance of returns, beta and lowest total return. The results show no evidence that companies that are highly monitored with a large proportion of independent directors, large boards or a large proportion of shares owned by block holder are less risky than others. Larger companies have more independent boards, companies where directors control a large proportion of the shares have less independent boards, and large boards have a lower proportion of independent members.

ENDNOTE

- 1 A recent study by Lasfer (2006) tests whether high managerial ownership leads to management entrenchment, which consequently gives power to the CEO to create a board that is unlikely to monitor executives. His findings indicate a strong negative relationship between the managerial ownership level and other corporate governance factors, namely, the split of the roles of the CEO and the Chair, the proportion of NEDs and the appointment of NED as a Chair.

6 CONCLUSIONS

Introduction

In the past two decades corporate governance has become a central issue in financial regulation. This issue has again come to the fore with the recent global financial crisis. This chapter summarises the overall results of the empirical research on the link between corporate governance structure, ownership structure and firm performance and risk. In addition, the study also investigates the possibility that firm performance may affect the corporate governance structure. FTSE 350 index companies listed on 31 December 1999 and/or 30 June 2004 form the population for the research. The measures of firm performance and risk used in the research are market value to book value ratio (Q), return on assets, ratio of sales to assets, lowest total returns, and firms' total and systematic risks (Beta).

Prior research

The review of the literature in chapter two shows that the results of previous research on governance and measures of performance have been mixed with either an inverse relationship or no relationship found between board independence and performance by the majority of studies. Most leading research has been based on US data or on the period of rapid changes in governance following the Cadbury report. This report investigates the relationship between corporate governance and corporate performance in the UK in a later, more stable period. Four questions are addressed:

- Is there an association between particular governance arrangements and firm performance?
- Are governance arrangements interdependent with other factors?
- Do poorly performing firms appoint additional independent directors?
- Do companies with particular governance arrangements have lower levels of risk than others?

Results

Governance and performance

There were discernible trends in corporate governance over the period of the study with the independence of boards increasing and board sizes decreasing. There were also relationships among corporate governance factors. After controlling for industry it is found that large companies have more independent boards and companies that have a large proportion of shares owned by directors tend to have less independent boards.

Initially, three measures of corporate performance were examined - market to book ratio (Q), return on assets (ROA), ratio of sales to total assets (SASET) . The three variables are interconnected with each other and the previous values of themselves. Q and the other variables are strongly positively related to their values in previous periods. That is to say a high value last year is likely to be associated with a high value in the current year. Q is also strongly related to the change in SASET over the previous year.

Performance is volatile but governance changes slowly. Performance is first investigated using two three-year sub-periods; 1999 to 2001, and 2002 to 2004, and then over three two-year sub-periods (1999-2000,

2001-2002, and 2003-2004). Much of the variation in performance is explained by industry membership. For example, the highest Q level is for the information technology sector for the period of 1999 to 2001, whereas the highest ROA is for the general industries sector, and the cyclical consumer goods sector has the highest SASET.

The results of the initial analysis are mixed and appear to be time specific. There is little evidence that independence or board size is related to either Q or ROA, but they both have a strong negative association with SASET during both sub-periods. All performance measures have a strong and significant relationship with firm size and industry. Large firms have better return on assets and sales to assets than small ones, but worse growth opportunities (Q).

Are governance arrangements interdependent with performance and other factors?

The research also investigates whether corporate governance affects corporate performance or *vice versa*. The results reported in chapter four show no evidence that interdependence is a problem for any of the variables; this tends to confirm the reliability of the initial analysis.

Governance and survival

As might be expected, larger companies were more likely to survive in the FTSE350 index than smaller ones. In the period under review property companies were more likely to survive, and technology companies less so. Survival was not related to corporate governance characteristics.

Governance and shareholder activism

Shareholder activism as measured by opposition to directors' recommendations at AGM was greater during the period of market decline. There were indications that companies that had high market to book values at the beginning of the period or which had large boards were more likely to be subject to shareholder opposition.

Governance and risk

Recommended corporate governance practices are at least as likely to affect companies' risk profiles as their profitability or market to book ratio. An effective board should be able to evaluate management's strategies in order to reduce the number of risky decisions. Larger boards, high managerial ownership and large external holdings also increase monitoring of risks and the incentives to take risky decisions. However, there was no consistent relationship between either total risk or systematic risk (Beta) and corporate governance arrangements.

Governance and poor performance

The research uses a novel measure of risk that seeks to capture sudden drops in share price ('nasty surprises') occurring over relatively short (12 week) periods. The results do not show any strong and significant relationship with governance and, in particular, there is no evidence that companies with more independent boards are less likely to suffer price reversals.

Governance and other factors

Non-executives directors are not only expected to monitor management, but they should also be involved in formulation and

management of corporate strategy. Previous studies have assigned four other main functions to the board of directors; (a) the agency/control function; (b) the strategic decision and policy support roles; (c) the resource acquirer role; and (d) to provide a link to a firm's reputation. With their diverse experience, non-executive directors are in a position to contribute valuable expertise and wise counsel to a company. Because independent non-executive directors are not involved in the day-to-day management, they should be better able to evaluate objectively strategy and executive decisions.

However, board characteristics may be related to firm performance or other firm attributes. For example, if firms are under pressure to change governance arrangements, poorly performing firms may be 'early adopters' of new guidance.

Further, during the period covered by the research, different stock market conditions were encountered at different times and thus a consistent relationship between governance and performance may not necessarily be expected, partly because governance changes more slowly than markets and partly because companies trade-off governance arrangements according to their particular circumstances.

This research found no consistent relationship between governance structure (board and ownership structure) and companies' market book value, accounting performance, stock return or risk. Laing and Weir (1999) suggest that the general adoption of specific governance structures may not be appropriate for all firms. Gordon (2007) calls this a process of 'sorting' or optimal differences. He argues that if there is 'no one size fits all' solution for board composition, board composition may reflect firms finding their own optimal insider/independent mix. A higher fraction of independent directors may produce value-increasing outcomes such as improved monitoring, but there may well be costs. For example, there may be difficulties involved in appointing a sufficient number of experts to monitor a large diversified company and larger boards may make worse decisions. There is some evidence that companies find it hard to

appoint suitably qualified non-executive directors (Fraser and Henry, 2003). Weir and Laing (2001) suggest that non-executive directors, who are only employed on a part time basis, are likely to have other work commitments. They may therefore be unable to devote sufficient time to each company to be effective monitors. Non-executive directors may lack the expertise to understand highly technical business issues and may not possess sufficient information to make key decisions. Furthermore, inside directors may contribute valuable advice and insights that are lost in a thoroughly independent board. There was no evidence that the presence of powerful external shareholders resulted in improved performance.

The findings of this research confirm that companies with a high level of directors' ownership have fewer non-executives (Lasfer, 2006; Dedman, 2000). However, there is little evidence to suggest that poorly performing companies try to ward off criticism by appointing additional independent directors, as suggested by MacNeil and Li (2006). There is a possible reconciliation of these findings; it is likely that poorly performing companies were 'early adopters' of governance recommendations and other companies came into line at a slower pace, but had done so by 1999. The finding that board sizes have been decreasing is possibly due to companies appointing independent directors as a reaction to the provisions of the Combined Code and then reducing board size to a more manageable level as opportunity arises.

Policy implications

The FRC conducts regular reviews of the Combined Code. The last completed review was in 2007 and there is another ongoing in 2009. Such reviews have found relatively little concern among respondents about the quality of governance in UK companies and respondents believed that governance, and dialogue between companies and shareholders had improved over a period of years. This research finds little to refute

that view. If there had been a clear positive relationship between, say, independence or board size and performance, then the conjecture that companies could increase their performance by appointing additional independent directors might have been sustained. Alternatively, if governance arrangements were imposing significant unnecessary costs on companies, it is more likely that a negative relationship between governance and performance would be observed, as some companies might choose not to comply with guidance in order to report improved performance and avoid the costs of compliance. The lack of a clear relationship between independence and performance suggests that companies are not too far from the optimum proportion of independent directors on their boards.

The negative relationship between share ownership by directors and independence of the board and (as other researchers have discovered) other recommended governance arrangements suggests that there should be more scrutiny of companies where the board may be entrenched by virtue of their shareholdings.

Concern with corporate governance arose partly because of corporate failures and gross strategic errors by companies. Accordingly, a reasonable objective of good governance is to reduce the riskiness of corporate performance and the probability of 'nasty surprises'. The research shows that there is little evidence that governance arrangements are effective in reducing risks or large downside price movements. More research is indicated in this area together with a review of the training needs of independent directors in evaluating and challenging managements' plans.

Limitations and future research

No research can be comprehensive and this research addresses only some elements of corporate governance and is restricted to large UK companies. Because of the Combined Code, and other regulatory factors, there is relatively little observable variation in the governance of companies. Control for different biases in sample design, although at least as good as many other studies, may have been imperfect and alternative approaches might have produced different results.

Future research could extend to smaller companies, where it is likely that there is more variation in governance and the possibility of non-linear associations between governance and performance could be explored further. As noted above, more research into the relationship between corporate governance and the risk profile of companies is needed. The recent increase in shareholder activism will provide the opportunity to research its impact in conjunction with governance. The rise of private equity as both a new disciplinary mechanism and a new mode of ownership also opens up new directions for research.

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A PPENDIX 1

Statistics relating to governance, index membership, corporate survival and inter-relationships of performance variables

Table 1 shows, for companies that were members of the FTSE 350 in 1999, factors associated with continued membership in 2004 and with survival as independent companies, whether still a member of the index or not in 2004. See chapter three for discussion of the results.

Table 1 Survival against governance and other characteristics

	Const	INDEP	BSIZE	DIRW	BLOK	Sep Chair	Q	ROA	SASET
Survive in FTSE 350	-1.043 ***	-.031	0.016	0.003	-0.004 ***	-0.079	0.012	0.348 **	0.044
Survive as independent	-0.75	0.126	0.014	0.002	-0.003 ***	0.007	0.008	0.236	0.039

	LFSIZE	Gear	DIC02	DIC34	DIC56	DIC7	DIC8	ADJR2
Survive in FTSE 350	.100 ***	0.000	0.271 **	0.239	0.333 ***	0.253	0.594 ***	0.366
Survive as independent	0.042 *	0.000	0.112	.104	0.206 **	0.067	0.288 *	0.078

- INDEP board independence BSIZE board size
 DIRW directors' ownership BLOK percentage of external block holdings
 Sec Chair separation of chair & CEO LFSIZE log firm size
- Q Tobin's Q calculated as Market Value (Market Value of Equity plus minority interest plus Total Liabilities) divided by the Total Assets
- ROA return on assets
 SASET sales to total assets ratio
 Gear gearing ratio
- Industry:
- DIC02 resources, basic and general industries equal to 1, others 0
 DIC34 consumer goods equal to 1, others 0
 DIC56 services equal to 1, others 0
 DIC7 utilities equal to 1, others 0
 DIC8 real estates equal to 1, others 0
 *** / ** / * denotes significant at 1% / 5% / 10% level respectively

Table 2 Correlations between corporate performances; Tobin's Q (Q), return on assets (ROA), and ratio of sales to assets (SASET)

Person correlations									
	SASET99	SASET00	SASET01	SASET02	SASET03	SASET04	Q99	Q00	Q01
SASET99	1.00								
SASET00	0.89	1.00							
SASET01	0.70	0.78	1.00						
SASET02	0.64	0.70	0.91	1.00					
SASET03	0.61	0.66	0.86	0.95	1.00				
SASET04	0.51	0.57	0.75	0.87	0.92	1.00			
Q99	0.14	0.02	-0.02	-0.01	0.01	0.00	1.00		
Q00	0.03	0.01	-0.04	-0.03	-0.04	-0.02	0.69	1.00	
Q01	0.17	0.15	0.18	0.11	0.13	0.10	0.61	0.66	1.00
Q02	0.13	0.13	0.23	0.25	0.23	0.21	0.40	0.44	0.75
Q03	0.11	0.12	0.17	0.22	0.24	0.22	0.39	0.39	0.55
Q04	0.02	0.02	0.07	0.12	0.15	0.22	0.41	0.39	0.52
ROA99	0.43	0.35	0.30	0.26	0.24	0.24	0.29	0.05	0.24
ROA00	0.34	0.38	0.29	0.25	0.21	0.21	0.11	-0.15	0.21
ROA01	0.22	0.26	0.30	0.26	0.21	0.17	0.04	-0.04	0.26
ROA02	0.15	0.21	0.26	0.26	0.21	0.18	-0.09	-0.18	0.19
ROA03	0.14	0.18	0.24	0.25	0.20	0.12	-0.12	-0.15	0.15
ROA04	0.13	0.15	0.17	0.20	0.16	0.08	-0.08	-0.11	0.07

Table 2 Correlations between corporate performances; Tobin's Q (Q), return on assets (ROA), and ratio of sales to assets (SASET) (Cont.)

Person correlations									
	Q02	Q03	Q04	ROA99	ROA00	ROA01	ROA02	ROA03	ROA04
SASET99									
SASET00									
SASET01									
SASET02									
SASET03									
SASET04									
Q99									
Q00									
Q01									
Q02	1.00								
Q03	0.78	1.00							
Q04	0.62	0.79	1.00						
ROA99	0.30	0.22	0.22	1.00					
ROA00	0.26	0.06	0.09	0.80	1.00				
ROA01	0.34	0.13	0.06	0.55	0.75	1.00			
ROA02	0.32	0.11	0.03	0.43	0.60	0.73	1.00		
ROA03	0.30	0.15	-0.06	0.41	0.51	0.73	0.82	1.00	
ROA04	0.20	0.10	-0.12	0.38	0.43	0.72	0.62	0.91	1.00

Q Tobin's Q calculated as Market Value (Market Value of Equity plus minority interest plus Total Liabilities) divided by the Total Assets

ROA Return on assets

SASET Ratio of Sales to Total Assets

Table two shows the correlation between the performance variables used in this research. It shows substantial inter-temporal correlation for all three variables (SASET correlation is between 0.78 to 0.95; Q correlation is between 0.66 to 0.79; ROA correlation is between 0.73 to 0.91). These correlations decrease as time distance increases. For example,

correlation of SASET99 (Q99) and SASET00 (Q00) is 0.89 (0.69), but SASET99 (Q99) to SASET04 (Q04) is 0.51 (0.41). Correlations between different performance variables are, as expected, less. In general, highest correlation between these performance measures is for the same period. For example correlation between Q and SASET is highest for 2002 (0.25), SASET and ROA is for 1999 (0.43), except that the return on assets for each year exhibits the highest correlations with Q in 2002 and ROA03 and ROA04 have their highest correlations with the SASET variable in 2002. There is negative correlation between ROA and Q00 except for ROA99. The same negative sign is shown between ROA02 to ROA04 with Q99.

Table 3 Q regressed against change in SASET

Dependent variable	Constant	Qn-1	SASET (SASETn-SASETn-1)	Adj. R Squared	F Statistics
Q00	-0.505	+1.401***	+4.693***	0.513	168.288***
Q01	1.402***	+0.179***	+0.824***	0.442	121.324***
Q02	0.721***	+0.419***	+0.599***	0.571	203.211***
Q03	0.418***	+0.665***	+0.710***	0.637	269.768***
Q04	0.228***	+0.993***	+0.630***	0.645	271.742***

Q Tobin's Q calculated as Market Value (Market Value of Equity plus minority interest plus Total Liabilities) divided by the Total Assets

SASET Ratio of Sales to Total Assets

*** / ** / * denotes significant at 1% / 5% / 10% level respectively

Similar correlation is shown among the average performance variables as the annual performance variables (Table 4).

Table 4 Pearson correlations for average performance variables

	Q9901	Q0204	ROA9901	ROA0204	SASET9901	SASET0204
Q9901	1.000					
Q0204	0.562***	1.000				
ROA9901	0.124	0.306	1.000			
ROA0204	-0.109	0.133	0.626***	1.000		
SASET9901	0.056	0.150	0.389	0.204	1.000	
SASET0204	-0.010	0.258	0.283	0.199	0.762***	1.000

Q9901 average Tobin's Q calculated as Market Value (Market Value of Equity plus minority interest plus Total Liabilities) divided by the Total Assets for three year period 1999 to 2001

Q0204 average Tobin's Q calculated as Market Value (Market Value of Equity plus minority interest plus Total Liabilities) divided by the Total Assets, for three year period 2002 to 2004

ROA9901 average (operating income/total assets for three year period 1999 to 2001

ROA0204 average (operating income/total assets) for three year period 2002 to 2004

SASET9901 average ratio sales to assets for three year period 1999 to 2001

SASET0204 average ratio sales to assets for three year period 2002 to 2004

*** / ** / * denotes significant at 1% / 5% / 10% level respectively

A PPENDIX 2

Industry classification

The following table shows the number of companies in the final sample based on the FTSE Global Classification system.

Industry	Code	Number of companies
Resources	00	25
Basic industries	10	47
General industries	20	32
Cyclical consumer goods	30	6
Non-cyclical consumer goods	40	36
Cyclical services	50	133
Non-cyclical services	60	18
Utilities	70	16
Real estate	80	22
Information technology	90	30
Total		365

A PPENDIX 3

Checking for interdependence (endogeneity)

Previous studies

The following table provides a list of research in governance that has taken into account the interdependence problem.

Table 1 List of author(s) using simultaneous equations

Author(s)	Method	Instrumental Variable(s) (IV)	Issue	Justification for IV and extents of interdependence problem
Agrawal & Knoeber (1996)	3sls	Firm performance (Q) and control mechanisms	Governance and performance	Not available
Cho (1998)	2sls & 3sls. But report only 2sls because 2sls & 3sls give the same result qualitatively. Three specifications on simultaneous equations	Use lagged value of leverage to control for the possibility that financial leverage is endogenously determined. Lagged Q was also used. (lagged values)	Ownership structure & corporate value	Not available. Cho noted that 2SLS and 3SLS regression provide qualitatively similar results. His primary result suggests that endogeneity affects the results of OLS regressions.
Hermalin & Weisbach (1991)	OLS & 2sls	Lagged variables	Board composition, Ownership Structure and Performance	Use Hausman test

Table 1 List of author(s) using simultaneous equations (Cont.)

Author(s)	Method	Instrumental Variable(s) (IV)	Issue	Justification for IV and extents of interdependence problem
Palia (2001)	2sls. Estimate three different specifications for the simultaneous system; first specification does not include any control variables, second specification includes the control variables, third specification is expanded to include other variables that have been found statistically significant (capital intensity, free cash flow, board & ownership structure, CEO founder)	CEO experience, CEO quality of education, firm volatility and CEO age. These variables are expected to be related to compensation. These variables are chosen as the instrumental variables because other studies indicate that these variables to be related to the structure of managerial compensation.	Managerial compensation and firm value	Hausman & Taylor (1981) test. Check for insignificant correlation between IVs and error term. In addition, Palia provides an explanation on why other governance variables were used as control variables instead of as IVs.
Himmelberg, Hubbard, & Palia (1999)	2sls	Use log sales, log sales squared, std deviation and std deviation dummy as instrumental variables.	Ownership and firm performance	Discuss the difficulty in determining the instrument variables for managerial ownership
Barnhart & Rosenstein (1998)	2sls	Four sets of instruments are developed for three endogenous variables (Q, OUT; board composition, and OWN)	Board composition, managerial ownership and firm performance.	Logit transformation is used when ownership and board independence is the dependent variable.
Bhagar & Black (2002)	3sls	Normalised earnings per share, fraction of independent directors over the board size, and share ownership by all directors and officers.	Board independence and long term firm performance	Not available

Table 1 List of author(s) using simultaneous equations (Cont.)

Author(s)	Method	Instrumental Variable(s) (IV)	Issue	Justification for IV and extents of interdependence problem
Lasfer (2006)	2sls	Firm size (ln(ME)), growth opportunities (Q), R&D/Sales, Capital intensity (fixed assets over total assets), and standard deviation of stock returns.	Managerial ownership and board structure	Not available. However, he noted that the endogeneity issue may not be directly accounted for in his research owing to unavailability of data that is specific to managers and/or the board.
Young (2000)	Consider three endogenous variables; the number of executive board members, the level of managerial equity ownership, and the level of dividend payments.	IV not used. Univariate tests of sensitivity to changes in endogenous variables.	UK Board structure and governance arrangement	Not available
Vafeas (1999)	2sls	Use univariate and multivariate tests	Board meeting frequency and firm performance	Not available
Demsetz & Villalonga (2001)	OLS & 2sls	Ownership structure is assumed to be endogenous.	Ownership structure and firm performance	Not available

Some research (Bound *et al.* 1995, Larcker and Rusticus; 2005) identifies problems in choosing instrumental variables, in particular the potential problem of using an instrument that is only weakly correlated with the endogenous explanatory variable. Larcker & Rusticus (2005) suggest using the Hausman test for the existence of an endogeneity problem and the appropriateness of using OLS.

Instrumental variables

In order to determine the appropriateness of the two sets of instrumental variables, the correlation between the instrumental variables and error term from the second stage equation was measured. The instrumental variables should have no correlation with the error term. The correlation results indicate that the first set of IVs (lagged endogenous variables and other predictor variables) are not correlated with the error term from the second stage equation, but generally the second set of IVs (lagged endogenous variables replaced by gearing ratio, earnings per share and research and development costs scaled by the sales value and other predictor variables) show a correlation of up to 27% with the error term.

Based on the correlation between IVs and error term, the lagged variables are considered as the better IVs than the other three new variables (gearing ratio, research and development over sales, and earnings per share) added to the regression. The instrumental variables will be considered more exogenous than the explanatory variables that are endogenous (in this study; INDEP and BSIZE) when its correlation to the endogenous variables is moderate to high (Larcker & Rusticus; 2005). The correlation of the explanatory variables to their lagged values between 73% to 81% for INDEP and between 52% and 86% for BSIZE.

The second possible set of instrumental variables was found to be inappropriate because their correlations with the endogenous variables (INDEP and BSIZE) were too weak and the residuals of the first stage regressions were not well behaved?

Results of two stage least squares (2SLS) regression

The 2SLS regressions were performed in two ways, with mutually consistent results. The results are uniformly similar to the direct estimates using OLS that are reported in chapter four, as shown in the following three tables.

Table 2 *2SLS - Q regressed against board and ownership structure, board structure is assumed to be endogenous*

Q	CG	IV	INDEP	BSIZE	DIRW	BLOK	LFSIZE	IC
9901	00	99	+***	-	+	_*	_***	+***
9901	01	00	+	+***	+	_*	_***	+***
0204	02	01	-	-	-	_*	_***	+***
0204	03	02	-	+	-	-	_*	+***
0204	04	03	_*	+	-	-	_*	+***

Instruments are the lagged values of board structure (INDEP and BSIZE) and the other exogenous variables, ownership and control variables

INDEP	board independence	BSIZE	board size
DIRW	directors' ownership	BLOK	percentage of external block holdings
LFSIZE	log firm size	IC	industry control
Q	Tobin's Q calculated as Market Value (Market Value of Equity plus minority interest plus Total Liabilities) divided by the Total Assets		
*** / ** / *	denotes significant at 1% / 5% / 10% level respectively		

Table 3 *2SLS - ROA regressed against board and ownership structure, board structure is assumed to be endogenous*

ROA	CG	IV	INDEP	BSIZE	DIRW	BLOK	LFSIZE	IC
9901	00	99	-	-	+	+	+***	+***
9901	01	00	-	_*	+	+	+***	+***
0204	02	01	_*	_*	+	+	+***	+***
0204	03	02	-	_*	+	+	+***	+***
0204	04	03	_***	_*	-	+	+***	+***

Instruments are the lagged values of board structure (INDEP and BSIZE) and the other exogenous variables, ownership and control variables

INDEP	board independence	BSIZE	board size
DIRW	directors' ownership	BLOK	percentage of external block holdings
LFSIZE	log firm size	IC	industry control
ROA	return on assets		
*** / ** / *	denotes significant at 1% / 5% / 10% level respectively		

Table 5.5 2SLS - SASET regressed against board and ownership structure, board structure is assumed to be endogenous

SASET	CG	IV	INDEP	BSIZE	DIRW	BLOK	LFSIZE	IC
9901	00	99	-**	-	+**	+	+***	+***
9901	01	00	-**	-***	+	+	+***	+***
0204	02	01	-***	-***	+**	+	+***	+***
0204	03	02	-***	-***	+**	+	+***	+***
0204	04	03	-**	-***	+	+**	+***	+***

Instruments are the lagged values of board structure (INDEP and BSIZE) and the other exogenous variables, ownership and control variables

INDEP	board independence	BSIZE	board size
DIRW	directors' ownership	BLOK	percentage of external block holdings
LFSIZE	log firm size	IC	industry control
SASET	ratio of sales to assets		
*** / ** / *	denotes significant at 1% / 5% / 10% level respectively		

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Corporate Governance and Corporate Performance: UK FTSE 350 Companies

In the wake of the recent financial crisis, attention has once again turned to corporate governance, with policy reviews of UK corporate governance being undertaken by the FRC and the Walker Review.

One key question may relate to the purpose of corporate governance - is it about the control of risks, the improvement of performance, or both? If this could be clarified, criteria could be developed to measure the success of corporate governance procedures or codes.

This research investigates whether companies with particular corporate governance characteristics outperform other companies and have lower levels of risk. The governance characteristics investigated in the report are: board independence; board size; directors' ownership of equity; and extent of ownership by large block holders.

The effects of these characteristics were measured over two three year periods between 1999 and 2004. The findings reveal no clear systematic relationship between governance factors and improved performance and no strong evidence that governance reduces either total or systematic risk. The authors interpret the results as suggesting that, so far, increased board independence has not resulted in lower risk or incidence of strategic mistakes. However, there is little support for the view that additional governance requirements would result in performance improvements for large commercial and industrial companies in the UK.

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