2. Full Report of Research Activities and Results

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2.1. Background

Until fairly recently, corporate governance was viewed by many as the province of law, essentially unrelated to corporate success. From this perspective, firm productivity was viewed simply as a black-box on which standard governance structures were imposed but with little effect on what took place within. The economic and institutional restructuring of the 1980s brought corporate governance out of the shadow of legal analysis. Amidst widespread concerns over a lack of managerial accountability and the apparent declining competitiveness of UK firms emerged the growing perception that a high standard of corporate governance was an important ingredient of economic success.

For most publicly traded firms, the board of directors represents the apex of the internal control system. In such organisations, the function of the board is to determine corporate strategy, evaluate and ratify long-term investment decisions, and monitor senior management performance. Proponents of a link between corporate governance and firm performance contend that the effective discharge of these duties is an important determinant of corporate success.

UK boards typically consist of a mixture of executive and non-executive directors. Despite the lack of distinction in law between the roles of executives and non-executives, prior work has emphasised the distinctive contribution that non-executive directors (NEDs) can make to the governance process by helping to improve the board's ability to independently evaluate and monitor senior managers. Based on the assumption that more NEDs lead to more effective boards, policy initiatives such as the Cadbury, Greenbury and Hampel Reports led to substantial changes in the way UK boards are structured. Yet despite these wholesale and costly changes, the importance of boards (and in particular the NED element) was largely untested in the UK research literature.

The objective of this project was to contribute to the ongoing debate on corporate governance by empirically exploring issues relating to board composition, and its relationship with firm performance, in a UK context. Drawing on the theory of economic organisation, I identified and tested a series of issues relating to the structure and impact of boards in the UK. As indicated in the original proposal, the project formed an integral part of a larger programme of research in the area of corporate governance at Lancaster University under the direction of Professors P.F. Pope and K.V. Peasnell. My role in the project was that of Principle Investigator, with responsibility for a series of inter-related studies on board composition and corporate governance more generally.

2.2. Objectives

The primary objectives of the Fellowship, together with a brief description of the way each objective has been addressed and the extent to which each has been successfully met, are listed below. All four objectives remain unchanged from those stated in the original proposal document.

- *To advance the current state of knowledge with respect to UK corporate governance, thereby contributing to one of the ESRC's Thematic Priorities. Particular emphasis will be placed on the role of the board of directors, and the differential contribution made by executive and non-executive directors to its functioning*

  This objective was addressed by empirically examining a range of board-related issues including: the determinants of board composition; the impact of the Cadbury Report's recommendations on board composition; the interaction between boards and other corporate governance mechanisms (e.g., managerial share ownership, debt, product market competition, etc.); the various roles that NEDs play in the governance process; the link between NEDs and financial reporting quality; and the association between board composition and firm performance. Results provide new insights into the role of the board, and in particular the non-executive director component, in the UK governance process.

- *To empirically examine the association between firm performance and board composition within a UK context. In so doing, the proposed research is intended to lift the present debate over issues of corporate governance to address the fundamental question of how to improve the efficiency and performance of British companies*

  Two specific approaches were used to address this objective. First, I examined the share price response to the announcement of NED appointments: if investors believe that non-executive directors help protect shareholders' interests, then share prices should respond positively when unanticipated appointments are announced. Results provide evidence that NEDs can help to create shareholder value, but only under certain conditions. Secondly, I examined the cross-sectional association between board composition and a range of performance measures. In addition to investigating the contemporaneous relationship between boards and firm performance, a series of lead and lag relationships were also examined. Results suggest that causality runs from firm performance to boards, in the sense that firms appear to appoint non-executive board members in response to past performance difficulties.

- *To provide rigorous, timely research to inform the UK corporate governance policy debate. To date, little UK-oriented research of a standard comparable to the cutting-edge work currently being undertaken in the US is available for policy-makers to draw on when debating changes to existing governance structures*

  All issues examined in project are of direct relevance to the UK corporate governance policy debate. Moreover, throughout the course of the Fellowship I continually sought to ensure that these policy-relevant results were disseminated to the widest possible audience in as timely a fashion as possible. This has been achieved via a number of professionally oriented articles summarising the main research findings and their implications for the UK governance process, together with a series of academic papers that provide a more rigorous treatment of the issues (several of which have already been published in highly respected journals).

- *To further develop the theory of corporate governance. Whilst much has been written and debated regarding the relationship between corporate governance and firm performance, theoretical insights remain slight*

  Results from the project provide several insights that enrich existing theory concerning the role of the board of directors in the governance process. First, I develop and test a series of hypotheses relating to the determinants of board composition, the results of which provide new theoretical insights into the association between NEDs and managerial share ownership. Second, while extant (economic) theory emphasises their "watchdog" function, findings reported as part of this study suggest that NEDs also play an important role in formulating and implementing business strategy. Third, the specific function attributed to non-executive board members seems to be situational. In other words, non-executives appear to perform different roles in different circumstances.

2.3. Methods

Research methodology

The project was empirical in nature. I used a variety of standard statistical methods (e.g., ordinary least squares regression, logistic regression, and two-stage least squares regression) to examine the determinants of board composition, the role of executive and non-executive directors, and the relationship between board composition and firm performance. The majority of tests were designed to identify and explain systematic cross-sectional differences in sample firms' governance systems.

I also used standard "event study" methodology to test the share price reaction to the announcement of NED appointments. If investors believe that NEDs help to protect shareholders' interests, then share prices should respond positively when NED appointments are announced (assuming that such appointments are not systematically anticipated by the market). Alternatively, if NEDs reduce board effectiveness, then share prices will tend to decline around the time the appointment is announced to the market. The event study approach uses statistical techniques to compute a market- and risk-adjusted estimate of excess share returns for the period surrounding the news event. Consistent with prior work, I used a three-day event window beginning one day before and ending one day after the announcement day. The parameters of the model used to compute excess returns were estimated over a 150-day trading interval (t = -170 to t = -21, where t = 0 is the announcement of the NED appointment).

Sample and data

(a) Cross-sectional regression analyses

I began by assembling two large datasets, one containing information relating to board composition (and corporate governance mechanisms more generally); the other comprising financial statement and share price information. The datasets were generated from annual samples of all non-financials in the 1000 largest U.K.-incorporated firms listed on the London Stock Exchange (ranked by December market capitalisation). The sampling period ran from December 1990 to December 1996, with each of the seven annual samples consisting of approximately 700 firms. Financial firms were excluded (a) because of the regulated nature of the industry, and (b) to ensure comparability with prior US work.

For each firm-year combination, I collected the following governance data using the *Price Waterhouse Corporate Register*, *The Stock Exchange Official Yearbook* and firms' annual reports:

- Names of board members
- Age of board members (where available)
- Board tenure (where available)
- Responsibility (i.e., executive or non-executive)
- Executive role (e.g., CEO, finance director, managing director, etc.)
- Non-executive directors affiliation with management
- Equity ownership for each director
- External equity ownership details (e.g., institutional ownership, blockholders, etc.)
- The existence and composition of board sub-committees for the post-Cadbury period (unreliable disclosure in the pre-Cadbury period meant that we were unable to collect this data for the full sample window)
- The existence of a combined Chairman and CEO

This hand-collected governance data was then supplemented by financial statement data from *Datastream*, together with share price data from *Datastream* and the *London Share Price Database*. The final sample consisted of the intersection between the governance and financial datasets.

Finally, I also purchased board composition data measured at September 1996 from Hemmington Scott Ltd. (cost = £1,800). This dataset contained board details for <u>all</u> London Stock Exchange-listed companies and was used to conduct a comprehensive descriptive analysis of UK directors and directorships.

(b) Event study tests

To examine the market reaction to NED appointments, I used the *EXTEL* News Card service to collect all announcements of NED appointments for non-financial firms between 1st July 1993 and 31st December 1996. The start of the sample window coincided with the date that UK firms were first required by the London Stock Exchange to publish a statement of compliance with the Code of Best Practice on corporate governance issued by the Cadbury Committee. Each appointment was cross-checked with information disclosed in firms' published annual reports to verify the details of the appointment. I excluded all cases where the appointment coincided with either the appointment of an executive director or the announcement of a corporate control event such as a takeover or merger. Finally, to facilitate estimation of excess returns, I eliminated all announcements with fewer than 30 daily returns available from *Datastream* over the period beginning 170 days and ending 20 days prior to the *EXTEL* announcement date (day 0). Application of these criteria resulted in a final sample of 802 NED appointments for 513 firms, comprising 738 single appointments and 53 (11) double (triple) appointments.

I then used firms' published annual reports to collect biographical details (e.g., age, background, affiliation with management, number of additional board seats, etc.) for each appointee. In addition, annual reports immediately prior to the *EXTEL* announcement date were used to obtain a measure of pre-appointment board composition and managerial ownership. Finally, I identified all other news announcements reported by *EXTEL* during the period beginning one day prior to, and ending one day after, the announcement day. NED appointments were classified as "contaminated" if the announcement coincided with another news event reported during this three-day window, and "non-contaminated" otherwise.

2.4. Results

The first stage of the empirical analysis involved descriptive analysis of board composition and related governance data for the period 1990-1996. Next, I developed and tested statistical models of the determinants of board composition and the factors explaining firms' decisions to comply (not comply) with the Cadbury recommendation on the number of NEDs. In related tests, I also sought to evaluate the impact of the increasing use of NEDs on the overall standard of UK corporate governance. I then sought to present evidence on the role of NEDs in determining board effectiveness. This was achieved by *(a)* analysing the market reaction to the appointment of NEDs over the sample period and *(b)* examining the way boards discharge a particularly important aspect of their duties – financial reporting to shareholders. Finally, I performed a series of tests designed to assess the links between board composition and firm performance. The key findings of these empirical analyses are summarised below.

(a) Descriptive analysis

Results indicate that UK boards underwent substantial structural change during the sample period. While average board size remained fairly constant throughout the period at around eight members, there was a significant move towards the use of more NEDs. For example, the mean ratio of NEDs to total board members rose from 33% in 1990 to approximately 45% in 1996.[1] Similarly, while almost half of all sample firms had fewer than three NEDs in 1990, this had fallen to less than a quarter by 1996. The increased use of NEDs has been evident across all firm size categories. However, the Cadbury recommendation for a minimum of three non-executive board members still represents a major stumbling block for many smaller companies: as late as 1996 almost 43% of small firms still had fewer than three non-executive board members. The use of board committees also increased during the sample period, For example, 94% of companies surveyed had established an audit committee by 1996, compared to less than 50% at the start of the decade.

Further analysis suggests that UK boards typically contained more than two independent NEDs by 1996. However, the disparity between large and small firms is again apparent, with small firms exhibiting significantly fewer NEDs. The average tenure for NEDs in 1996 was five years, with 25% having served for more than six and a half years. Results

[1] Note, however, that this figure still remains well below US levels. In the US, NEDs hold approximately 65% of all board seats.

also indicate that NEDs typically have very low shareholdings in the firms on whose boards they sit: median NED share ownership in 1996 was less than 0.1% of total outstanding equity.

Additional tests using the 1996 sample of all UK firms indicate that directors typically hold a single board position (either executive or non-executive). This contrasts sharply with the US case, where directors often hold three or four board seats. In the UK, the majority of directors with multiple board seats tend to be confined to the larger (e.g., FTSE 250) firms.

(b) The determinants of board composition

The average results reported above mask considerable variation in the data across different firms. Understanding the nature of this variation represents an important step towards developing a more comprehensive theory about the role that boards play in the governance process. Drawing on a fragmented US literature, I used statistical procedures to explain the variation in board composition. Results suggest that the level of managerial share ownership is the dominant factor explaining the ratio of NEDs to executive board members. However, in contrast to the simple negative linear association reported in prior work, I find that the true functional form of the relationship is in fact non-linear: the proportion of NEDs declines asymptotically towards a non-zero equilibrium level as managerial ownership increases. I develop a theory to explain this non-linear relationship, the basis of which is that NEDs play different roles in different situations [see (d) below]. An important implication of my findings is that NEDs appear to play an important role in the corporate control process even in situations where managers effectively control the firm.

Results also identify several other important factors that explain the variation in board composition. These include board size, the presence of a dominant board member, external ownership structure, and lagged firm performance.

(c) Compliance with Cadbury and the impact of the increasing use of NEDs

Much of the dramatic rise in the number of NEDs over the last decade has been attributed to the Cadbury Report's recommendation that boards should contain at least three non-executive members. Proponents argue that this increase in NEDs reflects a general attempt by UK firms to improve the way they are managed and governed. Cynics, on the other hand, claim that the increasing use of NEDs has been costly and largely irrelevant, . Using statistical procedures, I attempted to discriminate between these two competing views. Three main findings are summarised as flows. First, I found that the increasing demand for NEDs has been most apparent among firms whose boards had too few NEDs at the beginning of the decade: in other words, "bad boards" appear to have improved as a result of these changes.[2] Secondly, firms' response to the Cadbury Report's proposal for a minimum of three NEDs appears to have been driven by the expected benefits of adding further NEDs to the board. In other words, firms tended to comply only when the benefits of appointing an additional NED were relatively high. Finally, I find no evidence that the increased use of NEDs caused firms to reduce the quality of other governance mechanisms in an attempt to avoid an overall increase in the level and costs of monitoring. Taken as a whole, these findings do not support the view that the increasing use of NEDs has been a "box-ticking" exercise having little to do with genuine attempts to improve board effectiveness. Rather, the results suggest that these changes have helped companies raise their general standards corporate governance. Today, UK boards appear much better equipped to monitor managers effectively than they did a decade ago.

(d) The role of the non-executive director

A basic question relating to boards of directors is; what function do NEDs serve? The majority of extant board research emphasises the independent monitoring role of NEDs in

[2] I used a regression-based expectations model to predict board composition for each firm. These predictions were then compared to the observed board composition to determine the extent to which a firm deviated from its "correct" board structure.

situations where the interests of managers and shareholders diverge. I present evidence consistent with this monitoring role. For example, results indicate that NEDs help to improve the quality of published financial statements by monitoring the amount of creative accounting that managers undertake. However, my results also suggest that the benefits of NEDs may extend beyond this narrowly defined "policeman" role. For example, market participants appear to attach most value to NEDs that possess expertise relevant to the appointing firm's markets and technologies. Moreover, tests of the association between board composition and managerial ownership reveal a strong demand for NEDs among firms with high managerial ownership that cannot be explained by the standard monitoring predictions of agency theory. Rather, it appears that the presence of NEDs in such firms is driven by the demand for general business problem-solving expertise, coupled with knowledge of technologies and markets that are unfamiliar to highly specialised shareholder-managers. I therefore conclude that, under certain conditions, NEDs may play an important role in strategy formulation and implementation.

(e) The association between board composition and firm performance

A key question underlying the whole board composition debate is; do shareholders benefit from the appointment of NEDs? Results from the event study of NED appointments provided mixed results. For example, while I found positive excess returns for small firms with low managerial ownership, I found negative excess returns for large firms with low ownership. Analysis of appointee characteristics indicated that while NEDs in the former group typically possess sector-relevant expertise, strong monitoring incentives, and sufficient time to devote to their new board duties, those appointed by the latter group tended to be "figure-head" NEDs – high profile individuals who lack detailed knowledge of the company's products and operations and whose availability is severely limited as a result of their many other commitments. The resulting message for shareholders is clear – NEDs can help create shareholder value, but only under certain conditions. In particular, failure to take full account of companies' specific governance requirements, and then to properly match appointee qualities to those requirements, means that at best NED appointments will be viewed as value neutral events and at worse may even serve to reduce company value.

Using an alternative research design, I directly explored the cross-sectional link between firm performance and board composition. Performance is measured using both market (share returns) and accounting (profit) metrics. Findings using market and pre-manipulated accounting measures do not support the prediction that higher proportions of NEDs are associated with superior firm performance (either contemporaneously or in future periods). However, as discussed in (d) above, board composition is associated with reported (i.e., accounting) performance insofar as NEDs help to constrain earnings management activity designed to artificially boost reported profits.

Finally, while empirical tests provide little evidence that boards affect "true" firm performance, there is strong evidence that performance impacts on board composition. Specifically, results indicate a significant negative cross-sectional association between past performance and current board composition. These results suggest that firms appoint NEDs in response to past performance difficulties, presumably in an effort to improve the quality of monitoring and decision-making.