

**Are all non-independent non-executives undesirable? Directors' non-independence and firm value in UK**

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Abstract

While prior studies treat non-executives as a homogenous group, this paper focuses on heterogeneity of this group. It examines the link between firm value and the specific characteristics of non-executives that render them non-independent (and by implication undesirable) as per the UK Code of Corporate Governance. It finds that contrary to the Code's implications, the presence of past employees on the board, has an economically as well as statistically strong positive association with firm value. This result suggests that it is not just formal 'independence', but a combination of 'independence of mind' and 'firm-specific' knowledge that perhaps past employees best possess, that matters for enhancing effective board decision making and hence firm value. Moreover, only some of the other dimensions of directors' non-independence are negatively associated with firm value. The results suggest that some of the Code recommendations regarding directors' independence may actually not benefit shareholders.

Keywords: corporate governance; board of directors; non-executive directors; independent directors

JEL classification codes: G30; G34; G39

## **Are all non-independent non-executives undesirable? Directors' non-independence and firm value in UK**

### **1. Introduction**

According to agency theory, the more 'independent' a board, the better it is assumed to be at performing its two main roles, advisory and monitoring. It is this reasoning that underlies the UK Code of Corporate Governance's (henceforth called the Code) recommendation of having at least 50% of the boards of large listed companies to comprise of so deemed 'independent' directors. Yet, studies that have investigated the link between the level or proportion of 'independent' or what are called, outside directors in the US and a firm's value/performance have met with inconsistent but mostly unfavourable results (see Agarwal and Knoeber, 1996 and 2001; Bhagat and Black, 1999 and 2002; and Dalton et al. 1998 in US; Vafeas and Theodorou, 1998 and Weir et al. 2002 in the UK). Despite the lack of consistent evidence favouring a positive impact of outside directors on firm value/performance, policy in the UK (since the 2003 version of the Code) continues to advocate a majority independent board. It is worth noting though, that in the UK, this was one governance reform recommendation that did not meet with a favourable investor response even at the time of its inception (Solomon, 2010). Perhaps the investor community was concerned that non-executive directors, being dependent on the CEO for meeting their information needs (Adams and Ferreira, 2007), may not possess sufficient firm specific knowledge and experience, to equip them to perform their two, advisory and control, roles effectively. Highlighting this constraint faced by non-executives, Adams and Ferreira (2007, p. 235) point out that *'unless boards are given better access to information, simply increasing board independence is not sufficient to improve governance'*.

Results of some recent studies corroborate this view. Kroll, Walters and Wright (2008) and McDonald, Westphal, and Greabner (2008) find that boards with outside directors who have prior experience of acquisition decisions, tend to make superior current acquisition decisions. Furthermore, Fama and Jensen (1983) as well as Raheja (2005) highlight the critical role that inside directors play on the board, given their superior firm-specific knowledge. In the aftermath of the financial crisis the Walker Review (FRC, 2009), also highlights the lack of effective challenge from non-executives, as a significant board weakness in the financial

industry, stating, *'a combination of financial industry experience and independence of mind will be much more relevant than a combination of lesser experience and formal independence'* (Walker Review, 2009, p. 9). Hence, the results of prior studies imply that the emphasis on 'independent' non-executives may be too narrow to enable the board to acquire the range of skills, experience and knowledge, so necessary to enable the board to perform its multi-faceted roles effectively. With this view in mind, the current study empirically tests the theoretical implications of agency theory which underlie the Code's recommendations regarding the characteristics that deem non-executives 'non-independent' and hence 'undesirable' on corporate boards. The aim is to investigate whether the presence of any type of non-independent directors, so deemed as per the Code's specific criteria, is detrimental to firm value.

Using a unique hand collected data set, which involved reading about 4,780 biographies of directors of FTSE 350 companies over the years 2000-2003, this research examines the relation between the Code prescribed characteristics that deem non-executives non-independent in UK, and firm value for a panel of FTSE 350 companies. While conventional wisdom in corporate governance considers 'independence' of non-executives to be a desired characteristic, this research finds that certain types of non-independent non-executives, particularly past employees on boards, are actually beneficial for a firm. I find a statistically as well as economically significant positive relation between the presence of past employees on the board and firm value. This result is robust to a number of board, firm and industry controls. The result suggests that past employees tend to play a valuable role on the board, bringing perhaps the best combination of firm-specific knowledge/experience as well as independence (being no longer current employees and hence captive to management) which is important for effective board decision making and control. Moreover, I find that only some of the other dimensions of directors' non-independence are negatively associated with firm value. While extant literature on the effectiveness of non-executive directors tends to treat them as a homogenous group, this study represents a clear departure from prior work by investigating the association between individual non-executive director characteristics and firm value. It thus makes an important contribution to the literature. The results suggest that some of the Code recommendations regarding directors' independence may actually not benefit shareholders.

The rest of the paper is organized as follows: section 2 reviews the relevant literature; followed by a discussion of the sample and methodology in section 3; section 4 presents the analysis and results; section 5 tests for the robustness of the results; section 6 concludes.

## **2. Literature review**

### ***2.1 Board independence and board/firm performance***

Conventional wisdom based on agency theory predictions, which guides policy, practice as well as academic research on the design of the structure and composition of the board, assumes that the more independent a board, the more effective it is in enhancing overall board as well as firm performance. While some empirical studies support the former link (e.g. Weisbach, 1988; Dahya et al., 2002; Perry and Shivdasani, 2005), those studying the latter have produced largely inconclusive or negative results (see Vafeas and Theodorou, 1998; Weir et al., 2002) in the UK, and Agarwal and Knoeber, (1996, 2001) and Bhagat and Black (1999, 2002) in the US. Agarwal and Knoeber (1996) for example, based on their analysis between a number of governance variables including the proportion of outside directors and firm value find a negative relation between these two variables, concluding that there are too many outside directors sitting on US boards. It is important to note though that these earlier studies consider non-executives as a homogenous group and relate their overall proportion with firm value. This approach obviously masks differences in characteristics of directors and the potential contribution that different types of directors can make to the firm. It is only recently that research has started unbundling the characteristics of directors and started investigating the link between individual director characteristics and firm value. A recent study along these lines by Masulis and Mobbs (2009) investigates the link between ‘independent insiders’ (which they consider to be those holding outside board positions) and firm value as measured by the market to book value of assets. The study finds both an economically as well as a statistically significant link between the two. In support of their findings, Masulis and Mobbs (2009) argue that independent insiders i.e. those who hold outside board positions, enjoy higher reputation in the director market, and possess better decision making skills (as evidenced by having outside board position), so they are less dependent on management and this combined with their high firm specific knowledge, can contribute to better board decision making. Similar arguments can also be made about non-executive directors. Non-executives vary in their experience, skills, and firm specific

knowledge that they possess. Treating them as a homogenous group masks the important contribution that each non-executive director can make on the board. Past employees, for example, who possess valuable firm-specific knowledge and yet are now independent of management (being not current employees), are perhaps even better placed than ‘independent insiders’ (examined by Masulis and Mobbs, 2009) to make significant contributions to the board and hence firm value. In this study I investigate these links. I start by defining the criteria for non-independence as laid down by the Code and then discuss the relevance of each criterion for board and firm effectiveness from various theoretical and empirical perspectives.

## ***2.2. UK Code and criteria for director non-independence***

Starting with the Cadbury Report, the UK Code has repeatedly emphasised the monitoring role of the non-executives, particularly ‘independent’ non-executives on the board. While criteria for identifying non-independence have been laid down from the time of Cadbury Report, these have been better articulated since the 2003 version of the Code. Directors are considered not independent, if: they have been an employee of the company within the last five years; have or have had in the last three years, a business relationship with the company; have received or receive additional remuneration from the company, other than fee as a director; have close family ties with any director, advisor or senior employee of the company; hold any cross directorships; represent any significant shareholder; and have been on the board for more than nine years (The Combined Code on Corporate Governance, 2003, S. A.3.1)

This emphasis on the ‘independent’ nature of non-executives stems from the agency theory perspective, which suggests that by virtue of not having any ties with the company, directors can be distant from the management, and hence, can perform a more effective monitoring role. However, the Code also expects non-executives to perform an effective advisory role, expecting them to ‘*constructively challenge (management) and help develop proposals on strategy*’ (The Combined Code on Corporate Governance, 2003, S. A.1). In fact, of the 51 directors of UK listed companies interviewed by Stiles and Taylor (2001), 60% saw the board’s role as that of setting the strategic direction of the company. It would perhaps not be an exaggeration then to say that non-executives have one of the most complex roles on the board. While on one hand they are required to be effective monitors, on the other hand, they

are also required to be effective advisors providing useful insight into corporate decision making. Opinion about which type of non-executives would be considered not independent also varies. Brennan and McDermott (2004) cite a survey conducted by KPMG, which finds that 96% of respondents consider non-executives to be not independent if they represent a specific shareholder or other single interest group, or have any financial or personal ties with the company or its management. This percentage however, falls to 64% in the case of past employees on board. Given the varied opinion in the literature about who should be considered non-independent and why, it is worth reviewing the characteristics that deem non-executives not independent as per the Code, and the possible implication of these for board performance and firm value. This I do below.

### ***2.3. Research on director affiliations***

#### *2.3.1. Past employee affiliation*

The Code specifically requires that non-executive directors not be considered independent if they have been a past employee of the company. The underlying rationale being that they would be too close to the management and hence may not make for effective monitors. In other words, they could be considered akin to ‘insiders’ subject to capture by incumbent management. However, this view deriving from the agency theory perspective ignores the value of the firm-specific knowledge, insight and expertise that past employees possess and bring on board– knowledge that can be of tremendous value in making important strategic decisions. Recent theoretical advances, including studies by Adams et al. (2009), Harris and Raviv (2008), Adams and Ferreira (2007), and Raheja (2005), suggest that not only can optimal board structure and composition vary from firm to firm, but also that insiders can play an important advisory and monitoring role on the board. It can be argued as well that past employees being past ‘insiders’ are in some ways best placed to offer useful impartial advice. This could be so, because while effectively being insiders, they are no longer tied to management, (being no longer on the full time payroll), and hence can be more impartial and objective advisors. As mentioned earlier, past employees can in fact, act as even more ‘independent’ insiders than those examined by Masulis and Mobbs (2009).

Further, there is a whole body of literature on industrial relations, labour laws and human resource management that advocates the potential contribution that employees, can make on

corporate boards. Mitchell, O'Donnell and Ramsay (2005) for example suggest that there could be functional complementarities between models of corporate governance and models of labour management, such that industrial relations strategies could be developed that have a long term payoff in the form of credible commitments to job security and commitment to employee participation in strategic decision making. In this context, past employees on board, can not only help make board decisions that favour employees, a key corporate stakeholder, but in doing so, favour decisions that promote the long term growth and survival of the firm. The banking crisis, has further underscored the need to involve key stakeholders in board decision making, particularly employees, who are among the first casualties of deteriorating corporate performance. A past employee who has insight about the company as well as employee concerns, and yet is relatively free of management, is perhaps best placed to play such a role. I therefore expect the benefits arising from the firm-specific knowledge and experience that past employees bring on board, to outweigh any costs of their perceived reduced capability to be effective monitors. In fact, there need not be a tradeoff between the two roles. By being effective advisors, they could also be effective monitors. For, to give sound advice requires good knowledge of the company and its business, knowledge also essential for carrying out effective monitoring of the company's and the executives' performance. Accordingly I expect a positive relationship between past employee directors on board and firm value.

### *2.3.2. Family links on board*

Research on family firms (both unquoted as well as quoted) tends to support the hypothesis that family-controlled firms underperform non-family firms, both in terms of board decision making, i.e. by making decisions favouring the family owners (DeAngelo and DeAngelo 2001; Shack, 2000) as well as in terms of firm performance/value (Mukherjee and Padgett, 2005; Villalonga and Amit, 2004). Anecdotal evidence also appears to support these findings. In the case of Parmalat, dubbed at times as the European Enron (Solomon, 2010) family members did sit on a board, whose chief executive, was busy siphoning company funds into private coffers. Although existing research has not specifically tested the link between presence of family members of directors on board and firm value, the related research has shown a negative link between controlling share ownership (i.e. high levels of share ownership by CEO and family, 25% and above) and firm value in the US (Morck, Shliefer and Vishny, 1988; McConnell and Servaes, 1999). Since the higher the share

ownership by top management, the easier it would be to elect family members to the board, one could consider their presence to be a sign of board capture or management entrenchment. Extant research on aspects of management entrenchment (other than CEO share ownership), be it in the form of CEO duality (Shaukat, Padgett and Trojanowski, 2010; Rechner and Dalton, 1991) or CEO pay, as proportion of five top executives' pay (Bebchuk, Cremers and Peyer, 2006) also finds a negative relationship between measures of entrenchment and various measures of firm performance. Hence I expect a negative relationship between presence of family members on boards and firm value.

### *2.3.3. Directors with business links with the firm*

Enron is a classic example of a company where key board seats were occupied by executives who had clear business links with the company. According to a press release by SEC, Enron's CFO at the time of its collapse, Andrew Fastow, had been engaged among other things in transactions with the company via entities like Chewco and Southampton, in which he had interest and control. These transactions were aimed not only to hide Enron's financial condition but also for personal enrichment (Press release 2004-6, [www.sec.gov](http://www.sec.gov)). Business links between a company and its directors has the potential to lead to related party transactions (RPTs) via pyramiding and cross-holdings (common but not limited to East Asian economies), which in turn can lead to expropriation of minority shareholders (see Claessens et al. 1999). Consistent with this expectation, research on the association between related party transactions between executive as well as non-executive directors and industry-adjusted returns, find the two to be negatively linked (Gordon, Henry and Palia, 2004). Further in the context of Korea, Black et al. (2009) find sub-optimal RPTs to be the main channel for the finding of a negative link between the governance structure of a board and the firm value. Hence, given that the probability of sub-optimal related party transactions would be higher in companies where directors have business links with the firm, one would expect a negative link between board members with business links with the firm and firm value.

#### *2.3.4. Directors receiving additional remuneration*

Non-executive directors, who receive fee for services in addition to that as non-executive, could be considered too close to the management, who have contracted their additional services in the first instance. Receiving fee for services like consultancy, in addition to their fee as a director, could be considered akin to an external auditor providing non-audit services. In the latter case, it has been found to compromise their independence, as in the case of Arthur Anderson with respect to Enron (Coffee, 2006). Similarly, the independence and monitoring capabilities of directors receiving additional fee, could also be considered to be compromised. On the other hand, one could also argue that directors who receive additional fee are possibly providing valuable advice or other expertise to the company, which may be beneficial to the company. Hence, it is a priori difficult to judge the value relevance of directors who receive fees in addition to that of a director. This remains an open empirical question, which is tested in this study.

#### *2.3.5. Cross-directorships*

Resource-dependency theory as developed by Pfeffer and Salancik (1978), and the more recently developing literature on social networks, implies that directors can play an important role of providing access to valuable networks to the firm. Holding cross directorships could also be considered as a form of networking that could be beneficial to a firm. On the other hand, agency theory suggests that directors with interlocking directorships are unlikely to be effective monitors, as they could be aligned with managers. Brennan and McDermott (2004) cite a number of papers that advance theories on the links between interlocking or cross directorships and firm behaviour. Citing Koenig et al. (1979) and Burt (1983), they consider interlocking directorships to be a source of collusion and control; while citing Davis (1991) and Huanschild (1993), they consider these to be a source of information on business practices. Empirical research on the impact of cross directorships on company performance has produced mixed results, however. While Burt (1983) has found a positive link between director interlocks and firm profits, Fligstein and Brantley (1992) find a negative effect of interlocks on firm performance. Further Hallock (1995) finds that interlocking directorships could be sub-optimal from a governance perspective, as he finds that CEOs who lead interlocked firms earn higher compensation than others. Hwang and Kim (2009) also find that boards, which are considered socially independent that is where directors have no social ties

with CEO are better at tying pay with performance. While Horton et al. (2009), examining the role of social networks, also find a positive association between director connectedness and pay, they find this association to have a positive impact on future firm performance. . Given the mixed results on director interlocks and aspects of governance and firm performance, this remains an open empirical question, addressed in this study.

### *2.3.6. Directors representing significant shareholders*

Theoretically speaking, presence of significant shareholders other than the executives on company boards, should help align managerial and shareholder interests. Empirical evidence on the link between significant block holdings and firm performance however, has been largely negative (Agarwal and Knoeber, 1996; Gillan et al. 2003; Bohren and Odegaard, 2003; and, Shaukat et al. 2010). It appears therefore that significant shareholders, and by extension, their representatives on company boards fail to perform the monitoring role that is expected of them. It has also been argued that block holders and by extension, their representatives on boards, may have conflicts of interest such as short term pursuit of returns at the expense of long run firm performance and value (Solomon, 2010). Also, as cited by earlier by Brennan and McDermott (2004), KPMG's survey found investors to consider representatives of significant shareholders to be non-independent and hence undesirable. In addition, as mentioned before, in the context of East Asian economies, there is a whole body of literature that examines the expropriation by large, controlling shareholders of minority shareholders (see Claessens et al. 1999; Fan et al. 1999). Accordingly I expect to find a negative relation between presence of directors representing significant shareholders and firm value.

### *2.3.7. Directors with more than nine years on the board*

There is a general consensus among the academia as well as regulators, that the longer the tenure of any director, the more entrenched he/she is likely to become, for.e.g. by developing friendships with other board members (Vafeas, 2003). Such entrenchment obviously has different implications in the case of executive director's job and non-executive directors' role. In the case of latter, it could be argued that it would compromise their independence and make them less effective monitors. It is perhaps for this reason that the latest 2010 version of

the UK Code now calls for non-executive directors having tenures beyond nine years to be put up for annual re-election (UK Code of Corporate Governance, 2010).

Although a number of studies have investigated the association between CEO tenure and various aspects of board and firm performance including the decision to split the CEO/chair position (Dedman, 2000), and CEO tenure and involvement in director selection, (Shivdasani and Yermack, 1998), little research has looked into the association between director tenure and firm performance. One exception is the study by Vafeas (2003), which focuses on the length of board tenure and independence of non-executive directors. Vafeas (2003) considers the impact of tenure on non-executive director behaviour, because it is not a priori obvious that longer tenures are inherently detrimental to the role of non-executive directors on the board. According to Vafeas (2003), the longer a director stays on the board, the greater the knowledge he/she develops about the company and its business which in turn can enhance organizational effectiveness. However, directors with long tenures may also become too close to management helping to entrench the managers. In his empirical investigation, he finds support for the latter argument. Specifically, Vafeas (2003) finds that the longer a director stays on the board the more likely he/she is to occupy a seat on the nominating or remuneration committee. Moreover, he finds a complementary relationship between senior director (i.e those with tenures of twenty years and more) participation in remuneration committee and CEO power on the board. While prior evidence (Vafeas, 2003) suggests that the benefits of greater company knowledge that a long tenure may provide, are outweighed by the costs of supporting managerial entrenchment, this result pertains only to very long tenures (twenty years and more). Given the limited evidence, I leave open for empirical testing, the relation between non-executive directors with tenures beyond nine years and firm value.

### **3. Sample and methodology**

The sample is drawn from the constituent companies of the FTSE 350 index over the period 2000-2003. In line with previous work, I exclude financial companies and utilities (which together make up about one-third of the FTSE 350 Index for any given year) as these follow additional regulations or are subject to different financial reporting regimes. The final sample consists of 125 companies that are constituents of the FTSE 350 Index for all four years of the study. However, data unavailability for some of the variables of interest restricts the final

sample to an unbalanced panel of 478 firm-years over the period 2000-2003: 114 for 2000, 121 for 2001, 121 for 2002, and 122 for 2003. The sample represents 8 one-digit industrial sectors based on the FTSE Global Industry Classification System. I control for these industry effects in the analyses.

Data on the specific criteria deeming a board member non-independent, has been hand collected by examining around 4780 director biographies (panel of 478 firm-years with average board size of 10 members). Data on board size and the composition of board in terms of number of executives and non-executives has also been hand collected from annual reports. Data on all financial variables used in the analysis is taken from Datastream. Table 1 below presents the descriptive statistics for the sample firms.

[ Insert Table 1 about here ]

Table 1 shows that the average market value of equity of a sample firm is 3 times its book value, while an average firm has a Q-ratio of 1.7. Average firm has sales of £ 1.7 billion (expressed here in logarithmic terms). The average board size is 10 directors, with about half being non-executives. The average firm has a debt to asset ratio of 23%. In terms of the type of non-independent non-executives sitting on the board, directors with tenures of more than 9 years are the most frequent, i.e. occurring in 55% of the sample firm-years, followed by past employees accounting for 41% of the sample. The third largest category is those representing significant shareholders, while directors with family ties with other board members are the least frequent.

[ Insert Table 2 about here ]

Table 2 presents bivariate correlations for all variables in the sample. While most variables have low correlations, a few notable exceptions are the high correlation between firm size and board size (50%), between board size and directors with more than 9 years on the board (25%), with past employees having a correlation with board size of 16% and between proportion of non-executives on the board and those representing significant shareholders (35%). Overall, it appears that bigger boards tend to have more non-independent directors. In general, the low correlations suggest that co-linearity is unlikely to pose a problem for the regression analysis presented in the following section.

#### 4. Analysis

As mentioned earlier, in this study, I examine the relationship between the non independent non-executive director characteristics and firm's value for a panel of FTSE 350 constituents over the years 2000-2003. Following Short and Keasey (1999), I use the market value to book value of equity as of each year end as the main firm valuation measure. I follow Vafeas and Theodorou (1998) and Weir et al. (2002) and use Q-ratio (measured as the book value of total assets plus market value of equity less book value of equity divided by the book value of total assets) as an alternative measure of firm valuation. I control for a number of a firm's other characteristics which may affect firm value: firm size, measured by log of total sales; leverage, measured by the total book debt to total book assets ratio; and firm's operating profitability measured by return on assets (ROA). Following Fama and French, (1993), who find smaller firms to be valued higher, I expect a negative relationship between the measures of market value and firm size. The theory on the relationship between value and capital structure is inconclusive. Debt issues create valuable tax shields but can also hasten the onset of financial distress costs. Empirical evidence suggests a negative relationship between firm's profitability, its market performance and leverage (Agarwal and Knoeber, 1996; Short and Keasey, 1999; Booth et. al., 2001; Weir et. al. 2002), I expect the same. Adams and Mehran (2004) find a positive and significant link between a firm's operating profits, i.e. return on assets and its value. Accordingly, I expect the same. Finally, I also control for year and industry fixed effects in all regressions modelling firm value. Further given the panel structure of the data, I account for a possible dependence between different observations corresponding to the same firm in different years. Accordingly I allow for the clustering of standard errors, which assumes the observations to be independent across firms, but does not assume different observations on the same firm to be independent across the sample years. I estimate the following model:

Firm value =  $\beta_1$  non-independent director characteristics +  $\beta_2$  firm size +  $\beta_3$  leverage +  $\beta_4$  operating profitability + industry dummies + year dummies

[ Insert Table 3 about here ]

Table 3 reveals some interesting results for the non-executive director characteristics. I find a statistically as well as economically strong association between presence of past employees on the boards and firm value, for both the market to book equity as well as Q-ratio. This finding is in contrast to agency theory predictions, but consistent with the assumption that the benefits of firm-specific knowledge and experience that past employees possess along with their contractual independence (being no longer full time employees) represents perhaps the best combination of knowledge and independence, for the effective performance of the advisory and monitoring roles. In terms of other characteristics, I find a negative association between board representatives of significant shareholders and firm value for the market to book equity. This finding is consistent with the perspective that these directors may lead the firm managers to pursue interests inconsistent with interests of other smaller shareholders, as found by Claessens et al. (1999) and Fan et al. (1999) in the context of East Asia. This result is also consistent with the KPMG survey results cited by Brennan and McDermott (2004), that representative of significant shareholders are considered non-independent and hence undesirable on the board. Also, the negative and significant associations between presence of family members on the board as well as cross directorships with Q-ratio lend support to the managerial entrenchment hypothesis, as both types of directors are likely to be under control of management. These results are also consistent with prior empirical findings on other signs of managerial entrenchment, as discussed earlier. It is important to note though, that while less than one percent of non-independent directors were those with family ties with other board members, about three percent of the directors held cross directorships. Hence it is the negative relation of cross directorships that matters more from a practical point of view. For other non executive characteristics, having non-executives on board with business relationship with the firm; or receiving additional remuneration; or being on the board for more than nine years, appears to have no significant relation with both measures of firm value. While the presence of directors with the prior two characteristics is not very high, non-executives with tenures of more than nine years constitute the largest category of non-independent directors. Given that I find no significant association of this type of director with firm value, it supports the latest 2010 Code recommendation that their presence on the board should be subject to annual review via annual put up for re-election. In terms of the control variables, for both the market to book value of equity as well as Q-ratio, firm size as expected is significantly negatively related to firm value. Other firm characteristics namely leverage and operating profits, while not significant for market to book ratio, are significant for the Q-ratio with signs as expected.

## 5. Robustness checks

### 5.1 *Additional controls*

Extant literature on board characteristics and firm value have studied the associations between a number of board attributes including board size (Yermack, 1996; Eisenberg et al, 1998; Shaukat et al, 2010); duality, that is CEO-chair combination, e.g. Shaukat et al (2010) and Brickley et al (1999) as well as board composition, that is number or proportion of outside directors on the board, for example as previously mentioned, Agarwal and Knoeber (1996) and Bhagat and Black (1999). While board size has been found to be negatively related to most measures of firm value, the relationship between duality as well as proportion of outside directors with firm value is uncertain. In order to test that our non-executive director characteristics do not proxy for any of these other board attributes and hence to test the robustness of these relationship, I progressively add each variable as additional control in both the market to book equity as well as Q-ratio regressions. Table 4 presents the results of further analysis for the market to book value of equity.

As Table 4 indicates, while all variables in the base model retain the same sign and significance, of the three additional board attributes, only board size is found to be marginally significant with a positive relationship with market to book equity. This finding is in contrast with the results of previous work, which have tended to find a negative link between board size and firm value (Yermack, 1996; Eisenberg et al, 1999). However as correlations in Table 2 indicated, larger boards are also more likely to have non-independent non-executives, including past employees. By extension, they may therefore have a greater diversity of knowledge, skills and experience required for playing an effective advisory role. As for other board controls, both duality and proportion of non-executives on the board are insignificant. These results are consistent with many previous studies (for duality, see Brickley et al. 1999, Weir et al., 2002; for proportion of non-executives see Agarwal and Knoeber, 1996; Weir et al, 2002). It is important to note that both presence of past employees and presence of representatives of significant shareholder continue to remain statistically as well as economically significant in all models.

[ Insert Table 4 about here ]

Table 5 presents the results of adding more board attributes to the Q-ratio model. It is interesting to note that with the addition of other board attributes, firm size becomes insignificant, but other firm characteristics like leverage and operating profits remain significant in all additional models. As for non-executive characteristics, while presence of past employees retains its positive and significant association, its level of significance varies from relatively low levels in models 2A and 2C, to becoming relatively more significant in model 2B. In terms of other characteristics directors with business relationship become slightly negatively significant but only in model 2A. Other relationships including the directors with family ties with other board members and cross directorship continue to remain negative and significant with respect to the Q-ratio. It is also important to note that none of the additional board attributes are significant in any model, implying that non-executive characteristics are not likely to be proxying for other board attributes.

[ Insert Table 5 about here ]

The preceding analysis indicates that contrary to the Code prescription, that past employees be considered not independent non-executives and by implication less desirable on the board, their positive and significant association with both the market to book equity as well as Q-ratio suggests that these directors play a positive role on the board. Being past employees, they perhaps have the best combination of ‘insight’ and ‘independence’, to make a valuable contribution to both the strategic and control functions of the board. Further the study finds only a few other non-executive characteristics to have a negative association with the two measures of firm value. These findings therefore open to question the practical validity of the Code’s recommendations.

## ***5.2 FTSE350 inclusion and testing for sample selection bias***

This study employs a sample consisting of companies that remained constituents of FTSE350 index for all four years of the study, which may raise a concern that the relationships emerging from the analysis may suffer from sample selection bias. Therefore, I apply the Heckman (1979) procedure to assess the effects of possible sample selection bias on my results. The main FTSE350 inclusion criteria are the size of a firm’s total market capitalization and stock liquidity. Thus, I use the Heckman procedure to simultaneously 1)

model the probability of a company being included in the sample and (2) study the link between non-executive characteristics and my main measure of firm performance namely the market to book value of equity (model 1A of Table 4 is used in the latter regression, as board size the additional control, was found to be at least slightly significant). The dependent variable in (1) is binary and takes the value of 1 for firms included in the sample analysed here and 0 for companies that did not stay in the FTSE 350 for all four years. The independent variables are firm size (measured as logarithm of gross market capitalization of each firm for each year) along with industry and year dummies. The estimates corresponding to this sample selection model are reported in Table 6.

[ Insert Table 6 around here ]

As can be seen from Panel C of Table 6, the high p-value for the Wald test of independence of equations suggests that sample selection is not a problem in this analysis. In particular, the main relationship that is the positive role of past employees on boards continues to hold its economic and statistical significance. In the interest of brevity, though not reported here, results for the Heckman selection equation modelling the Q-ratio remain consistent with those for the market to book equity analysis. Hence one can conclude that overall, the results presented in the analysis are not affected by the sample selection problem.

## **6. Conclusions**

This paper presents an empirical test of the prescription of the UK Code of Corporate Governance regarding the non-executive director characteristics which deem them non-independent. Since its inception, the Code has required independent directors to make up a large component of the board, raising this requirement to 50% of the board since its 2003 version. This prescription derives from the agency theoretic perspective of the main role of non-executive directors on the board, namely that of monitoring and control. However, this perspective undermines the value of knowledge and experience that certain type of non-independent directors particularly past employees can bring on board. This study's findings of a positive association between presence of past employees on the board and firm value suggest that these directors play a positive role on the board. They perhaps bring on board the 'best' combination of firm-specific expertise and independence, so vital for effective strategy making and control.

Some of the issues touched upon by this study merit further investigation. Future work should investigate the channels through which director characteristics contribute to firm performance. For instance, Black et al (2009) expand the results of their earlier study (Black et al, 2005), and find that the positive association between the presence of outside directors on boards and firm value can be attributed to the reduction of the adverse impact of related-party transactions for listed companies in Korea. Hence, it would be worth investigating further along similar lines, the channels that account for the positive association between past employees and firm value on corporate boards in the UK.

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## Tables

**Table 1:** Descriptive statistics

	<b>Mean</b>	<b>Median</b>	<b>Std. Deviation</b>
<b>MB ratio</b>	2.90	2.24	25.47
<b>Q ratio</b>	1.71	1.44	2.87
<b>ROA</b>	7.62	8.57	14.76
<b>Firm size (log of sales)</b>	7.42	7.53	1.32
<b>Board size</b>	10.27	10.00	2.49
<b>Duality (%)</b>	10	0.00	0.01
<b>Proportion of NEDs (%)</b>	56	56	0.61
<b>Leverage (debt to assets)</b>	0.23	0.23	0.16
<b>NED business relation</b>	0.11	0	0.42
<b>NED past employee</b>	0.41	0	1.19
<b>NED Ad. Remuneration</b>	0.01	0	0.13
<b>NED family tie</b>	0.004	0	0.06
<b>NED X Directorship</b>	0.03	0	0.27
<b>NED Rep. Sig. Share</b>	0.16	0	0.63
<b>NED more than 9 yrs</b>	0.55	0	0.89
<b>Total Observations</b>	478	478	478

**Table 2:** Correlation table

	<b>MB ratio</b>	<b>Q ratio</b>	<b>ROA</b>	<b>Size</b>	<b>Board size</b>	<b>Duality</b>	<b>NEDs (%)</b>	<b>Leverage</b>	<b>NEDBR</b>	<b>NEDPE</b>	<b>NEDADREM</b>	<b>FAMTIE</b>	<b>XDIR</b>	<b>REPSIGSH</b>	<b>MORE9</b>	
<b>MB ratio</b>	1.00															
<b>Q ratio</b>	0.07	1.00														
<b>ROA</b>	0.03	0.11	1.00													
<b>Size</b>	-0.04	-0.12	-0.00	1.00												
<b>Board-size</b>	0.04	-0.01	-0.17	0.50	1.00											
<b>Duality</b>	-0.09	0.18	0.02	-0.13	-0.14	1.00										
<b>NEDs (%)</b>	0.01	0.01	-0.02	0.13	-0.02	-0.11	1.00									
<b>Leverage</b>	0.00	-0.18	-0.12	0.07	0.02	-0.13	0.17	1.00								
<b>NEDBR</b>	0.00	-0.01	-0.02	0.00	0.13	-0.09	0.03	0.01	1.00							
<b>NEDPE</b>	0.06	0.10	0.06	0.16	0.13	-0.07	0.19	0.02	-0.04	1.00						
<b>NEDADR-EM</b>	0.02	0.05	0.06	-0.03	-0.04	0.07	0.07	-0.04	-0.02	0.13	1.00					
<b>FAMTIE</b>	-0.00	-0.01	0.01	0.05	-0.03	-0.02	-0.03	-0.07	-0.02	-0.02	-0.01	1.00				
<b>XDIR</b>	-0.00	-0.00	0.02	0.05	0.18	-0.04	0.06	-0.01	-0.03	0.00	-0.01	-0.01	1.00			
<b>REPSIGSH</b>	-0.09	0.11	-0.05	-0.05	0.02	-0.04	0.35	0.03	0.07	-0.03	-0.02	0.09	0.07	1.00		
<b>MORE9</b>	0.02	-0.02	-0.04	0.06	0.25	-0.08	0.07	-0.01	0.01	0.01	0.03	-0.04	0.15	0.09	1.00	

**Table 3:** Base regression models

	MB ratio (Model 1)	Q-ratio (Model 2)
<b>Intercept</b>	11.86* (1.83, 0.07)	2.90*** (2.81, 0.01)
<b>Firm size (log of sales)</b>	-1.34* (-1.92, 0.06)	-0.09** (-0.83, 0.04)
<b>Leverage (debt to assets)</b>	4.27 (0.42, 0.68)	-2.12** (-2.07, 0.04)
<b>Operating Profits (ROA)</b>	0.06 (1.32, 0.19)	0.03** (1.96, 0.05)
<b>NED past employee</b>	1.22*** (2.62, 0.01)	0.17* (1.79, 0.08)
<b>NED business relation</b>	0.81 (0.80, 0.43)	-0.16 (-1.29, 0.20)
<b>NED Add. Rem.</b>	-2.14 (-1.22, 0.22)	-0.32 (-0.28, 0.78)
<b>NED family tie</b>	3.32 (1.14, 0.26)	-1.87*** (-4.27, 0.00)
<b>Cross directorship</b>	-0.37 (-0.42, 0.67)	-0.28** (-2.39, 0.02)
<b>Represent sig. share</b>	-3.69** (-2.26, 0.02)	0.41 (1.04, 0.30)
<b>More than 9 years</b>	1.09 (1.24, 0.22)	-0.01 (-0.07, 0.94)
<b>Year dummies</b>	Yes	Yes
<b>Industry dummies</b>	Yes	Yes
<b>R<sup>2</sup></b>	0.03	0.19

No. of observations : 478

No. of clusters: 125

**Comment [G1]:** What are the numbers in parentheses? Do you need to report both t-stats and p-values (not to mention the stars to indicate significance)? The same applies to subsequent tables.

**Table 4:** Regression model, dependent variable is MB ratio

	<b>Model 1A</b>	<b>Model 1B</b>	<b>Model 1C</b>
<b>Intercept</b>	8.09 (1.29, 0.20)	9.31 (1.24, , 0.21)	2.49 (0.58, 0.56)
<b>Firm size (log of sales)</b>	-2.17** (-2.05, 0.04)	-2.19** (-2.03, 0.04)	-2.34** (-2.05, 0.04)
<b>Leverage (debt to assets)</b>	4.73 (0.47, 0.64)	3.31 (0.30, 0.76)	2.06 (0.18, 0.86)
<b>Operating Profits (ROA)</b>	0.09* (1.64, 0.10)	0.10* (1.85, 0.07)	0.11** (2.10, 0.04)
<b>NED past employee</b>	1.02** (2.31, 0.02)	0.89** (2.40, 0.02)	0.62** (2.11, 0.04)
<b>NED business relation</b>	0.18 (0.19, 0.84)	-0.25 (-0.30, 0.76)	-0.19 (-0.22, 0.83)
<b>NED Add. Rem.</b>	-1.46 (-0.96, 0.34)	-0.20 (-0.10, 0.90)	-0.87 (-0.44, 0.67)
<b>NED family tie</b>	5.58 (1.40, 0.17)	5.00 (1.34, , 0.18)	7.00* (1.71, 0.09)
<b>Cross directorship</b>	-1.47 (-1.45, 0.15)	-1.57 (-1.40, 0.17)	-1.90 (-1.51, 0.13)
<b>Represent sig. share</b>	-3.71** (-2.31, 0.02)	-3.83** (-2.39, 0.02)	-4.73** (-2.31, 0.02)
<b>More than 9 years</b>	0.51 (0.57, 0.57)	0.28 (0.39, 0.70)	0.15 (0.20, 0.84)
<b>Board size</b>	1.00* (1.65, 0.10)	0.95* (1.62, 0.11)	1.11* (1.88, 0.06)
<b>Duality</b>	-	-8.23 (-0.74, 0.46)	-8.01 (-0.74, 0.46)
<b>Percentage of NEDs</b>	-	-	0.12 (1.41, 0.16)
<b>Year dummies</b>	Yes	Yes	Yes
<b>Industry dummies</b>	Yes	Yes	Yes
<b>R<sup>2</sup></b>	0.04	0.05	0.05

**Table 5:** Regression model, dependent variable is Q-ratio

	<b>Model 2A</b>	<b>Model 2B</b>	<b>Model 2C</b>
<b>Intercept</b>	2.61*** (2.88, 0.01)	2.44*** (2.95, 0.01)	2.10** (2.18, 0.03)
<b>Firm size (log of sales)</b>	-0.16 (-1.06, 0.30)	-0.16 (-1.07, 0.29)	-0.16 (-1.11, 0.27)
<b>Leverage (debt to assets)</b>	-2.09** (-2.00, 0.05)	-1.89* (-1.82, 0.07)	-1.95* (-1.90, 0.06)
<b>Operating Profits (ROA)</b>	0.04** (1.98, 0.05)	0.04** (1.97, 0.05)	0.04** (1.99, 0.05)
<b>NED past employee</b>	0.16* (1.59, 0.11)	0.18** (1.97, 0.05)	0.17* (1.77, 0.08)
<b>NED business relation</b>	-0.21* (-1.67, 0.10)	-0.15 (-1.22, 0.22)	-0.15 (-1.21, 0.23)
<b>NED Add. Rem.</b>	-0.27 (-0.24, 0.81)	-0.44 (-0.36, 0.72)	-0.48 (-0.38, 0.70)
<b>NED family tie</b>	-1.70*** (-3.49, 0.00)	-1.61*** (-3.23, 0.00)	-1.51*** (-2.89, 0.01)
<b>Cross directorship</b>	-0.37** (-2.42, 0.02)	-0.37** (-2.28, 0.02)	-0.37** (-2.42, 0.02)
<b>Represent sig. share</b>	0.41 (1.03, 0.31)	0.43 (1.07, 0.29)	0.38 (0.99, 0.32)
<b>More than 9 years</b>	-0.05 (-0.40, 0.69)	-0.02 (-0.18, 0.86)	-0.03 (-0.23, 0.82)
<b>Board size</b>	0.08 (1.16, 0.25)	0.09 (1.22, 0.20)	0.09 (1.34, 0.18)
<b>Duality</b>	-	1.12 (1.41, 0.16)	1.13 (1.42, 0.16)
<b>Percentage of NEDs</b>	-	-	0.01 (0.68, 0.5)
<b>Year dummies</b>	Yes	Yes	Yes
<b>Industry dummies</b>	Yes	Yes	Yes
<b>R<sup>2</sup></b>	0.19	0.20	0.20

**Table 6:** Heckman sample selection model, dependent variable is market to book value of equity

<b>Panel A: Regression equation (Market to book value of equity is the dependent variable)</b>			
	<b>Estimate</b>	<b>t-stat</b>	<b>p-value</b>
<b>Intercept</b>	3.02	0.58	0.56
<b>Firm size</b>	-1.95**	-2.34	0.02
<b>Leverage</b>	4.58	0.46	0.64
<b>ROA</b>	0.10*	1.71	0.09
<b>Board size</b>	1.03*	1.69	0.09
<b>NED past employee</b>	1.02**	2.34	0.02
<b>NED business relation</b>	0.13	0.15	0.88
<b>NED Add. Rem.</b>	-1.42	-0.96	0.33
<b>NED family tie</b>	5.43	1.43	0.15
<b>Cross directorship</b>	-1.48	-1.51	0.13
<b>Represent sig. share</b>	-3.63**	-2.36	0.02
<b>More than 9 yrs</b>	0.52	0.60	0.55
<b>Year dummies</b>	Yes		
<b>Industry dummies</b>	Yes		
<b>Model test</b>		$\chi^2(19) = 2818.24$	
<b>p-value for the model test</b>		0.00	
<b>Panel B: Sample selection equation (sample inclusion is the binary dependent variable)</b>			
	<b>Estimate</b>	<b>t-stat</b>	<b>p-value</b>
<b>Intercept</b>	-3.50	-4.71	0.00
<b>Firm size</b>	0.44	5.99	0.00
<b>Year dummies</b>	Yes		
<b>Industry dummies</b>	Yes		
<b>Panel C: Model summary</b>			
<b>Total no. of observations</b>		993	
<b>No. of groups</b>		336	
<b>No. of observations selected for regression eqn.</b>		478	
<b>Wald test of equations' independence</b>		$\chi^2(1) = 2.05$	
<b>p-value for the Wald test</b>		0.15	