Remuneration committee and corporate failure

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Abstract

Purpose – *This study aims to examine the role the structure of corporate boards plays in the failure of the firm. Specifically, it examines whether the remuneration committee is related to corporate failure in the UK.*

Design/methodology/approach – *The study uses 1,835 firm-year observations for 98 failed and 269 non-failed UK-listed non-financial firms between the periods of 1994 and 2011. This study used pooled cross-sectional, fixed and random effects LOGIT models to estimate whether corporate failure is related to remuneration committee in the UK.*

Findings – *The findings indicate that corporate failure is negatively related to the independence of the remuneration committee chairman and remuneration committee's effectiveness but not remuneration committee's presence, size and meetings. However, a positive and significant relationship was observed between corporate failure and remuneration committee independence.*

Practical implications – *The findings of the study provide support for the appropriateness of agency theory as analytical lens through which to study the efficacy of remuneration committee, especially the independence of the remuneration committee chairperson, as a board monitoring device, in the context of corporate failure.*

Originality/value – *The paper adds to existing literature on corporate governance by establishing the likely causes of corporate failure in the UK.*

Keywords *Bankruptcy, Board of directors, Business failures, Remuneration*

Paper type *Research paper*

1. Introduction

The high-profile corporate failures (e.g. Lehman Brothers) have kept corporate governance and corporate failure at the centre of academic discussions (Jermias and Gani, 2014), with a clear suggestion that maintaining a firm's survival is the most critical responsibility of boards (Platt and Platt, 2012). Consequently, the investors' community worldwide is calling for reforms to strengthen the effectiveness of boards and its committees (Clarke *et al.*, 2006). Such calls have also drawn legal and regulatory support. The Sarbanes–Oxley Act (2002), for example, outlines corporate governance obligations to enhance firm survival by mitigating the principal–agent conflicts. Previous literature on corporate failure prediction (Pompe and Bilderbeek, 2005), however, has focused on the effects of financial information, and only few studies have given attention to the role of corporate governance on failure of firms. Methodologically, such limited literature has used the matched-paired technique and theoretically adopted the resource dependency lens, documenting the significant contribution of large board size (Gales and Kesner, 1994) and director interlocks (Sheppard, 1994) in enhancing firms' survival. Fich and Slezak's (2008) study also underlines that larger and less independent boards with a lower proportion of outside directors and larger ownership stakes of non-management shareholders are more likely to fail. Daily and Dalton (1994) use both agency and resource dependence analytical lenses and show the relevance of board leadership structures in reducing the probability of firm's failure. Platt and Platt's (2012) findings suggest that failed firms are characterised by lower attributes of board composition, characteristics and structure.

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Despite the importance of executive compensation as governance mechanism, which has been considered to improve firm performance (Conyon and Peck, 1998), and the increasing importance of board committees (Klein, 1998), little is known about the effect of the remuneration committee (henceforth RC) on corporate failure. This study attempts to fill this gap. Specifically, this paper examines the impact of remuneration committee effectiveness (RCE) on corporate failure in the UK. RCE is a composite measure of five dimensions:

1. presence of remuneration committee;
2. independence of remuneration committee members;
3. independence of remuneration committee chairman;
4. size of remuneration committee; and
5. the frequency of remuneration committee meeting.

Using a sample of 367 UK-listed non-financial firms, consisting of 98 failed and 269 non-failed firms, drawn from the top 500 UK-listed firms, from 1994 to 2011, we find a significant negative association between RCE and corporate failure, after controlling for financial and firm characteristics, as well as board size and composition. Corporate failure is also negatively and significantly related to the independence of the remuneration committee (RC) chairman. Contrary to our expectations, the influence of *independence* of RC members on corporate failure is significant and positive.

Our contributions are fourfold. First, we examine whether the structure of corporate boards are related to corporate failure in the UK context. To date, evidence on the effects of RC on corporate failure in the UK is distinctively lacking. The findings of prior US studies may not be applicable in the UK, due, in part, to fundamental difference in Chapter 11 and Insolvency Act (1986). Second, this study is the first attempt to develop and test a theoretical model to assess the financial health of the UK companies. Prior prediction models in the UK are mainly based on brute empiricism. Third, we test our research question using six aspects of RC: presence, independence, chairman's independence, size, meeting and effectiveness. Platt and Platt (2012) used variables of RCE in isolation, neglecting a comprehensive analysis of the causal relationships between the RC on corporate failure. This, in part, limits our understanding on the effects of the RC on corporate failure. Fourth, this study is the first of its kind to construct an RCE index that mirrors the recommendations of the Cadbury (1992) and Greenbury (1995). Greenbury (1995) and Higgs (2003) corroborate Cadbury's recommendation on the board RC, emphasising on guidance on its status, membership, meetings and resources. Implicit in the RC reforms is that an effective RC may reduce the predominant agency conflict through quality board monitoring and evaluation of the CEO's performance, thereby enhancing the prospects of the firm's survival.

The paper is structured as follows. Sections 2 and 3 examine our hypotheses and the method. Section 4 considers the empirical findings. Section 5 concludes.

2. Theory and hypotheses

Agency theory focuses on the potential conflicts of interest that arise from the separation of ownership and control (Fama and Jensen, 1983). Agency theory, thus, provides the theoretical foundation of the monitoring function, which refers to the responsibility of directors to hire, monitor, fire and remunerate CEOs on behalf of shareholders. Boards, and ones particularly with a majority of outside directors, monitor the actions of managers to protect the interests of owners (Jensen and Meckling, 1976), thereby reducing corporate failure. Board monitoring function includes planning the succession of the CEO (Pitcher *et al.*, 2000), assessing and rewarding the CEO's performance (Conyon and Peck, 1998), as well as the evaluation of strategy implementation (Kim *et al.*, 2009). However, most of the board work is carried out through committees, and agency theory arguments that hold for the entire board are still relevant for these subsets. In the case of the RC, indeed, the subject of this paper, its formal presence, size, number of meetings, the independence of the committee

members and chairperson, determine the evaluation and rewarding of top management. We argue that an appropriately constituted RC would mitigate agency problems with implications for firm survival. Drawing on the agency theoretical lens and in the context of the RCs in UK firms, we develop our hypotheses below.

2.1 RCE and corporate failure

Greenbury (1995) proposes that defining suitable reward packages is one of the significant monitoring functions of directors. Thus, the formation of RC is consistent with agency theory, which advocates the separation of management and control (Fama and Jensen, 1983), thereby reducing the likelihood of a firm's failure. An effective RC reduces the agency cost surrounding the top management's remuneration by providing an appropriate remuneration package required to motivate the CEO to manage the firm successfully. Simply put, the compensation practices are more favoured towards the CEO, and at the expense of shareholders, when the RC is ineffective. The ongoing public concerns about executives' large pay increases, enormous gains from share options and high profile failures partly provide circumstantial evidence to cement this notion. For this reason, we expect RCE to be associated with higher level of firm performance, implying lower levels of corporate failure. This leads to the first hypothesis, which states:

H1. *Ceteris paribus*, there is a negative association between the RCE and corporate failure.

2.2 Remuneration committee presence and corporate failure

The presence of the RC provides a transparent forum within which the board design optimal remuneration packages to attract, retain and motivate top management to run the firm successfully (Ezzamel and Watson, 1998). This indicates that the absence of RC suggests profound managerial opportunism (Conyon, 2006), implying an avenue for self-serving CEOs to outrageously extract perquisites out of a firm's resources (Jensen and Meckling, 1976), thereby reducing stock prices (Yermack, 2006), shareholders' value (Gomez-Mejia, and Wiseman, 2007), firm's performance (Conyon and Peck, 1998) and long-term survival (Conyon, 1997). Of course, remuneration committees reduce the CEO–shareholder agency conflict by constructing and implementing incentives and bonus schemes linked to value of shareholders. Put differently, by having a remuneration committee, firms signal to the market of their seriousness to ensure that appropriate remuneration is paid for performance. This has the effect of increasing the firm's legitimacy to keep and attract investors. Legitimacy, in turn, improves the prospects of the firm's survival. Hence, the second hypothesis states:

H2. *Ceteris paribus*, there is a negative relationship between the RCP and corporate failure.

2.3 Remuneration committee independence (RCI) and corporate failure

Academics and policymakers seem to converge on the notion that the presence of CEO and/or affiliated directors on the RC encourages flaws in CEO pay arrangements, thereby deviating from shareholders' interest (Conyon, 2006). The important implication of this is that RC's ability to discharge its oversight responsibilities is a function of its members' independence of the CEO (Chancharat *et al*., 2012). Ezzamel and Watson (2002) confirm this notion, suggesting that, in the absence of an independent remuneration committee, CEOs would write and sign their employment contract (Williamson, 1985). Of course, the pay-setting process can hastened the corporate failure process, if the CEO dominates the contracting process (Bebchuk and Fried, 2004). The mere presence of the RC is not sufficient to reduce the agency problem or corporate failure in the Anglo-Saxon environment. Greenbury (1995) provides that the RC shall be made up of at least three independent Non-Executive Directors (NEDs). The expectation is that independent NEDs may ensure that the CEO's reward is in line with shareholders' interest (Fama and Jensen,

1983) by improving monitoring quality and firm performance (Faleye *et al.*, 2011) and, thus, lessens the likelihood of a firm's failure. Formally, the third hypothesis states:

H3. *Ceteris paribus*, there is a negative relationship between the RCI and corporate failure.

2.4 RC chairman independence (RCCI) and corporate failure

Research on the effects of joint or the separate board leadership structure on firm financial performance is mixed (Dalton *et al.*, 1998). Agency scholars suggest that by serving as chairman, the CEO will obtain a wider authority base and *locus* of control. This, in turn, may weaken the effectiveness of board monitoring (Finkelstein and D'Aveni, 1994). Ineffective board monitoring is linked to inferior corporate performance and, ultimately, undesirable for corporate survival. In a sharp contrast, stewardship theory advocates argue that CEO duality is necessary to ensure chaos-free environment within both the board and organisation (Finkelstein and D'Aveni, 1994), implying that CEO duality offers better leadership and strategic vision than the independent chairman. However, at the committee level, the nature of the problem is different, in that the issue of two roles held by one individual does not exist. Instead, the concern is about whether the chairperson should be an independent outside director or one of the executive directors.

In this scenario, the leadership position of the board committee mirrors the extent to which a board is likely to dispassionately evaluate a CEO (Dalton *et al.*, 1998). From this point, the chairman of the RC plays a key role in shaping remuneration proposals through negotiations with management and staff in the company as well as remuneration consultants (Main *et al.*, 2008). Accordingly, the independence of the remuneration committee chairman is important to ensure that the executive remuneration process is not ritualistic but rather diminishes "outrageous pay practices" (Anderson and Bizjak, 2003), thereby enhancing the long-term survival of the firm. Therefore, the fourth hypothesis states:

H4. *Ceteris paribus*, there is a negative relationship between the RCCI and corporate failure.

2.5 RC (RCS) and corporate failure

The size of the board committee is viewed by firm's stakeholders as a firm's response to specific agency problems, and, in turn, it facilitates the firm's right to access economic resources from its exchange partners. The greater the need for effective linkage, the larger the board and its committees should be. For example, during financial distress, firms with both smaller board and committee size (Gales and Kesner, 1994) are seen as ineffective due to lessened ability of directors to co-opt resources from its environment. In parallel, a smaller board committee may be better in healthy firms, due to reduced coordination and free-rider problems. In this spirit, Jensen (1993) suggests boards and its committees should be kept small so they can function more efficiently and not controlled by the CEO.

Smaller board committee, however, may lack the required human resources to rigorously monitor the CEO's performance (Zahra and Pearce, 1989), implying a conducive environment for opportunistic CEOs to pursue corporate strategies in an effort to satisfy their own egos, but at the expenses of their firm's long-term success. Of course, Miller (1992) posits that strategic decisions adopted by dominating CEOs lead to previous corporate failures. Drawing on agency theory, a larger remuneration committee can accommodate members with diverse experience which is required to guarantee rigorous appraisal of the CEO's performance. Simply put, large remuneration committee, due to enhanced status and increased resources, is more likely to improve the quality of its oversight responsibilities, relative to a smaller remuneration committee. The enhanced monitoring role may reduce the likelihood of a firm's failure. Platt and Platt's (2012) study confirms this notion, emphasising that larger board remuneration committee size is valuable for the breadth of its "services". Therefore:

H5. *Ceteris paribus*, there is a negative relationship between the RCS and corporate failure.

2.6 RC meeting (RCM1) and corporate failure

Independent NEDs serving on board RC are likely to demand more committee meetings to enhance their ability to monitor management (Cai *et al*., 2009). Consistent with agency theory, remuneration committee that meet more frequently are more likely to perform their monitoring duties (Conger *et al*., 1998). Vafeas (1999) explores this assertion and finds that firm's performance improves following years of higher frequency of board meeting. In parallel, Jensen (1993) notes, board and its committees meetings serve as a fire-fighting device rather than as a proactive measure for improved governance. This view is supported by the class hegemony theory, highlighting that board and its committee meetings are too artificial to result in effective monitoring. In sum, the impact of frequency of board and its committee meetings, a proxy for board monitoring, is an empirical question. However, we argue that high frequency of RC meetings could indicate a higher level of outside directors' involvement (Brick and Chidambaran, 2010), diligence (Carcello *et al*., 2002) and commitment to monitor CEO (Cai *et al*., 2009). These, in turn, enhance the effectiveness of the board (Conger *et al*., 1998) by improving outside directors' ability to monitor the CEO's performance and control of the company (Carcello *et al*., 2002). Active RCs are more likely to exert a positive influence on executive remuneration proposals and firm's performance (Xie *et al*., 2003), thereby, reducing the likelihood of a firm's failure and thus, we hypothesis the following:

H6. *Ceteris paribus*, there is a negative relationship between the RCM1 and corporate failure.

3. Method

3.1 Data

A firm is defined as having failed if it filed for insolvency under the UK Insolvency Act of 1986 (Charitou *et al*., 2004). We restrict the population period from 1 January 1994 to 31 December 2011. The aim is to collect at least five years' corporate governance data after Cadbury (1992). Our sample of failed firms is constructed as follows. First, we identify a list of 4,557 inactive firms from Financial Analysis Made Easy (50 firms) and Thomson One Banker (4,507 firms) databases. Next, we confirm the status of each firm and extract the date of insolvency from the Companies House Website. The non-failed firms are within the top 500 publicly quoted firms in the London Stock Exchange Market. The criteria for the selection of the non-failed firms are not materially different from those of the failed. For example, the insolvency years of failed firms are used as the benchmark in selecting the non-failed firms. In addition, no attempt is made to match failed and non-failed firms by firm age, size and industry, but we follow Wu *et al*. (2010), and, in turn, examine these confronting firm demographics. Thus, we concur with Peel *et al*. 's (1986, p. 7) notion that "a superior methodology would appear to be to use variables as predictors, rather than to use them for matching purposes".

The data on corporate governance are extracted manually from each company's annual 10-K reports, available from the Thomson One Banker database. We collect company financial information from Worldscope using the Thomson One Banker database. The criteria for inclusion of a firm's data are as follows. One, consistent with prior studies (Wu *et al*., 2010), we exclude companies from specially regulated industry, private entities, foreign firms and firms less than five years, with accounting year gap and accounting period exceeding 12 months or less as well as demerged firms within the sample period. Two, we include entities with complete data for computation of financial ratios and corporate governance proxies prior to the date of petition of insolvency. This implies that we omit data on and/or after the insolvency date, implying that the study avoids back-casting. Finally, we omit failed firms' data without data on employees and/or turnover. The aim is to avoid predicting failure at a stage when it is already known by its major stakeholders. Following Beaver *et al*. (2005), we mitigate the effects of

outliers on the estimates of the LOGIT models' parameters by "winsorizing" all observations save dummy variables at the 1 and 99 per cent levels, respectively.

The final sample is 367 firms and 1,835 firm-year observations, consisting of 98 failed firms and 269 non-failed firms. Specifically, 45.92 per cent of the failed companies have been dissolved, whereas 38.78 and 15.31 per cent are in liquidation and receivership, respectively. Generally, the financial statements and the insolvency petition dates show a lead time in days of 568.73, 434.00 and 298.00 for mean, median and mode, respectively. We turn next to the definition of variable.

3.2 Variables

The dependent variable is corporate failure, as defined above, which is the filing of Insolvency petition. Corporate failure (FAILED) is a binary variable that takes the value of "1" if the firm is classified as failed and "0" otherwise. The main independent variable of interest is remuneration committee effectiveness (RCE), a proxy for board structure, which is a composite index consisting of remuneration committee's presence (RCP), independence (RCI1), size (RCS), chair independence (RCCI) and frequency of RC meetings (RCM1). RCE index is constructed as follows:

$$RCE\ index = RCP + RCI1 + RCCI + RCS1 + RCM1$$

This is inspired by the Greenbury (1995), which requires firms to maintain remuneration committee based on these five main constructs. We define the five main constructs as follows. RCP is a binary variable of "1" meaning presence of remuneration committee and "0" otherwise (Conyon and Peck, 1998). RCI1 is coded "1" when the committee members are independent non-executive directors (inclusive of independent non-executive chairman) and "0" otherwise (Daily *et al.*, 1998). RCS1 is a binary variable with "1" denoting membership of at least three independent NEDs and "0" (Daily *et al.*, 1998). RCCI is coded "1", when the chairman of remuneration committee is an independent NED but not the chairman of the board and "0" otherwise (Daily *et al.*, 1998). RCM1 is coded "1" when the committee members meet at least twice and "0" otherwise (Vafeas, 1999). Vafeas (1999), for example, suggests that boards are able to turn around poorly performing firms by meeting more often.

We also control board composition, board size, liquidity, profitability, leverage, industry effects, firm size and firm age (these variables are defined in Appendix 1). These control measures are extensively used in the corporate failure prediction literature (Premachandra *et al.*, 2011; Lyandres and Zhdanov, 2013). Outsider-dominated boards may display a positive association with effective board monitoring (Johnson *et al.*, 1996), thereby reducing the likelihood of a corporate failure. Board size is used as an indicator of board control over the CEO (Pearce and Zahra, 1991). A larger board is valuable for the breath of its "services" (Dalton *et al.*, 1999); thus, failed firms have smaller boards. The liquidity ratio -also measures the net liquid resources of the firm relative to the total capitalization. The profitability ratio measures the true efficiency of the firm's capital used due, in part, to the non-consideration of all non-cash movement items. The non-consideration of all non-cash movement items, in turn, makes it more appropriate for predicting corporate failure. Thus, a firm's ultimate failure is based on the earning power of its assets. Corporate failure arguably follows when the total liabilities exceed the earning power of the firm's resources. Inclusion of the leverage ratio is motivated by Jensen and Meckling's (1976) notion, suggesting that higher leverage increases debt holders' need to monitor CEOs. Firm's gearing position is linked to a firm's failure, implying the probability of a firm's failure is greater for a highly geared firm. The need for executive monitoring may differ in different industries. Chava and Jarrow (2004, p. 538) concur, emphasising that "different industries face different levels of competition and, therefore, the likelihood of bankruptcy can differ for firms in different industries". The vast literature, however, has largely overlooked industry effects. We include a number of industry dummies based on the current Standard Industrial Classification Manual, which defines industries in accordance with the composition and structure of the economy (Chava and Jarrow, 2004). Inclusion of firm size is motivated by argument from

agency theory (Fama, 1980), suggesting that that agency costs are more substantial in larger firms due to the free-rider problems (Yermack, 2006). Large size, however, helps a firm to function more efficiently, due, in part, to economies of scale, which, in turn, enhance a firm's ability to manage environmental turbulence (Aldrich, 1979) and probable turnaround (Hambrick and D'Aveni, 1988). This implies that large size reduces corporate failure rate (Sutton, 1997). Sine *et al.* (2006) confirm this notion. In sum, small firms are prone to higher failure rates due, in part, to key constraints (e.g. raising capital) and legitimacy problems with external stakeholders (Baum and Oliver, 1996). Firm age is included to counter potential alternative explanation for corporate failure from the perspective of ecological scholars (Thornhill and Amit, 2003). The concept of liability of newness accounts for the high failure rate in young ventures *vis-à-vis* their more mature counterparts (Sine *et al.*, 2006). Thornhill and Amit (2003) cement this hypothesis, implying that young firms lack the required legitimacy (i.e. creditworthiness) to access critical resources and thus are more likely to fail.

3.3 Data analysis

We use LOGIT analysis as the primary analytical techniques to test the hypotheses of the study, due, in part, to the binary nature of our dependent variable. We perform three phases of LOGIT runs:

1. pooled cross-sectional;
2. fixed; and
3. random effects data analyses.

Our pooled cross-sectional LOGIT model (hereafter pooled) is equivalent to Sheppard (1994), but it differs slightly from Wu *et al.* (2010). Wu *et al.* (2010) include one firm-year observation for each failed firm but all firm-year observations for the non-failed firms. Our pooled LOGIT is similar to the hazard model in Beaver *et al.* (2005), Xu and Zhang (2009), save the inclusion of maximum five firm-year observations for each failed and non-failed firm. This indicates that there are multiple observations of the same firm in each sample, implying that residuals may be correlated across time and across firms. For this reason, we use "robust" standard errors and adjust errors by firm clustering in the estimations and, thus, mitigate the effects of heteroscedasticity and serial correlation (Petersen, 2009). Further, we assess the adequacy of the pooled LOGIT model with a range of measures:

- log-likelihood ratio test;
- log-likelihood chi-squared;
- classification accuracy;
- McFadden's *R*-square; and
- receiver operating characteristics area (ROC).

By rule of thumb, a model shows adequate fit by a significant chi-square and higher McFadden's *R*-square, ROC, classification accuracy (Wu *et al.*, 2010). The pooled LOGIT model is estimated using the form:

$$\text{Log}\ \frac{P(FAILURE_{it})}{P(1 - FAILURE_{it})} = \beta_1 + \beta_2 Corporate\ Governance_{i,t-1} + \beta_3 Controls_{i,t-1} + \varepsilon_{i,t-1} \quad (1)$$

Where P ($FAILURE_{it}$) is the likelihood of a firm's failure at year t. The dependent variable is set to 1 for failed firm-year observations. If a firm failed in year t, it contributes five-years' data prior to failure to the pooled model. Non-failed firms also contribute five-years' data prior to target year. The insolvency years of failed firms are used as a benchmark in selecting the non-failed firms. Overall, we test six main hypotheses using the following models:

- The association between RCE and corporate failure:

$$FAILURE = \beta_0 + \beta_1 RCE_{i,t-1} + \beta_2 BODC_{i,t-1} + \beta_3 BODS_{i,t-1} + \beta_4 WCTA_{i,t-1} + \beta_5 PROF + \beta_6 TDTA_{i,t-1} + \beta_7 LOGDA_{i,t-1} + \beta_8 FAGE_{i,t-1} + \beta_9 INDY_{i,t-1} + \varepsilon_{i,t-1}. \quad (2)$$

- The association between the individual RC variables and corporate failure:

$$FAILURE = \beta_0 + \beta_1 RCP_{i,t-1} + \beta_2 RCI_{i,t-1} + \beta_3 RCCI_{i,t-1} + \beta_4 RCS_{i,t-1} + \beta_5 RCM1_{i,t-1} + \beta_6 BODC_{i,t-1} + \beta_7 BODS_{i,t-1} + \beta_8 WCTA_{i,t-1} + \beta_9 PROF_{i,t-1} + \beta_{10} TDTA_{i,t-1} + \beta_{11} LOGDA_{i,t-1} + \beta_{12} FAGE_{i,t-1} + \beta_{13} INDY_{i,t-1} + \varepsilon_{i,t-1} \quad (3)$$

Before we report the results, it is vital to make some critical explanations. First, we perform 20 LOGIT runs to test our six main hypotheses using three different approaches, namely: pooled cross-sectional (10), fixed (5) and random (5) analyses. Our baseline model (hereafter Model 1) includes only the control variables. Model 2a examines the association between corporate failure and the composite measure of remuneration committee effectiveness (RCE) and the control variables, including industry dummies. Model 2b is the same as Model 2a, save the composite measure of RCE is replaced by a dummy variable of 1, if RCE composite index is at least 3. Models 3a and 3b, respectively, replace the composite measure RCE with the continuous and dummy independent variables related to the five dimensions of RCE.

4. Results

4.1 Descriptive statistics

Table I presents the descriptive statistics of the two mutually exclusive groups of firms: failed and non-failed firms. On average, 99 per cent (83 per cent) of non-failed (failed) UK firms have remuneration committees during our sample period, 1994-2011. This figure compares favourably with Klein's (1998) record for compensation (97.90 per cent) committees' presence in the USA. Another significant feature of board remuneration committees' size in the failed firms is smaller (2.5), compared to 3.5 in non-failed firms. On board standing committee meetings, on the average, our sample failed firms meet at least twice (1.7) in a year, relative to four (3.7) times of the non-failed counterparts. Majority (88 per cent) of our sample non-failed firms' remuneration committees are chaired by an independent NED *vis-à-vis* the 25 per cent of failed firms. In addition, non-failed (failed) firms have board size of 8(6), with 57 per cent (45 per cent) outside directors. The means of the failed and non-failed firms are significantly ($p <$ 0.0001) different for all the variables, save liquidity and leverage. Our sample firms are mainly from six major fields of economic activities namely: health care (10 firms), consumer (158 firms), industrial (146 firms), technology (31 firms), telecommunications (7 firms), basic materials (9 firms) and others (6 firms). This suggests that majority (83 per cent) of the companies in our sample are consumer (43 per cent) and industrial (40 per cent) firms.

Table II provides the Pearson and Spearman correlations between independent variables excluding industry dummies used in prediction of corporate failure. All the variables are

Table I Profile analysis of sample firms[a]

Variable	*Mean*	*SD*	*Minimum*	*Maximum*	*t-statistic*
Effectiveness of remuneration committee	4.29 (2.22)	1.09 (1.48)	0.00 (0.00)	5.00 (5.00)	32.43***
Presence of remuneration committee	0.99 (0.83)	0.08 (0.38)	0.00 (0.00)	1.00 (1.00)	14.37***
Independence of remuneration committee	1.57 (1.67)	1.26 (1.34)	0.00 (0.00)	5.00 (5.00)	26.60***
Independence of remuneration committee chairman	0.88 (0.25)	0.32 (0.43)	0.00 (0.00)	1.00 (1.00)	15.91***
Size of remuneration committee	3.51 (2.52)	1.11 (1.35)	0.00 (0.00)	7.00 (6.00)	19.20***
Frequency of remuneration committee meetings	3.74 (1.71)	2.11 (1.70)	0.00 (0.00)	10.00 (10.00)	15.55***
Board composition	0.57 (0.45)	0.15 (0.15)	0.00 (0.00)	0.82 (0.80)	17.63***
Board size	7.97 (6.01)	2.24 (1.69)	3.00 (3.00)	14.00 (13.00)	17.63***
Liquidity	0.10 (0.09)	0.21 (0.34)	−0.70 (−0.70)	0.86 (0.86)	0.10
Profitability	0.14 (−0.04)	0.08 (0.27)	−0.44 (−0.89)	0.39 (0.39)	21.18***
Leverage	0.62 (0.61)	0.22 (0.33)	0.08 (0.08)	1.55 (1.55)	0.85
Firm size	6.19 (3.43)	1.63 (1.56)	2.01 (0.31)	10.19 (7.23)	32.56***
Firm age	39.17 (27.52)	34.61 (27.43)	1.00 (1.00)	119.00 (99.00)	6.72***

Notes: [a]We use *t*-test and prtest for continuous and dummy variables, respectively; to conserve space, the profile of the industry dummies is available upon request; KEY: failed firms' descriptive statistics in parentheses; ***; **; *denote *t*-statistics significant at 1, 5 and 10%, respectively

Table II Correlation matrix

Variable	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*
FAILED	1.00	−0.59**	−0.34**	0.05*	−0.62**	−0.33**	−0.45**	−0.34**	−0.39**	0.00	−0.40**	−0.04*	−0.60**	−0.17**
RCE	−0.60**	1.00	0.40**	0.21**	0.70**	0.50**	0.70**	0.48**	0.52**	−0.07**	0.26**	0.13**	0.71**	0.04*
RCP	−0.34**	0.55**	1.00	0.23**	0.36**	0.27**	0.36**	0.25**	0.25**	0.04	0.20**	0.01	0.32**	0.10**
RCI	0.03	0.27**	0.19**	1.00	0.07**	0.27**	0.18**	0.22**	0.11**	0.06**	0.03	0.02	0.16**	0.10**
RCCI	−0.62**	0.72**	0.36**	0.07**	1.00	0.29**	0.43**	0.30**	0.36**	−0.03	0.28**	0.07**	0.52**	0.10**
RCS	−0.35**	0.55**	0.41**	0.32**	0.32**	1.00	0.50**	0.50**	0.53**	0.01	0.13**	0.09**	0.57**	0.14**
RCM	−0.41**	0.64**	0.32**	0.17**	0.39**	0.48**	1.00	0.44**	0.50**	−0.10**	0.19**	0.18**	0.67**	0.07**
BODC	−0.34**	0.52**	0.32**	0.25**	0.32**	0.50**	0.42**	1.00	0.26**	−0.06**	0.05*	0.15**	0.52**	0.05*
BODS	−0.38**	0.49**	0.24**	0.10**	0.33**	0.51**	0.45**	0.26**	1.00	−0.19**	0.18**	0.16**	0.65**	0.10**
WCTA	−0.00	−0.01	0.05*	0.08**	−0.02	0.08**	−0.08**	−0.03	−0.13**	1.00	0.02	−0.49**	−0.19**	0.17**
PROF	−0.44**	0.36**	0.29**	0.09**	0.32**	0.25**	0.22**	0.12**	0.23**	0.04*	1.00	0.03	0.21**	0.07**
TDTA	−0.02	0.06**	−0.02	−0.01	0.03	0.02	0.13**	0.10**	0.12**	−0.58**	−0.03	1.00	0.22**	−0.09**
LODGA	−0.61**	0.69**	0.35**	0.17**	0.52**	0.57**	0.61**	0.52**	0.65**	−0.09**	0.40**	0.11**	1.00	0.18**
FAGE	−0.16**	0.07**	0.06**	0.09**	0.10**	0.16**	0.06**	0.03	0.09**	0.11**	0.14**	−0.10**	0.18**	1.00

Notes: This table shows the unconditional correlations coefficients and significant levels between variables used in the corporate failure prediction; Pearson correlation is shown below and to the left of the diagonal; above and left is Spearman correlation; to conserve space, the *p*-values are available on request; **; *denote significance at 0.01 and 0.05 levels, respectively

negatively and significantly correlated to corporate failure at the 0.01 significance level but not RCI. The correlations are below 0.70, suggesting absence of multicollinearity. The Skewness–Kurtosis tests reject the *H0* that our predictive variables are normally distributed at the 0.01 significance level. This, in part, explains the justification for the use of LOGIT in the testing of hypotheses. We turn next to the multivariate results.

4.2 Results of the hypotheses tests

Table III contains the result of the pooled cross-sectional LOGIT estimations. On the control variables, the results reveal three observations worth mentioning. First, models 1, 2a, 2b, 3a and 3b indicate that two of the control variables, namely, profitability ($\beta = -0.68$, $p < 0.01$) and firm size ($\beta = -0.09$, $p < 0.01$), have a significant marginal effect relationship with the probability of corporate failure, in all estimations. Corporate failure also exhibits negative and significant association with board composition ($\beta = -0.17$, $p < 0.10$). Second, corporate failure displays a negative but insignificant association with board size, liquidity and firm age. Finally, financial leverage ($\beta = 0.06$, $p > 0.10$) and industry effects (except consumer industries) are not related to the likelihood of firm's failure. Model 1 records pseudo *R*-squared (ROC) of 0.49 (0.92) and predicts an average of 87.90 in all cases, with a chi-square of 109.04 at 12 degrees of freedom and significant at the 0.01 level, implying that Model 1 is adequate.

H1 states that *ceteris paribus*, RCE is negatively related to corporate failure. This hypothesis is supported in Models 2a ($\beta = -0.04$, $p < 0.01$) and 2b ($\beta = -0.07$, $p < 0.01$). Therefore, a 0.01 per cent drop in RCE increases the likelihood of corporate failure between 4 and 7 per cent. The addition of *H1* to Model 1 marginally increases the model fit. We assume the adequacy of Models 2a and 2b with an average ROC of 0.93, and hence, conclude that *H1* receives full support.

H2, *H3*, *H5* and *H6*, respectively, predict a negative relationship between corporate failure and RCP, RCI, RCS and RCM. The pooled cross-sectional LOGIT results provide no robust significant evidence to support *H2*, *H3*, *H5* and *H6*. As well, there is a significant positive marginal effect association between corporate failure and independence of remuneration committee in Model 3a. We outline possible reasons for the present findings in the discussion section.

H4 proposes that, c*eteris paribus*, there is a negative association between the RCCI and corporate failure. As *H4* predicts, RCCI reports a significant negative marginal effect with corporate failure in all estimations at the 0.01 significance level. As a result, a 0.01 per cent shrink in RCCI increases the likelihood of corporate failure by 15 and 16 per cent,

Table III Results of the pooled cross-sectional LOGIT models

Model	*Expected significance*	*1*	*2a*	*2b*	*3a*	*3b*
Remuneration committee:						
Effectiveness	−		−0.04*** (0.01)	−0.07** (0.03)		
Presence	−				−0.01 (0.06)	0.01 (0.07)
Independence					0.06*** (0.01)	−0.02 (0.03)
Chairman independence					−0.15*** (0.02)	−0.16*** (0.02)
Size					−0.00 (0.01)	0.02 (0.03)
Meetings					−0.00 (0.01)	0.00 (0.03)
Controls						
Board composition	−	−0.17* (0.10)	−0.04 (0.10)	−0.11 (0.10)	−0.21** (0.09)	−0.10 (0.10)
Board size	−	−0.01 (0.01)	−0.01 (0.01)	−0.01 (0.01)	−0.01 (0.01)	−0.01 (0.01)
Liquidity	−	−0.07 (0.06)	−0.07 (0.06)	−0.07 (0.06)	−0.06 (0.05)	−0.08 (0.05)
Profitability	−	−0.68*** (0.14)	−0.60*** (0.13)	−0.66*** (0.14)	−0.55*** (0.12)	−0.52*** (0.13)
Leverage	+	0.06 (0.07)	0.05 (0.07)	0.06 (0.07)	0.04 (0.05)	0.05 (0.06)
Firm Size	+	−0.09*** (0.01)	−0.07*** (0.01)	−0.08*** (0.01)	−0.06*** (0.01)	−0.06*** (0.01)
Firm age	−	−0.00 (0.00)	−0.00 (0.00)	−0.00 (0.00)	−0.00 (0.00)	−0.00 (0.00)
Industry effects[a]	±	Yes	Yes	Yes	Yes	Yes
Intercept	±	4.71*** (1.14)	4.09*** (1.06)	4.35*** (1.11)	5.57*** (1.39)	4.60*** (1.28)
Parameters						
Wald χ^2		109.04***	128.31***	124.35***	136.35***	124.29***
Pseudo R^2		0.49	0.51	0.49	0.61	0.56
Failed accuracy (%)		82.68	80.82	82.24	83.59	82.62
Non-failed accuracy (%)		89.40	89.21	89.33	92.16	91.09
Overall accuracy		87.90	87.30	87.74	90.03	89.05
ROC		0.92	0.93	0.93	0.96	0.95

Notes: 1. Models 2b and 3b replace the continuous variables (Panel A) in Models 2a and 3a with dummy variables (Panel B), respectively; We present marginal effects and robust standard errors clustered at firm level in parenthesis of the LOGIT estimates; *$p < 0.10$; **$p < 0.05$; ***$p < 0.01$; total observations of 1,835, consisting of non-failed (failed) firms of 1,345 (490) firm year; [a]only the consumer industry dummy is significant in all models and all estimations (pooled cross-sectional, fixed and random effects)

respectively, in Models 3a and 3b. The addition of *H2*, *H3*, *H4*, *H5* and *H6* (see Model 3a and 3b) to Model 1 significantly enhances the goodness-of-fit, with the prevalent occurring in Model 3 (from an R^2 of 0.49 to 0.61). Models 3a and 3b register an average chi-squared of 130.32 with 17 degrees of freedom at the 0.001 significance level, and predicts failed (non-failed) accurately at 83.59 per cent (92.16 per cent), yielding an overall classification of 90.03 per cent. Models 3a and 3b fit the data well, with an average ROC of 0.955, and contribute 56-61 per cent in solving the query of why entities fail in the UK. For this reason, *H4* receives full support but not *H2*, *H3*, *H5* and *H6*.

4.3 Further robustness check

We check the robustness of our results reported in the previous section through two additional analyses. First, we use a sub-sample of 240 failed and 240 non-failed firm year observations matched on the basis of industry and size. Table IV displays the matched pooled cross-sectional data models (hereafter matched model). Largely, the result from the matched model is consistent with the pure random sampling tests. As well, the matched model records an average pseudo R^2 and ROC of 0.18 and 0.78, predicting approximately 69.80 and 69.03 per cent of the failed and non-failed cases, with Wald chi-squared significant at the 0.01 level, implying that the efficacy of our matched models is quite high. The matched models' goodness-of-fit measures, compared to the pure random sampling, however, shrinks in all cases, yielding an additional type I and II errors of 12.58, 21.21 per cent, respectively, as well as a significant reduction of pseudo *R*-square by 35 per cent. Second, we run panel logit analysis: fixed and random effects. This is appropriate, as our sample contains data across firms and over time. Here, the random effect (re) option allows for the time invariant (e.g. industry classifications) and slow changing variables (e.g. presence of remuneration committee) to play a role as explanatory variables. Table V contains the fixed effects and

Table IV Results of the matched-pooled cross-sectional LOGIT models

Model	*Expected sign*	*1*	*2a*	*2b*	*3a*	*3b*
Remuneration committee						
Effectiveness	−		−0.13*** (0.04)	−0.30*** (0.10)		
Presence	−				0.02 (0.21)	−0.09 (0.22)
Independence	−				0.13*** (0.03)	−0.08 (0.08)
Chairman's independence	−				−0.30*** (0.06)	−0.37*** (0.06)
Size	−				−0.03 (0.05)	−0.02 (0.09)
Meetings	−				−0.02 (0.02)	0.03 (0.09)
Controls						
Composition	−	0.04 (0.34)	0.51 (0.35)	0.33 (0.33)	−0.22 (0.31)	0.33 (0.32)
Board size	−	−0.02 (0.03)	0.00 (0.02)	−0.02 (0.02)	0.00 (0.02)	−0.01 (0.02)
Liquidity	−	−0.05 (0.20)	−0.06 (0.20)	−0.09 (0.20)	0.08 (0.17)	−0.02 (0.17)
Profitability	−	−1.39*** (0.39)	−1.13*** (0.33)	−1.25*** (0.32)	−0.96*** (0.3)	−0.96*** (0.29)
Leverage	+	−0.04 (0.22)	−0.11 (0.20)	−0.12 (0.21)	−0.05 (0.17)	−0.11 (0.17)
Firm size	−	−0.03 (0.05)	0.03 (0.05)	0.01 (0.05)	0.01 (0.04)	0.02 (0.04)
Firm age	−	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Industry effects	±	Yes	Yes	Yes	Yes	Yes
Intercept	±	2.28 (1.54)	1.35 (1.50)	1.72 (1.52)	2.94* (1.76)	1.76 (1.65)
Parameters						
Wald χ^2		13.22	25.75**	23.66**	48.37***	41.25***
Pseudo R^2		0.092	0.147	0.135	0.323	0.235
Failed accuracy		65.18	68.02	66.37	76.33	73.13
Non-failed accuracy		63.28	69.10	64.57	77.45	70.75
Overall accuracy		64.17	68.54	65.42	76.88	71.88
ROC		0.711	0.750	0.747	0.859	0.816

Notes: Models 2b and 3b replace the continuous variables (Panel A) in Models 2a and 3a with dummy variables (Panel B); we present marginal effects and robust standard errors clustered at firm level in parenthesis of the LOGIT estimates; *$p < 0.10$; **$p < 0.05$; ***$p < 0.01$; total observations of 480, consisting of non-failed (failed) firms of 240 (240) firm year

random effects models[1]. Overall, the results of the pooled models are upheld. Hausman test is used to select either the fixed or random effects LOGIT analysis. The Hausman test proposes that if *p*-value of the combined estimation of the fixed and random effects is larger than 0.05, then it is safe to use random effects and vice-versa. Our models, however, fail to meet the asymptotic assumptions of the Hausman test; hence our discussion is based on the pooled cross-sectional LOGIT models.

5. Discussion and conclusions

This study uses the agency perspective to study corporate failure in the UK context. Such an approach is fruitful, recognising that agency theory proposes monitoring of CEO's agenda as a mechanism required to lessen the agency loss (Combs *et al.*, 2007) via reducing the moral hazards and adverse selection problems (Gomez-Mejia, and Wiseman, 2007) and ultimately, enhancing the survival of the firm.

Applying this line of thinking, this paper examines whether remuneration committee is related to corporate failure in the UK. Our findings support the view that an effective remuneration committee safeguards the firm's going concern by stretching on the performance-related elements of top executives' remuneration (*H1*). Thus, we can speculate that transparent procedure for fixing firm's executive remuneration policy is designed exclusively to minimise the executives and shareholder conflict (Main *et al.*, 2008), and thus, promotes the long-term success of the entity. From this point, it is argued that a weak remuneration committee might be associated with overly generous pay awards to the executives (Ezzamel and Watson, 2005), suggesting that the going concern of the firm is threatened. An effective remuneration committee, however, may be related to competitive remuneration packages to encourage rich-resources directors to run the

Table V Results of the panel data LOGIT models

Model	*1*		*2a*		*2b*		*3a*		*3b*	
Estimation	*Fixed effect*	*Random effect*	*Fixed effect*	*Random effect*	*Fixed effect*	*Random effect*	*Fixed effect*	*Random effect*	*Fixed effect*	*Random effect*
Remuneration committee										
Effectiveness			−0.44*** (0.08)	−0.46*** (0.08)	−0.80*** (0.22)	−0.82*** (0.22)				
Presence							0.28 (0.54)	0.31 (0.54)	0.18 (0.51)	0.23 (0.52)
Independence							0.85*** (0.09)	0.86*** (0.09)	−0.22 (0.23)	−0.24 (0.23)
Chairman's independence							−2.35*** (0.22)	−2.37*** (0.22)	−2.23*** (0.20)	−2.27*** (0.20)
Size							−0.04 (0.13)	−0.04 (0.13)	0.14 (0.25)	0.18 (0.25)
Meetings							0.01 (0.06)	−0.00 (0.06)	0.44* (0.24)	0.34 (0.24)
Controls										
Composition	−1.62*** (0.60)	−1.65*** (0.61)	−0.47 (0.66)	−0.45 (0.66)	−1.08* (0.63)	−1.09* (0.62)	−3.03*** (0.77)	−3.16*** (0.77)	−1.12 (0.72)	−1.22* (0.72)
Board size	−0.08 (0.05)	−0.08* (0.05)	−0.02 (0.05)	−0.03 (0.05)	−0.06 (0.05)	−0.06 (0.05)	−0.07 (0.06)	−0.07 (0.06)	−0.06 (0.06)	−0.07 (0.06)
Liquidity	−0.67 (0.41)	−0.70* (0.41)	−0.71* (0.42)	−0.75* (0.42)	−0.67 (0.42)	−0.71* (0.42)	−1.01** (0.51)	−1.08** (0.51)	−1.02** (0.47)	−1.06** (0.47)
Profitability	−7.41*** (0.85)	−7.57*** (0.86)	−6.75*** (0.84)	−6.91*** (0.85)	−7.24*** (0.85)	−7.41*** (0.85)	−8.08*** (0.96)	−8.40*** (0.98)	−6.62*** (0.87)	−6.84*** (0.89)
Leverage	0.74* (0.43)	0.71* (0.43)	0.66 (0.43)	0.62 (0.43)	0.81* (0.43)	0.77* (0.43)	0.46(0.53)	0.41 (0.53)	0.59 (0.47)	0.58 (0.48)
Firm size	−1.04*** (0.09)	−1.07*** (0.09)	−0.89*** (0.09)	−0.91*** (0.09)	−0.97*** (0.09)	−1.00*** (0.09)	−0.96*** (0.11)	−0.99*** (0.11)	−0.90*** (0.10)	−0.92*** (0.10)
Firm age	−0.00 (0.00)	−0.00 (0.00)	−0.017(0.00)	−0.00 (0.00)	−0.00 (0.00)	−0.00 (0.00)	−0.01* (0.00)	−0.01* (0.00)	−0.01 (0.00)	−0.00 (0.00)
Industry effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Intercept		6.06*** (0.93)		5.59*** (0.94)		5.76*** (0.94)		6.73*** (1.05)		6.04*** (1.02)
Wald χ^2	761.16***	317.69***	792.41***	328.20***	774.72***	318.90***	998.87***	341.03***	900.36***	352.73***

Notes: Observations: fixed and random effects – 1,714 and 1,835 firm-year observations, respectively; standard errors in parentheses; *$p < 0.10$; **$p < 0.05$; ***$p < 0.01$

company successfully. This interpretation is consistent with the argument that remuneration committees enhance firm's survival chances by aligning the agent and principal interests.

Contrary to the agency theory, our results provide no support on the notion that the presence of remuneration committee reduces the likelihood of corporate failure (*H2*). The important implication of this is that the presence of remuneration committees may be symbolic rather than reducing the prevalent agency problem through the level of executives' remuneration (Conyon and Peck, 1998).

Consistent with agency theory, firms with an independent remuneration committee chair are less likely to fail (*H4*). This may indicate that greater independence of remuneration committee chair safeguards firm's survival by preventing excessive CEO pay packages (Daily *et al.*, 1998; Main *et al.*, 2008). As well, an independent remuneration committee chairman is more likely to monitor and evaluate CEO compensation by implementing a long-term incentive plan and stock options. Borrowing from the resource dependency theory, this, in turn, may restore the investment community's confidence for continual support. This finding complements Main *et al.*'s (2008) findings, that the remuneration committee chair requires greater independence to discharge his onerous role of shaping the remuneration committee proposals, in the light of severe shareholder management conflict. Thus, independent remuneration committee chair may preserve the firms' assets by negotiating fairly and objectively with various stakeholders of the firm.

Contrary to agency theory, our results show that the RCI is positively related to corporate failure (*H3*). If this tells a story, we can argue that the independence of remuneration committee members is assuming a tick-box approach, implying that its members may not be genuinely independent from management, due in part to the board selection process. Put differently, we concur with O'Reilly *et al.* (1988) notion that CEOs have a significant and informal influence in selecting board members, and, thus, the selection process itself can raise CEO compensation to the detriment of the firm's long-term survival. The result on *H3*, however, contradicts expectation of Anglo-Saxon reformers, who provide guidance for greater independence in the compensation committee (Daily *et al.*, 1998) and prior studies in the USA (Platt and Platt, 2012).

Consistent with our expectations, remuneration committee size is not related to corporate failure. This contradicts Platt and Platt's (2012) findings and propositions of agency theory. The likely reasons are as follows. First, it is possible that the absolute number or binary measure of "1" when RC includes at least three independent NED, "0" otherwise, as well as the alternative proxy of the absolute number, do not correctly measure remuneration committee size. Second, we can speculate that shareholders may employ other governance mechanisms to monitor executive compensation but not the size of remuneration committee.

The frequency of remuneration committee meetings is not related to corporate failure, contrary to our expectations (*H6*). This contradicts propositions from agency theory and related research findings, which suggest that frequent RC meetings enhance firm's survival and CEO monitoring by reducing the executive pay fiasco (Daily *et al.*, 1998). Possible reasons are as follows. One, frequency of remuneration committee meetings does not correctly measure board monitoring. This is because remuneration committee meetings may be used mainly for "legal compliance activities" and "information dissemination" rather than control of CEO (Machold and Farquhar, 2013). It is argued that fruitful deliberations are not possible at RC meetings (Jensen, 1993), due, in part, to boards' passivity (Machold and Farquhar, 2013) and unproductive routine task which absorbs most of the limited meeting time (Vafeas, 1999). The finding, however, raises questions about the appropriateness of the agency theory as analytical lens through which to study the efficacy of remuneration committee meetings, as a board monitoring device, in the corporate failure context. This said, our measure of firm size subsumes our measure of frequency of remuneration committee meetings, board size, firm age and board composition[2]. This, in part, explains where these variables are not statistically

significant as expected. The effectiveness of remuneration committee, the independence of the chairman of the remuneration committee, profitability and firm size dominate all other factors in predicting corporate failure in the UK. Firm size, in particular, adds to the firm's ability to control its exchange partners. Put differently, smaller firms, due to managerial deficiencies including ineffective remuneration committee, lack legitimacy to access critical resources from the investment community for survival.

Second, it is plausible that the measure of remuneration committee independence adopted from the Greenbury (1995) may not be appropriate in the corporate failure context. Third, it is also probable that the binary measure of "1" if all members of remuneration committee are independent NEDs does not correctly measure remuneration committee independence. Fourth, we also contend that other governance measures, such as higher proportion of outside directors, are more relevant to evaluate the CEO's performance in the corporate failure context. Lastly, the remuneration committee's impact may be dependent on remuneration committee chair's independence and not the independence of its entire members.

Additionally, the use of agency theory in this study has shown that remuneration committee effectiveness and its chair's independence are important governance mechanisms that contribute towards our understanding of the failure syndrome. Our findings lend support to the notion that well run board remuneration committees prevent corporate failure by allowing the board to monitor managerial performance (Zahra and Pearce, 1989). On board remuneration, findings suggest a more prescriptive requirement to complement Greenbury (1995) and Higgs' (2003) guidance. Specifically, our findings endorse Greenbury and Higgs' recommendation for the establishment of board compensation committee chaired by independent NED. In this vein, the Financial Reporting Council should introduce measures aimed at encouraging boards to adopt a more prescriptive model to ensure an effective remuneration committee to minimise the conflict between executive pay and shareholder wealth maximisation. This finding also serves as a wake-up call for reforms worldwide to embrace a more prescriptive framework to ensure competitive remuneration is pay to maintain and motivate prestigious board members to run their entities successfully.

This study has limitations. First, we neglect small- and medium-sized firms that are not listed, where, arguably, failure is intense. Our conclusions, therefore, cannot be generalised to private and/or entities listed under the Alternative Investment Market (AIM), suggesting future research should seek to replicate this study in the AIM. Second, Jensen and Meckling (1976) propose that execution stock option contracts reduce the prime moral hazard problem by aligning agents and shareholders' interest, and, thus, enhance firm performance. Rajgopal and Shevlin (2002) confirm this notion, implying that stock options enhance shareholder value. Hanlon *et al.* (2003), however, have labelled executive stock options as "rent extraction". In sum, empirical evidence on stock options is mixed. There is also no evidence in relation to the link between executive stock option and corporate failure. Thus, we argue that an examination of stock options in the corporate failure context may provide insight to clear the present ambiguity in the top executive contract literature. More importantly, corporate failure literature would benefit greatly if future research is directed to capture executive stock options.

Notes

1. The additional panel-level variance components, likelihood-ratio test, chibar2 (01) and Prob> chibar2 are available upon request.

2. In unreported results, we rerun all our models without firm size. The results show corporate failure is negatively related to board size, frequency of remuneration committee meetings, board composition and firm age at the 0.01 significance level.

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Appendix 1

Table AI Description of variables

Variable	*Label*	*Measurement*	*Expected sign*
Dependent			
Failed	FAILED	Dummy variable (1 = failed firm, 0 otherwise)	n/a
Panel A: continuous variables			
Independent			
Remuneration Committee Independence	RCI	Number of independent NED on Committee	–
Remuneration Committee Size	RCS	Count of members serving on Committee	
Frequency of RC meetings	RCM	Number of meetings of Committee	–
Remuneration Committee effectiveness	RCE	Composite measure (aggregate of RCP, RCI1, RCCI, RCS1, and RCM1)	–
Panel B: dummy variables			–
Remuneration Committee Presence	RCP	Dummy variable (1 = RCP; 0 = otherwise)	–
Remuneration Committee Independence	RCI1	Dummy variable (1 if the RC is exclusively independent NED, 0 otherwise)	–
Remuneration Committee Chairman Independence	RCCI	Dummy variable (1 if the RC is chaired by independent NED, 0 otherwise)	–
Remuneration Committee Size	RCS1	Dummy variable (1 if the RC has at least three independent NED, 0 otherwise)	–
Frequency of RC meetings	RCM1	Dummy variable (1 if the RC holds at least two meetings, 0 otherwise)	–
Remuneration Committee effectiveness	RCE1	Dummy variable (1 if RCP + RCI1 + RCCI +RCS1 + RCM1> = 3, 0 otherwise)	
Control variables			
Board composition	BODC	Proportion of outsider directors	–
Board size	BODS	Number of directors on the board	–
Liquidity	WCTA	Working capital/total assets	–
Profitability	PROF	Earnings before interest, taxes, depreciation and amortization/total assets	–
Leverage	TDTA	Total debt/total assets	+
Firm size	LOGDA	logarithm of book value of year-end total assets divided by consumer price index-deflator	–
Firm age	FAGE	Balance sheet date minus date of incorporation	±
Industry indicators	INDY		
Technology	TECHN	Dummy variable equals 1 if company is in the technology and 0 if in any other SIC classification	±
Consumer	CONSU	Dummy variable equals 1 if company is in the consumer and 0 if in any other SIC classification	±
Health care	HEALT	Dummy variable equals 1 if company is in the health care and 0 if in any other SIC classification	±
Telecommunication	TELEC	Dummy variable equals 1 if company is in the telecommunication and 0 if in any other SIC classification	±
Basic materials	BMATS	Dummy variable equals 1 if company is in the basic materials and 0 if in any other SIC classification	±
Industrial	INDUS	Dummy variable equals 1 if company is in the industrial and 0 if in any other SIC classification	±

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