Corporate Governance and Firm Performance in the UK Insurance Industry Pre, During and Post the Global Financial Crisis

ABSTRACT

Purpose: Due to stakeholders' concerns on the contribution of corporate governance in monitoring insurance companies during financial crisis, this study aims to investigate whether and how various corporate governance practices would have affected firm performance of listed and non-listed insurance firms in the UK during financial crisis.

Design/Methodology/Approach: This study uses a unique manually collected dataset from listed and non-listed insurance firms in the UK, and applies different regressions models to test the hypotheses and to address the endogeneity problem.

Findings: The findings show that board non-duality and the presence of a majority shareholder improve firm performance in insurance companies. Furthermore, the findings for the sub-samples indicate a stronger positive association between board of directors and firm performance in listed insurance companies after the financial crisis, while a positive impact has been found between large shareholders and external audit firms in non-listed insurance companies before and during the crisis.

Practical Implications: The results offer important practical implications for the government, management, shareholders, and policymakers. For example, regulators and policymakers should benefit from these results to revise the recommendations for corporate governance mechanisms that prove to be effective on firm performance, as well as those mechanisms that have different or unexpected effects among listed or non-listed firms, and/or during the turbulent periods. Investors, should be aware of those specific corporate governance mechanisms that would have higher effect on performance of UK insurance firms in which they are considering to invest in.

Originality/Value: This study contributes to the current literature by exploring the effect of corporate governance on financial performance by comparing between listed and non-listed insurance companies during financial crisis. Further, to the best of authors' knowledge, this is the first study to use two new insurance-related performance measures, the revenue growth ratio, and the adjusted combined ratio, as performance proxies in order to explore whether these new variables create any insights.

Keywords: Corporate Governance, Firm Performance, Insurance, Listed and Non-Listed, Financial Crisis, United Kingdom.

Word Count: 5,995w

1. INTRODUCTION

The UK is one of the world's leading financial markets, and has the largest Insurance market in Europe, and the third largest in the world after the US and Japan (ABI 2013). It is quite a large sector, and a substantial part of the whole economy, which offers safety to policyholders by transferring the loss risk from one entity to another in exchange for premiums (Adams and Jiang, 2016; Elamer et al., 2018). Although prior literature argue that insurance firms are more successful in facing the financial crisis than other sectors, corporate governance would be considered a key factor to improve performance, thereby facilitating growth in insurance companies, as it promotes accountability, enhances transparency, improves profitability and, finally, protects stakeholders' interests (Babu and P.Viswanatham 2013). Strong corporate governance can reduce risks in the insurance sector increase the economy's resilience (Adams and Jiang, 2016; Elamer et al., 2018) and better governance is associated with lower forecast errors (Yu and Wang, 2018).

Following the financial crisis, regulators, shareholders, and policyholders have questioned the effectiveness of the existing corporate governance system for monitoring insurance companies

(Boubakri 2011). Particularly due to many changes in the governance reforms and modifications that challenge business models of insurance firms (Elmagrhi et al., 2017). This motivated us to explore the effects of the global financial crisis of 2007-09 on the way that boards of directors have managed listed and non-listed insurance firms, and to what extent they have been successful in improving the corporate performance. While much academic research has been done on corporate governance in non-financial companies (Andreou et al. 2014; Yoo and Jung 2014; Assenga et al, 2018; Alqatan et al 2020), there has been only a limited empirical research has investigated the corporate governance practices across insurance companies (Boubakri 2011; Huang et al. 2011; Elamer et al., 2018; Ullah et al., 2019). Unlike prior research (Huang et al. 2011) that examines the relation between corporate governance and the efficiency in the US insurance industry during the period from 2000 to 2007, and (Elamer et al.,2018) that focuses on corporate governance and risk-taking based on a sample from UK insurance companies, our study explores the effect of governance practices on firm performance by using insurance-related performance measures. We also differ from (Ullah et al., 2019) that examines the impact of corporate governance and on corporate social responsibility (CSR) disclosures in Bangladeshi insurance companies. Therefore, this study aims to investigate whether and how various corporate governance practices affect firm performance of listed and non-listed insurance firms in the UK. Particularly by focusing on board size, independent non-executive directors, duality, managerial ownership, shareholder ratio, and ownership concentration, auditor independence, and audit provider.

This study contributes to the current literature by first, exploring the effect of corporate governance on financial performance of listed and non-listed insurance companies in the UK during financial crisis. Second, this study compares between listed and non-listed insurance firms, then pre, during and post the financial crisis 2007-09, when exploring the above relationship, which show different effects of corporate governance mechanisms by the quoting type (Listed, Non-Listed), and the financial crisis stage

(Pre, During, Post), respectively. Third, to the best of authors' knowledge, this is the first study to use two new insurance-related performance measures, the revenue growth ratio and the adjusted combined ratio as performance measurements in order to explore whether these new variables create any insights. Fourth, unlike prior studies that focus on listed insurance companies and due to the absence of a UK database that include data from on non-listed insurance companies, this study contributes to the literature by a manually collecting dataset for non-listed insurance companies in the UK.

The rest of this paper is organised as follows. Section 2 shows theoretical framework and hypotheses development. The third section presents data and methodology of this study, followed by the analysis and discussion of the results in section 4. The last section illustrates the research findings, contributions and policy implications, limitations and areas for further research.

2. THEORETICAL FRAMEWORK AND HYPOTHESES DEVELOPMENT

With regard to the theoretical framework of this study, agency theory has successfully explained the proposed corporate governance mechanisms. Based on agency theory (Jensen and Meckling, 1976), principals, shareholders or owners of the company, hires the agents, executives and management team, to operate the company in the principals' best interests, and thus, protect the ownership rights of shareholders. However, this theory suggests also that managers can be self-interested, and they might make decisions against the principals' interests (Jensen and Meckling 1976; Clark 2004). Based on this theory, better corporate governance practices provide better controls that help in increasing value to agents by regular management plans and strategies that enhance insurance companies' performance.

In the current study, the relationship between various corporate governance mechanisms and three proxies of firm performance is summarised in a conceptual framework, as shown in *Figure 1*.

Figure 1 about here

Board Size: According to (Marnet 2005), the board of directors is one of the most important governance mechanisms to minimise agency problems, which leads, based on the agency theory, to reduced agency costs, and maximised firm value (Mallin 2004). Previous studies, such as Huang et al. (2011) and Andreou et al. (2014), showed a significant negative effect of board size on firm performance, due to the difficulty to coordinate and the inability to make decisions quickly. Dedu and Chitan (2013). However, (Saravanan 2012) argued that larger boards can play a significant monitoring role as they are less likely to be dominated by management (Hussainey and Al-Najjar 2012), while Merendino and Melville (2019) and Pucheta-Martínez and Gallego-Álvarez (2020), argue that board size has a positive effect on firm performance for lower levels of board size. On the other hand, (Wintoki et al. 2012; Andreou et al. 2014) found no meaningful relationship between board size and performance.

Therefore, according to the agency theory, the following hypothesis has been assumed:

H_1: There is a positive relationship between board size and firm performance in listed and non-listed insurance companies.

Independent Non-Executive Directors: It is argued, according to agency theory, that independent non-executive directors are more effective than executive directors at monitoring and evaluating the activities of the CEO and management team, as they wish to protect their reputations (Fama and Jensen 1983). Therefore, non-executive directors are positively associated with firm performance (Pucheta-Martínez and Gallego-Álvarez, 2020). However, Weir and Laing (1999) found no relationship between the proportion of non-executive directors and corporate performance in the UK, while Shan (2019) found a negative relationship between the proportion of non-executive directors and corporate performance. Merendino and Melville (2019) conclude that independent directors do have a non-linear effect on firm performance.

Therefore, consistent with the resource dependence theory and agency theory, it has been supposed that:

H_2: There is a positive relationship between the proportion of independent NEDs and firm performance.

CEO / Chair Non-Duality: In the UK, the Cadbury Committee recommended that no one individual has unfettered powers of decision, and thus, there should be a clear separation of responsibilities at the head of the company to ensure a balance of power and authority (Diacon and O'Sullivan 1995). Therefore, it has been argued that this separation would improve operating performance (Andreou et al. 2014). Prior literature show mixed evidence on the effect of CEO duality on firm performance, for example CEO duality has a negative effects (Allegrini and Greco, 2013; Wijethilake and Ekanayake, 2020) or positive effects (Zona, 2014) or no significant effects on performance (Fratini and Tettamanzi, 2015).

In a study of UK insurance companies, Diacon and O'Sullivan (1993) stated that a non-dual CEO-Chairman had a substantial positive influence on firm performance in UK life insurance companies. (Fama and Jensen 1983; Gul and Leung 2004) argued that, otherwise, the board of directors might not be able to independently and efficiently oversee management activities, as the board itself might be controlled by the CEO. Based on the agency theory, the separating of CEO and chairman positions enhances the transparency and accountability of firm decisions, which increases shareholders' trust and, ultimately, firm performance (Wijethilake and Ekanayake, 2020). Therefore, the following hypothesis has been tested:

H_3: There is a positive relationship between board non-duality and firm performance.

Managerial Ownership: Jensen and Meckling (1976) suggested that directors with an increasing number of owned shares can expand their benefits and, thus, they have extra motivation to enhance firm performance, the '*incentive alignment effect*' (Huang et al., 2007). Prior

studies found that firm performance is positively associated with board ownership, in which increased ownership helps to align the interests of shareholders and managers from the agency perspective, and improve corporate performance (Huang et al. 2007); Ko et al., 2019; Young & Abdoush, 2022). However, the strength of this relationship will decline with the increase in managers' ownership, the '*entrenchment effect*', in which managers are more likely to reduce the level of information about their governance practices, and thus, shareholders find it hard to control such managers' activities (Hussainey and Al-Najjar 2012). In contrast, Fama and Jensen (1983) claimed that market discipline will force managers to make positive efforts towards firm performance at very low levels of ownership. Shan (2019) showed a negative effect of managerial ownership on firm performance. On the other hand, Randoy et al. (2003) found no significant relationship between the level of executive ownership and firm profitability, contrary to the predictions of agency theory.

Therefore, in line with the predictions of agency theory, it was assumed that:

H_4: There is a positive relationship between the ownership ratio of executive directors and firm performance.

Large Shareholders: Agency theory suggests that, due to the resources they invest in the company, large shareholders have the motivation and power to reduce the managers' '*entrenchment effect*', ensuring they operate in the shareholders' interests and, thus, enjoy lower agency costs, leading to higher performance, unlike firms with diffused ownership (Hussainey and Al-Najjar 2012). Prior studies have found that large shareholdings are significant and positively linked to corporate performance (Saker and Saker 2000). while AlHares, A. (2020) found a positive relationship between block shareholders and cost of capital. On the other hand, Faccio and Lasfer (2000) and Siddiqui, S.S. (2015) found no such significant relationship, while in other studies, this relationship was vague and unclear as to whether it was positive or negative (Andreou et al. 2014). However, previous studies have assumed that large shareholders act in concert, while,

according to (Zwiebel, 1995 cited in Ducassy and Guyot 2017), they can align with, take a neutral attitude, or even disagree with the main shareholder. In fact, Earle et al. (2005) argue that the marginal contribution of block shareholders in the monitoring process is insignificant although it can reduce the positive impact of the main shareholder, since large shareholders have different preferences, beliefs and competences (Cronqvist and Fahlenbrach 2008). Therefore, large shareholders should not be considered homogeneous, and the degree of homogeneity between them is of particular significant in order to explain prior conflicting results. For example, Ducassy and Guyot (2017) have found a positive effect on the firm value with the presence of a majority shareholder (Main Shareholder) while no significant impact from the presence of a second shareholder (Tier 2 Block Shareholders).

Based on agency theory, as well as the previous discussion, the following hypotheses have been examined:

H_5: The presence of a majority shareholder (main shareholder) leads to improved performance.

H_6: The presence of second tier shareholders has no effect on firm performance with the presence of the main shareholder.

External Auditor: The use of external auditor is considered one of the important elements of monitoring systems, and in the UK, external auditors assist the company to evaluate its accounting procedures, and report on the true and fair state of its financial status (Marnet 2005). In this regard, the ratio of audit fee to the total fees paid to the auditor might be used as a proxy for audit independence, in which the higher the audit fees compares to the total fees, the greater the independence of the auditor (Huang et al. 2011). Indeed, it has been argued that independent auditors enhance the credibility and reliability of financial statements, thus contributing to effective corporate governance (DeFond et al. 2000), since an audit is one type of monitoring activity that have been exist to provide feedback to shareholders on the behavior of managers, in which the cost of audit services represents an agency cost (Colbert and Jahera 1988). In this regard, independent auditors are more efficient in

monitoring the opportunistic behavior of managers, according to the agency theory. However, Schroeder and Hamburger (2002) argued that more non-audit services might help auditors to gain competencies and capabilities that are essential to the audit process, where DeFond et al. (2002) found a positive relationship between the ratio of non-audit services to total fees and firm performance and, thus, a negative impact for the independence ratio.

On the other hand, the Big Four auditors are likely to improve the quality of information disclosure in the firm since, compared to local firm, they are more independent, and have a greater reputation and greater legal liabilities for errors (Michaely and Sahaw 1995). The largest international accounting firms (the Big Four) are: PricewaterhouseCoopers, Deloitte Touche Tohmatsu, Ernst & Young, and KPMG. According to Mitton (2002) and Baek et al. (2004), better disclosure was associated with higher firm performance, as greater disclosure lowers information asymmetry and thereby mitigates agency conflicts between managers and shareholders (Hope and Thomas 2008). For example, Liu et al. (2012) and Young & Abdoush (2022) found a positive and significant coefficient on the Big Four dummy, which indicates that firms with better disclosure quality would suffer less stock price volatility during a crisis period.
Therefore, based on the agency theory, the following hypotheses have been investigated:

H_7: There is a positive relationship between the independence ratio of external auditors and firm performance.

H_8: There is a positive relationship between the audit firm being from the Big4 and firm performance.

3. DATA AND METHODOLOGY

This study collected panel data in order to investigate the impact of various corporate governance mechanisms on the performance of both listed and non-listed insurance companies over a period of 10 years using multiple regression analysis. FAME database has been used to extract the sampling frame for this study, which included all the 657 active insurance firms in the UK at the end of the year 2014. The majority of those companies were private

limited, while there were only 36 companies are public quoted in London Stock Exchange (LSE). Firms for which the UK was not the main market, and firms with no insurance data available from the annual reports, were both excluded. Therefore, a final sample of 67 firms, with only 20 listed companies, and 647 firm-year observations in total, has been selected, which started in 2004 following the release by the Financial Reporting Council (FRC) of the UK corporate governance code 'The Combined Code' in 2003. Finally, due to the lack of a reliable secondary data source for non-listed firms, all corporate governance data, major shareholders information, and most performance data, including insurance-related indicators, such as premiums, claims and combined ratio, were hand-collected from the annual reports of the companies.

Model Specifications

$$\boldsymbol{ROE_{it}} = \beta_0 + \beta_1 *BRDSIZE\_LN + \beta_2 *INED + \beta_3 *BRDNONDLTY + \beta_4 *EDOWN + \beta_5 *MAINSHRHLDR + \beta_6 *T2BLKSHRHLDRS + \beta_7 *AUDITORIND + \beta_8 *AUDITORBIG4 + \beta_9 *FSIZE\_LN\_A + \beta_{10} *LVRG\_AE + \beta_{11} *LIFE + \beta_{12} *NONLIFE + \beta_{13} *LSTD\_OR + \beta_{14} *LAG\_FINCRIS0709 + \beta_{15} *LAG\_SOFTMRKT + \beta_{16} *UKCGCODE03 + \beta_{17} *UKCGCODE06 + \beta_{18} *UKCGCODE08 + \beta_{19} *UKCGCODE10 + \beta_{20} *UKCGCODE12 + \alpha + \mu_i + \varepsilon_{it}$$ **Model 01**

$$\boldsymbol{RVNGRTH_{it}} = \beta_0 + \beta_1 *BRDSIZE\_LN + \beta_2 *INED + \beta_3 *BRDNONDLTY + \beta_4 *EDOWN + \beta_5 *MAINSHRHLDR + \beta_6 *T2BLKSHRHLDRS + \beta_7 *AUDITORIND + \beta_8 *AUDITORBIG4 + \beta_9 *FSIZE\_LN\_A + \beta_{10} *LVRG\_AE + \beta_{11} *LIFE + \beta_{12} *NONLIFE + \beta_{13} *LSTD\_OR + \beta_{14} *LAG\_FINCRIS0709 + \beta_{15} *LAG\_SOFTMRKT + \beta_{16} *UKCGCODE03 + \beta_{17} *UKCGCODE06 + \beta_{18} *UKCGCODE08 + \beta_{19} *UKCGCODE10 + \beta_{20} *UKCGCODE12 + \alpha + \mu_i + \varepsilon_{it}$$ **Model 02**

$$\boldsymbol{ADJCOMBND_{it}} = \beta_0 + \beta_1 *BRDSIZE\_LN + \beta_2 *INED + \beta_3 *BRDNONDLTY + \beta_4 *EDOWN + \beta_5 *MAINSHRHLDR + \beta_6 *T2BLKSHRHLDRS + \beta_7 *AUDITORIND + \beta_8 *AUDITORBIG4 + \beta_9 *FSIZE\_LN\_A + \beta_{10} *LVRG\_AE + \beta_{11} *LIFE + \beta_{12} *NONLIFE + \beta_{13} *LSTD\_OR + \beta_{14} *LAG\_FINCRIS0709 + \beta_{15} *LAG\_SOFTMRKT + \beta_{16} *UKCGCODE03 + \beta_{17} *UKCGCODE06 + \beta_{18} *UKCGCODE08 + \beta_{19} *UKCGCODE10 + \beta_{20} *UKCGCODE12 + \alpha_i + \varepsilon_{it}$$ **Model 03**

Where:

ROE, RVNGRTH & ADJCOMBND*: are the dependent variables, and* ***BRDSIZE_LN, INED, BRDNONDLTY, EDOWN, MAINSHRHLDR, T2BLKSHRHLDRS, AUDITORIND, AUDITORBIG4****: are the independent variables.*

FSIZE_LN_A, LVRG_DE, LIFE, NONLIFE, LSTD_OR, LAG_FINCRIS0709, LAG_SOFTMRKT, UKCGCODE03, UKCGCODE06, UKCGCODE08, UKCGCODE10, UKCGCODE12*: are the control variables.*

β_0: *is the intercept term, and* β_1 ***to*** β_{18}: *are the regression coefficients for independent variables.*
α_i: *is a group-specific constant term.*
μ_i: *is a group-specific random element.*
ε_{it}: *is the error term,* $_i$: *is index for entity, and* $_t$: *is index for time.*

Table 1 about here

Revenue Growth Ratio:

Revenue Growth Ratio indicates the average growth in both premiums earned and net investments. Prior research has used the premium growth ratio only as an insurance-related ratio (Armitage and Kirk 1994; Diacon and O'Sullivan 1995), although investments are an important source of revenue for insurance companies. Therefore, consistent with (Aggarwal et al. 2016), which have used the growth in total revenues, this study also uses the growth ratio of total revenue, including both premiums and net investment income.

RVNGRTH =

Where: Total Revenue = Premiums Earned + Net Investment Income

Adjusted Combined Ratio:

Adjusted Combined Ratio comprises the sum of incurred losses and expenses divided by the sum of earned premiums and investments. Prior research has used the combined ratio only, which is a measure of profitability used by an insurance company to indicate how well it is performing in its daily operations, and comprises the sum of claims, legal expenses and underwriting costs divided by earned premiums (Fiegenbaum and Thomas 1990; Nathanson 2004; Chen et al. 2014). This ratio is expressed as a percentage, in which a ratio below 100% means that the insurance company has achieved an underwriting profit, while a ratio above 100% indicates an underwriting loss (Browne and Hoyt 1995; Insurance Information Institute 2002; Nathanson 2004; Okura and Yamaguchi 2014). However, the company might still make a profit even if its combined ratio is over 100%, since this ratio does not include return from investments (Insurance Information Institute 2013). Therefore, the adjusted combined ratio is used in order to properly correlate corporate governance

with a reliable indicator of an insurer's profitability.

ADJCOMBND =

Descriptive Statistics

Table 2 shows an overview of the board's characteristics for the sample firms during the study period (2004-2013). It can be seen that most companies has nine directors on average (8.70), with a minimum of two and a maximum of twenty-two directors among the 67 insurance firms. With regard to board structure, 80.60% of the board members hold UK nationality, while females consist only 8.96% of the whole board (*Table 1*). Regarding board independence, an average of 38% board directors are independent non-executives, with a maximum of 90%, while around 85% of the sample firms have the positions of CEO and Chairman separated. In the terms of board experience, board age ranges between 42 and 68 with an average of 54 years old, while the board tenure ranges from a few months (0.17) to over ten years (10.33), with an average of around four years (4.15). On the other hand, the average tenure length of executive directors is around 4 years and 3 months (4.24) compared to that of non-executives, 3 years and 8 months (3.69), while non-executives have an average of 6 outside directorships (37% of total board outside directorships), with a maximum of 22 directorships (*Table 2*).

With regard to board financial incentives, *Table 2* indicates that average remuneration of the board nearly hits £250K per year, ranges from as little as £3.3K to a maximum of £1,271K a year, with an average of 37.24% paid to the highest paid directors, usually the CEOs. Regarding managerial ownership, board of directors owns only 24.44% of the outstanding shares with half of the shares, 12.15%, belongs to the executive directors (*Table 2*). On the other hand, the main shareholder has an average of 69.39% of the outstanding shares, while the second-tier block and major shareholders barely own around 2.62%, 4.69% respectively (*Table 1*). Finally, the ratio of auditing fees to the total fees paid to the external auditor, representing the independence ratio of external auditor, reaches 73% on average, while 93% of the insurance

companies have their financial accounts audited by one of the Big Four audit firms. With regard to firm performance, the return on equity (ROE) has an average of 13.53% for the whole sample, and an average of 38% for the revenue growth ratio, while the adjusted combined ratio, calculated as the total operating expenses and claims divided by total premiums and net investment income, nearly reaches 103% on average (*Table 2*). Finally, the financial leverage, calculated as the ratio of assets to equity, and the solvency ratio, measured by the ratio of debt to equity, swung from as low as 0% to a maximum of 92 and 91 respectively, which is a huge ratio, indicating that financing by debt in some firms has outweighed financing through shareholders' equity (*Table 2*).

Table 2 about here

4. RESULTS AND DISCUSSION

Specification tests were carried out in order to select the most appropriate panel model for each regression (*Table 3*). Those tests are the Hausman test, the Breusch-Pagan Lagrange Multiplier test (LM), the F-test, and finally, testing for time fixed effects (see Hausman 1978; Breusch and Pagan 1979; Greene 2008).

Table 3 about here

Firstly, by using the **Hausman test** in order to choose between fixed and random effects, the results cannot reject the null hypothesis for the first and second models, while the fixed effects model was chosen for the third model since its result was less than 0.05 (*Table 3*). Secondly, the **Lagrange Multiplier test (LM)** for random effects showed that both the first and second models rejected the null, suggesting that panel regression was necessary, rather than OLS regression (*Table 3*). On the other hand, the **F-Test** was used to test the third model for fixed effects, and found that the fixed effects model had to be used, not the OLS regression (*Table 3*). Finally, using **Testparm** for time-fixed effects, there was no need to add such dummies into the third model (*Table 3*).

As seen in *Table 4*, board size has no impact on firm performance, which meant that the first hypothesis (H_1) was rejected, and that board size did not affect firm performance in any way. This result was consistent with previous studies of (Wintoki et al. 2012; Andreou et al. 2014) found no meaningful relationship between board size and performance, meaning that board size does not matter but board quality does, such as the ratio of independent non-executives, board non-duality, board tenure, board age, the financial and/or insurance experience, etc. It is also clear from *Table 5* that the ratio of independent non-executive directors also had no relationship with firm performance, which rejected the second hypothesis (H_2). This result was consistent with the findings of Weir and Laing (1999) found no relationship between the proportion of non-executive directors and corporate performance in the UK. It means that independence and external experience of non-executives could not help improving firm performance, while the dependence and experience of executives might do. The results showed that board duality had a marginal significant positive impact on firm performance, as seen in *Table 4*. This result was consistent with agency theory and prior research suggesting that no one director should have unlimited power in the decision-making process as, otherwise, the board might not be able to manage the company independently and effectively (Gul and Leung 2004; FRC 2014).

It can be seen from *Table 4* that ED ownership ratio had no statistically significant impact on firm performance, which rejected the suggested hypothesis (H_4). This result is therefore inconsistent the alignment of interest hypothesis (Jensen and Meckling 1976), by which managers who own shares in the company would reduce agency costs and improve firm performance by aligning their interests to other shareholders' and, thus, they have less incentive for opportunistic behaviour.

Based on the results of *Table 4*, main shareholder had a marginally significant effect on firm performance, measured by the adjusted combined ratio, while the second tier shareholders have also

marginally significant impact on firm performance, measured by the revenue growth, which confirm hypothesis (H_5) and reject hypothesis (H_6) respectively. From *Table 4*, it can be seen that a 1% increase in the main shareholder ratio leads to about 0.6% decrease in the adjusted combined ratio, which means an increase in the underwriting result of the company. This result is generally consistent with the findings of Fama and Jensen (1983), Shleifer and Vishny (1986), and Leech and Leahy (1991), who claimed that large shareholders have more incentive and greater ability to monitor the managers for the shared interest of all shareholders. More specifically, this result is consistent with the results of Ducassy and Guyot (2017), who found a positive influence on the firm value with the presence of a majority shareholder. On the other hand, an 1% increase in the second tier shareholders would improve the revenue growth ratio by 0.66%, which is inconsistent with prior studies which found that marginal contribution of the second tier block shareholders in the monitoring process is insignificant (Ducassy and Guyot 2017). *Table 4* also shows a positive but not statistically significant impact of the auditor independence ratio on performance while being a Big Four audit firm will lead to a significant negative effect on firm performance, measured by the return on equity, which rejected both hypotheses (H_7) and (H_8). In other words, this result was inconsistent with prior studies that found a positive relationship between the ratio for non-audit fees, i.e. a negative impact of the independence ratio, and firm performance (Schroeder and Hamburger 2002). The result was also inconsistent with the studies of Michaely and Sahaw (1995), who argued that Big Four auditors are likely to improve the quality of information disclosure in the firm compared to local firm, in which better disclosure was associated with higher firm performance (Baek et al. 2004).

On the other hand, the control variables also had different results amongst the three regression models, as noticed from *Table 4*. Firstly, it can be observed from *Table 4* that firm size, estimated by the natural logarithm of total assets, had a highly significant positive effect on firm performance, measured by both the revenue

growth ratio and the adjusted combined ratio, while no statistically significant effect has been found with the financial leverage, measured by equity multiplier (*Table 4*). With regard to the insurance line, *Table 4* shows that selling life products negatively affect the return on equity, while selling non-life insurance had a significant positive effect on the adjusted combined ratio. Moreover, being listed in the London Stock Exchange or outside the UK has no effect on firm performance (*Table 4*). In terms of financial and insurance cycles, the financial crisis of 2007–09 is considered by many economists to have been the worst financial crisis since the Great Depression of the 1930s (Crotty 2009). This crisis had a negative significant effect on all firm performance measures, in which the financial crisis has led to a decline in the ROE by 0.10%, and the revenue growth by 0.50%, and the adjusted combined ratio by 40%. (see *Table 4*). On the other hand, *Table 4* shows no effect on firm performance during either soft or hard phases of the underwriting cycle. Finally, taking into consideration the release of every updated corporate governance code in the UK, it can be clearly seen that the UK corporate governance codes of 2003 and 2008 has a positive significant impact on firm performance, measured by both the return on equity and adjusted combined ratio (*Table 4*).

Table 4 below represents the main regression results for corporate governance mechanisms and control variables with each of the three performance proxies.

Table 4 about here

Additional analysis

- ***Listed Vs Non-Listed Insurance Companies***

When comparing listed and non-listed companies, the results shown in (*Table 5*) indicate that listed companies were more sensitive to the changes in corporate governance mechanisms than non-listed companies. This result might be explained, according to (Desender et al. 2013), by the agency theory that clarifies how large controlling shareholders, with none or low managerial ownership,

solve the managers-shareholders conflicts as they have both ability and incentives to monitor management team themselves, rather than using the board to add an additional layer of monitoring, This is clear from *Table 5*, in which the ratio of major shareholders of non-listed companies is 84.79%, compared to listed companies, 48.20%., while the executive ownership for listed companies is around 15.04% However, as soon as the managerial ownership is started to increase, the strength of this relationship will decline by what it is called 'entrenchment effect', in which managers are more likely to reduce the level of information about their governance practices, and thus, shareholders find it hard to control such managers' activities themselves (Hussainey and Al-Najjar, 2012).

Table 5 about here

As can be seen from *Table 5*, in listed companies, board size, managerial ownership, and main shareholder with more than 50% ratio had a positive effect on firm performance, measured by either return on equity, revenue growth, or adjusted combined ratio, while the board non-duality had a negative effect on the adjusted combined ratio only. In non-listed companies, however, the main shareholder with more than 50% ratio, tier 2 block shareholders with more than 10% ratio, and the external auditor independence ratio, had a positive effect on firm performance, measured by either return on equity, revenue growth, or adjusted combined ratio (*Table 5*).

However, it is clear from (*Table 5*) that independent non-executives have a negative impact, although not statistically significant, in addition to the marginal significant negative impact of having two separated CEO and Chairman on the adjusted combined ratio. This weird result can be explained by the fact that directors in listed companies are busier, 72.51%, and have more outside directorships, 12.43, compared to non-listed companies (64.58% and 4.86 respectively). According to agency theory, too many directorships may negatively affect the monitoring role of

outside directors, as they will be too busy to perform their duties prudently and, thus, lead to lower firm performance (Fich and Shivdasani, 2006).

Regarding board ownership and controlling shareholders, since the majority shareholders in listed companies have a relatively low ratio, 41%, in which even if they have the willing to monitor, such ratio would lower their ability to monitor management team effectively, but this ability would increase with the increase in their ownership. Moreover, increasing managerial ownership would help to align managers' interests with those of shareholders, leading to reduces agency costs, and thus, improved firm performance (*Table 8*), consistent with the findings of (Huang et al., 2007).

- ***Pre, During and Post the Global Financial Crisis (2007-2009)***

With regard to the financial crisis of 2007-09, it can be noticed from *Table 6* that board size, independent non-executives, and shareholders (main and tier2) positively affected firm performance before and during the crisis while the more independent non-executives and managerial ownership, the more significant the impact on firm performance after the crisis. This is consistent with the findings of Peni and Vähämaa (2012) which have argued that good corporate governance might have mitigated the negative effect of the crisis.

Table 6 about here

Table 6 shows that board size had a marginal positive effect, Independent non-executives and main shareholder, owning at least 50% of outstanding shares had a significant effect, and tier 2 block shareholders owning at least 10 has a highly significant effect, while having a Big4 firm as the external auditor had a marginal negative impact on firm performance before the financial crisis. On the other hand, during the financial crisis, tier2 block shareholders had a marginal significant effect while the main shareholder turned to be highly significant on firm performance.

However, board size had a marginal effect, positive on the return on assets but negative on the revenue growth ratio (*Table 6*). Finally, it is observed from *Table 6* that independent non-executive directors and managerial ownership had a clear positive impact on firm performance after the financial crisis.

5. CONCLUSION

The aim of this study was to examine the impact of corporate governance on firm performance in the UK insurance industry during the period 2004-2013 in the first stage, and to see if there are any difference by quoting type and/or during turbulent periods. The findings show that board non-duality and the ratio of main shareholder showed a positive impact on firm performance, while being one of the Big Four audit firms affected firm performance negatively, with no significant effect was found of the other corporate governance practices on firm performance. On the other hand, being listed in a stock market would make insurance firms more sensitive to the changes in corporate governance mechanisms than non-listed companies, while such practices have been found to be more effective after the financial crisis with more impact of large shareholders and external auditor on performance before and during the crisis. In listed companies, board size, managerial ownership and main shareholder have a positive impact, and board non-duality has a negative impact, while the presence of large shareholders (both main shareholder and second-tier block shareholders) has a positive effect in non-listed

companies. On the other hand, shareholders and external auditor had a positive impact on firm performance before and during the global financial crisis of 2007-09, while independent non-executives and managerial ownership had positively affected firm performance after the crisis.

Regarding policy implications, regulators and policy-makers should benefit from these results to revise the recommendations for corporate governance mechanisms that prove to be effective on firm performance, as well as those mechanisms that have different

or unexpected effects among listed or non-listed firms, and/or during the turbulent periods. Investors, in turn, should also be aware of those specific corporate governance mechanisms that would have higher effect on performance of UK insurance firms in which they are considering to invest in. This study has several limitations that might affect the significance of research findings. Firstly, as both listed and non-listed companies are included within the sample, only accounting-based performance measures have been used in this study, since market-based measures, such as Tobin's Q, can only be estimated for listed companies. Secondly, it could be argued that the financial crisis 2007-09 has ongoing effects post 2009 in addition to the possible effects of the Eurozone crisis 2010-12, as well as the ongoing effects of the regular changes to the UK corporate governance code during the study period 2004-2013, with further changed anticipated over years. Therefore, there is the possibility that such changes and extended effects have controlled the way that corporate governance affected performance, rather than assuming pure influence over the years 2004-2013. It would be interesting to examine the impact of the change in the UK corporate governance code on financial performance for insurance companies. It also will be very interesting to test the impact of corporate governance on financial performance in the UK and worldwide during the .Covid-19 pandemic

					Return on Equity (ROE)
H_1	**Board Size**				
H_2	**Independent NEDs Ratio**				
H_3	**Board Non-Duality**				
H_4	**Managerial Ownership**		**Corporate Governance**		**Revenue Growth Ratio**
H_5	**Main Shareholder Ratio**				
H_6	**Tier 2 Block Shareholders (5%) Ratio**				
H_7	**Auditor Independence Ratio**				
H_8	**Big4 Audit Firm**				**Adjusted Combined Ratio**

Figure 1: A Framework of the impact of Corporate Governance on Firm Performance

Table 1: Variable Measurements

Board Size	The total number of directors on the board	(Huang et al. 2011; Albitar, 2015; Albitar et al., 2020; Gerged et al., 2021)
INED	The proportion of independent non-executive directors to the total number of directors on the board	(Diacon and O'Sullivan 1995; Albitar, 2015; Albitar., 2020; Gerged et al., 2021)
Board Non-Duality	Dummy variable that equalled '0' if the CEO was also the chairman of the company, and '1' otherwise	(Diacon and O'Sullivan 1995)
ED Ownership Ratio	This ratio comprised the outstanding shares held by executive directors to the total outstanding shares	(Huang et al. 2007)
Main Shareholder Ratio	This ratio represented the proportion of shares held by the main shareholder.	(Ducassy and Guyot 2017)
Tier 2 Block Shareholders (5%) Ratio	This ratio represented the proportion of shares held by block shareholders who owned 5% of shares at least to the total outstanding shares, after subtracting the main shareholder ratio.	(Ciftci et al., 2019; Feng et al., 2020; Chen et al., 2021)
External Auditor Independence Ratio	This ratio represented the proportion of audit fees divided by the total fees paid to the external audit firm.	(Huang et al. 2011)
Big4 Audit Firm:	A dummy variable that takes the value of one for firms that adopt a Big Four accounting firm as the auditor and zero otherwise	(Liu et al. 2012)
Return on Equity (ROE)	The return on equity (ROE), calculated as the ratio of net income to total shareholders' equity, measures the return for each sterling pound invested in the company	(Vintila and Gherghina 2012; Albitar et al., 2020)
Revenue Growth Ratio:	Revenue Growth Ratio indicates the average growth in both premiums earned and net investments.	(Aggarwal et al. 2019)
Adjusted Combined Ratio	Adjusted Combined Ratio: The combined ratio[1] is a measure of profitability used by an insurance company to indicate how well it is performing in its daily operations, and comprises the sum of claims, legal expenses and underwriting costs divided by earned premiums.	(Nathanson 2004; Chen et al. 2014)
SIZE	Logarithm of total assets in order to capture the potential economies of scale and scope accruing to large firms	(Ciftci et al., 2019; Albitar et al., 2020)

Leverage	The ratio of total assets to total equity	(Glotova et al. 2014)
Insurance Line (Life, Non-Life & Composite)	Two dummy variables to control for insurance line of business; one to indicate selling life insurance and the other to indicate selling non-life insurance. Therefore, life dummy is assigned '1' and non-life dummy is assigned '0' for life insurance firms, while for non-life insurance firms, non-life dummy is assigned '1' and the other one '0'	(Najjar and Hussainey 2016)
Listing Status (Listed, Non-Listed)	One dummy variable was used to control for the listing status, since our sample contains both listed and non-listed companies, in which the value is "1" where the firm is listed in the London Stock Exchange (LSE) and/or outside the UK, and "0" otherwise.	(Coluzzi et al. 2012; Chen 2015)
The Global Financial crisis of 2007-09	Dummy is equal to '1' when there was a crisis last year, and '0' otherwise, since the impact of such crises does probably appear during the following year, and thus, a lagged dummy variable is required to control for this crisis, and to ensure exogeneity as well (Barnhart and Rosenstein 1998)	(Steiner 2012)
Insurance Cycle (Soft & Hard Market)	The average combined ratio, equal to total losses divided by total premiums, is used as a proxy to indicate the stage of underwriting cycle, i.e. whether insurance industry is experiencing a soft or hard market.	(Lei and Browne 2017).
UK Corporate Governance Codes (2003-2012)	2003, 2006, 2008, 2010 and 2012, as a key exogenous factor for governance studies in the UK. For the purpose of this study, '1' is assigned to each dummy variable from the year after the release year of its respective updated code until the release year of following update, and '0' otherwise.	(Himmelberg,2002)

Table 2: Corporate Governance Figures of the Study Sample

Variable	**N**	**Median**	**Mean**	**SD**	**Min**	**Max**
Board Size	645	8	8.70	2.98	2	22
UK Board Members	645	87.50%	80.60%	22.49%	0.00%	100.00%
Female Board Members	645	7.69%	8.96%	10.54%	0%	50%
Independent Non-Executive Directors	645	40%	38.16%	20.14%	0%	90%
Board Non-Duality	645	100.00%	84.65%	36.07%	0.00%	100.00%
Board Age	645	55.15	54.29	4.88	41.95	67.71
Board Tenure	645	3.89	4.19	1.99	0.17	10.35
Executives Tenure	645	3.72	4.24	2.69	0	15.33
Independent Non-Executives Tenure	645	3.36	3.69	2.81	0	16.57
Independent Non-Executives Outside Directorships	647	4.00	6.08	6.29	0	22.00
Independent Non-Executives Outside Directorships Ratio	642	37.03%	36.73%	25.99%	0.00%	100.00%
Average Board Remuneration	558	188.18	249.35	193.56	3.33	1,271.24
High Paid Director Ratio	551	33.02%	37.24%	15.39%	7.09%	93.83%
Board Ownership Ratio	647	0.70%	24.44%	28.67%	0.00%	59.09%
Executives Ownership Ratio	647	0.27%	12.15%	14.30%	0.00%	29.55%
Main Shareholder Ratio	642	100.00%	69.39%	42.90%	0.00%	100.00%
Main Shareholder (>50%)	642	100.00%	69.00%	46.28%	0.00%	100.00%
Block Shareholders (5%) Ratio	642	100.00%	72.01%	40.71%	0.00%	100.00%
Tier 2 Block Shareholders Ratio	642	0.00%	2.73%	7.60%	0.00%	49.40%
Tier 2 Block Shareholders (>10%)	642	0.00%	10.90%	31.19%	0.00%	100.00%
Major Shareholders (3%) Ratio	642	0.00%	3.27%	17.80%	0.00%	100.00%
Tier 2 Major Shareholders Ratio	642	100.00%	74.07%	38.33%	0.00%	100.00%

External Auditor Independence Ratio	636	74%	73.15%	22.10%	4%	100%
Big Four Audit Firm	647	100.00%	92.89%	25.72%	0.00%	100.00%
Return on Equity (ROE)	626	12.72%	13.58%	20.62%	-67.23%	86.43%
Revenue Growth Ratio	647	5.52%	38.19%	167.89%	-355.46%	501.57%
Adjusted Combined Ratio	647	87.81%	102.86%	81.17%	5.72%	375.70%
Financial Leverage (Assets to Equity)	647	6	15.18	21.98	1	92
Solvency (Debt to Equity)	647	5	14.60	22.57	0	91

Table 3: Results of Specification Tests

Specification Test	**Model 01 (ROE)**	**Model 02 (RVNUGRTH_w)**	**Model 03 (ADJCOMBND_w)**
Hausman test for fixed versus random effects model *[If ≤0.05 ⟹ Fixed Effects]*	Prob>chi2 = 0.9329	Prob>chi2 = 0.7035	Prob>chi2 = 0.0000
Breusch-Pagan LM test for random effects versus OLS *[if≤0.05 ⟹ use Random Effects]*	Prob>chibar2 = 0.0000	Prob>chibar2 = 0.0053	-
F-Test for fixed effects versus OLS *[if Prob>F ≤0.05 ⟹ use Fixed Effects]*	-	-	Prob>F= 0.0000
Testparm (Testing for Time-Fixed Effects) *[if≤0.05 ⟹ time fixed_effects needed]*	-	-	Prob>F= 0.2998
Decision	Random Effects	Random Effects	Fixed Effects

Table 4: Regression Results

VARIABLES	**Model 01 RE Robust ROE**	**Model 02 RE Robust RVNGRTH**	**Model 03 FE Robust ADJCOMBND**
Board Size	0.0458	-0.536	-0.0553
	(0.208)	(0.402)	(0.719)
Independent NED Ratio	-0.0261	0.471	-0.0478
	(0.716)	(0.621)	(0.830)
Board Non-Duality	0.0593*	0.0691	-0.138
	(0.0657)	(0.896)	(0.193)
ED Ownership Ratio	0.119	1.458	-0.524
	(0.146)	(0.488)	(0.158)
Main Shareholder (>50%)	0.00663	0.351	-0.576*
	(0.837)	(0.385)	(0.0933)
Tier 2 Block Shareholders (>10%)	0.0259	0.660*	0.000430
	(0.286)	(0.0906)	(0.997)
External Auditor Independence Ratio	0.0467	0.831	-0.177
	(0.282)	(0.429)	(0.351)
Big Four Audit Firm	-0.103**	-0.497	-0.0566
	(0.0252)	(0.458)	(0.800)
Firm Size (Assets LN)	0.00537	0.532***	-0.290***
	(0.574)	(0.000137)	(0.000274)
Financial Leverage (Assets to Equity Ratio)	-0.000832	0.00650	-0.00273
	(0.364)	(0.535)	(0.422)
LIFE	-0.0828***	0.296	-0.487
	(0.00880)	(0.527)	(0.323)
NONLIFE	-0.0563	0.646	-0.385***
	(0.109)	(0.197)	(0.000550)

Listed (UK or Outside)	0.0359	0.165	-
	(0.397)	(0.793)	
Financial Crisis 2007-09 (Lagged)	-0.0980***	-0.491*	0.400**
	(0.00312)	(0.0668)	(0.0101)
Underwriting Cycle - Soft Market (Lagged)	-0.0184	-0.444	0.00428
	(0.334)	(0.168)	(0.930)
UK Corporate Governance Code 2003 (Dummy)	0.0573**	-0.225	-0.231**
	(0.0319)	(0.649)	(0.0203)
UK Corporate Governance Code 2006 (Dummy)	-0.0104	-0.0790	-0.0768
	(0.679)	(0.870)	(0.359)
UK Corporate Governance Code 2008 (Dummy)	0.101***	0.307	-0.362**
	(0.00478)	(0.482)	(0.0242)
UK Corporate Governance Code 2010 (Dummy)	-0.0215	-0.319	0.0431
	(0.207)	(0.225)	(0.561)
UK Corporate Governance Code 2012 (Dummy)	-	-	-
R-squared (within)	0.1300	0.0497	0.1622
R-squared (between)	0.1168	0.3017	0.0008
R-squared (overall)	0.1172	0.1819	0.0125

Robust pval in parentheses

****** p<0.01, ** p<0.05, * p<0.1***

Table 5: Summary of Regression Results for Listed and Non-Listed Insurance Companies

	VARIABLES	Model 01 (ROE) RE Robust		Model 02 (RVNUGRTH) RE Robust		Model 03 (ADJCOMBND) FE Robust	
		L	NL	L	NL	L	NL
H1	Board Size	0.199**	0.0298	-1.198	-0.558	-0.613	0.0391
		(0.0261)	(0.473)	(0.364)	(0.447)	(0.155)	(0.818)
H2	Independent NED Ratio	0.115	-0.00739	3.391	0.410	0.861	-0.157
		(0.440)	(0.926)	(0.120)	(0.693)	(0.232)	(0.535)
H3	Board Non-Duality	-0.0498	0.0443	-0.107	0.0749	0.247*	-0.136
		(0.705)	(0.188)	(0.896)	(0.900)	(0.0631)	(0.234)
H4	ED Ownership Ratio	0.932*	0.168	-0.700	2.601	-1.135	-0.254
		(0.0822)	(0.117)	(0.873)	(0.291)	(0.214)	(0.536)
H5	Main Shareholder (>50%)	-0.0957	0.108**	0.942*	0.679	-0.628*	0.0266
		(0.112)	(0.0213)	(0.0868)	(0.412)	(0.0778)	(0.772)
H6	Tier 2 Block Shareholders (>10%)	-0.00451	0.0229	0.274	2.809***	0.0420	-0.0755
		(0.915)	(0.803)	(0.251)	(2.86e-07)	(0.751)	(0.225)
H7	External Auditor Independence Ratio	0.0536	0.0360	0.771	1.045	0.449	-0.357**
		(0.535)	(0.287)	(0.665)	(0.309)	(0.236)	(0.0238)
H8	Big Four Audit Firm	-0.0862	-0.0898	-0.379	-0.174	0.378	-0.129
		(0.243)	(0.140)	(0.613)	(0.847)	(0.369)	(0.618)
	R-squared (within)	0.1441	0.1073	0.0661	0.0942	0.2407	0.1773
	R-squared (between)	0.6669	0.1115	0.5079	0.3421	0.0001	0.0097
	R-squared (overall)	0.4028	0.1143	0.3739	0.2004	0.0146	0.0357

Robust pval in parentheses
****** p<0.01, ** p<0.05, * p<0.1***

Where: L: Listed, NL: Non-Listed

Table 6: Summary of Regression Results Before, During and After the Global Financial Crisis of 2007-09

VARIABLES	Model 01 (ROE) RE Robust			Model 02 (RVNUGRTH) RE Robust			Model 03 (ADJCOMBND) FE Robust		
	B	D	A	B	D	A	B	D	A
Board Size	0.0473	0.113*	0.0366	1.616*	-1.206*	-1.234	-0.0235	-0.735	0.0355
	(0.445)	(0.0654)	(0.435)	(0.0563)	(0.0795)	(0.182)	(0.930)	(0.153)	(0.902)
Independent NED Ratio	0.151**	0.0118	0.0239	0.130	0.498	2.206*	-0.532	-1.179	-0.143
	(0.0315)	(0.911)	(0.849)	(0.929)	(0.668)	(0.0742)	(0.298)	(0.151)	(0.747)
Board Non-Duality	0.0254	0.0629	0.0775	-1.081	-0.0197	1.079*	-0.0443	-0.398	0.138
	(0.497)	(0.202)	(0.129)	(0.245)	(0.981)	(0.0701)	(0.683)	(0.366)	(0.161)
ED Ownership Ratio	-0.0367	0.253	0.299**	2.184	2.732	0.859	1.844	-0.586	-1.508*
	(0.860)	(0.141)	(0.0210)	(0.353)	(0.141)	(0.763)	(0.176)	(0.616)	(0.0973)
Main Shareholder (>50%)	0.0544	0.0366	-0.0343	0.330	0.335	0.235	-0.158**	-0.344***	-0.721
	(0.302)	(0.584)	(0.548)	(0.727)	(0.652)	(0.640)	(0.0292)	(0.00495)	(0.555)
Tier 2 Block Shareholders (>10%)	0.0103	0.121*	-0.00775	0.248	1.024**	0.193	-0.258***	-0.645	0.182
	(0.819)	(0.0539)	(0.781)	(0.650)	(0.0453)	(0.620)	(0.000302)	(0.103)	(0.326)
External Auditor Independence Ratio	-0.120	-0.0154	-0.00357	-0.704	0.887	1.048			-0.0475
	(0.110)	(0.818)	(0.944)	(0.700)	(0.516)	(0.167)			(0.805)
Big Four Audit Firm	-0.142**	-0.0522	0.0273	1.205	0.377	-0.0153	0.325	-0.276	0.116
	(0.0335)	(0.542)	(0.641)	(0.327)	(0.659)	(0.984)	(0.318)	(0.777)	(0.674)
Firm Size (Assets LN)	0.0311*	0.0107	-0.00416	0.654***	0.669***	0.542***	-0.573***	-0.860***	-0.263
	(0.0862)	(0.359)	(0.705)	(0.000461)	(0.000154)	(0.00103)	(0.000418)	(5.36e-06)	(0.437)
Financial Leverage (Assets to Equity Ratio)	-0.00164	0.000235	0.00147	0.00541	-0.00745	0.00144	-0.00408	-0.0176	-0.0130
	0.0473	0.113*	0.0366	1.616*	-1.206*	-1.234	-0.0235	-0.735	0.0355
R-squared (within)	0.1501	0.0967	0.0209	0.0429	0.0952	0.0240	0.4305	0.2114	0.0853
R-squared (between)	0.1088	0.1869	0.1760	0.3137	0.1531	0.1536	0.0356	0.0005	0.0164
R-squared (overall)	0.1006	0.1441	0.1132	0.1401	0.1084	0.0609	0.0145	0.0009	0.0177

Robust pval in parentheses
****** p<0.01, ** p<0.05, * p<0.1***

Where B: Before, D: During, A: After

Table 7: Summary of Regression Results with 2SLS Robustness Checks

VARIABLES	Model 01 RE Robust ROE	Model 01 ROE 2SLS	Model 02 RE Robust RVNGRTH	Model 02 RVNGRTH 2SLS	Model 03 FE Robust ADJCOMBND	Model 02 ADJCOMBND 2SLS
Board Size	0.0458	0.0514**	-0.536	-0.802**	-0.0553	-0.353***
	(0.208)	(0.0499)	(0.402)	(0.0200)	(0.719)	(0.000364)
Independent NED Ratio	-0.0261	-0.00227	0.471	1.117*	-0.0478	-0.187
	(0.716)	(0.961)	(0.621)	(0.0687)	(0.830)	(0.289)
Board Non-Duality	0.0593*	0.0602**	0.0691	-0.108	-0.138	-0.149*
	(0.0657)	(0.0120)	(0.896)	(0.731)	(0.193)	(0.0991)
ED Ownership Ratio	0.119	0.218***	1.458	2.979***	-0.524	0.291
	(0.146)	(0.000376)	(0.488)	(0.000209)	(0.158)	(0.207)
Main Shareholder (>50%)	0.00663	0.0339	0.351	0.469	-0.576*	0.155*
	(0.837)	(0.175)	(0.385)	(0.147)	(0.0933)	(0.0961)
Tier 2 Block Shareholders (>10%)	0.0259	0.0515*	0.660*	0.622	0.000430	-0.428***
	(0.286)	(0.0918)	(0.0906)	(0.123)	(0.997)	(0.000225)
External Auditor Independence Ratio	0.0467	0.0222	0.831	0.391	-0.177	-0.0294
	(0.282)	(0.522)	(0.429)	(0.391)	(0.351)	(0.822)
Big Four Audit Firm	-0.103**	-0.0606	-0.497	-0.245	-0.0566	0.0135
	(0.0252)	(0.136)	(0.458)	(0.646)	(0.800)	(0.930)

Robust pval in parentheses
****** p<0.01, ** p<0.05, * p<0.1***
Where: ROE: Return on Equity, RVNGRTH: Revenue Growth Ratio, ADJCOMBND: Adjusted Combined Ratio.

REFERENCES

ABI (2014), "UK Insurance - Key Facts 2014", London: Association of British Insurers (ABI).

Aggarwal, R., Schloetzer, J. D. and Williamson, R. (2016), "Do Corporate Governance Mandates Impact Long-Term Firm Value and Governance Culture?" *Journal of Corporate Finance*.

Aggarwal, R., Schloetzer, J. D., & Williamson, R. (2019), "Do corporate governance mandates impact long-term firm value and governance culture?", *Journal of Corporate Finance*, Vol. 59, pp. 202-217.

Albitar, K., Hussainey, K., Kolade, N. and Gerged, A.M. (2020), "ESG disclosure and firm performance before and after IR: The moderating role of governance mechanisms", *International Journal of Accounting & Information Management*, Vol. 28, No. 3, pp. 429-444.

Albitar, K. (2015), "Firm characteristics, governance attributes and corporate voluntary disclosure: A study of Jordanian listed companies", *International Business Research*, Vol. 8, No. 3, pp. 1-10.

Albitar, K., Abdoush, T., & Hussainey, K. (2022), "Do corporate governance mechanisms and ESG disclosure drive CSR narrative tones?", *International Journal of Finance & Economics*, pp. 1-15, https://doi.org/10.1002/ijfe.2625

AlHares, A. (2020), "Corporate governance and cost of capital in OECD countries", *International Journal of Accounting & Information Management*, Vol. 28 No. 1, pp. 1-21.

Al-Najjar, B. and Hussainey, K. (2016), "Determinants and Value Relevance of UK CEO Pay Slice", *International Review of Applied Economics*, Vol. 30, No. 3, pp. 403-421.

Alqatan, D., Chbib, I., & Hussainey, K. (2019), "How does board structure impact on firm performance in the UK?", *Corporate Board: Role, Duties & Composition*, Vol. 15, No. 2, pp. 18-27.

Andreou, P. C., Louca, C. and Panayides, P. M. (2014), "Corporate Governance, Financial Management Decisions and Firm

Performance: Evidence from the Maritime Industry", *Transportation Research Part E-Logistics and Transportation Review*, Vol. 63, pp. 59-78.
Armitage, S. and Kirk, P. (1994), "The Performance of Proprietary Compared with Mutual Life Offices", Service Industries Journal, Vol. 14, pp. 238-261.
Service Industries Journal, 14 (2), 238-261.Assenga, M. P., Aly, D., & Hussainey, K. (2018), "The impact of board characteristics on the financial performance of Tanzanian firms", *Corporate Governance: The International Journal of Business in Society*, Vol. 18, No. 6, pp. 1089-1106
Babu, B. P. and Viswanatham, P. (2013), "Corporate Governance Practices and Its Impact on Indian Life Insurance Industry", *International Journal of Innovative Research and Practices*, Vol. 1, No. 8, pp. 44-54.
Baek, J. S., Kang, J. K. and Park, K. S. (2004), "Corporate Governance and Firm Value: Evidence from the Korean Financial Crisis", *Journal of Financial Economics*, Vol. 71, No. 2, pp. 265-313.
Barnhart, S. W. and Rosenstein, S. (1998), "Board Composition, Managerial Ownership, and Firm Performance: An Empirical Analysis", *The Financial Review*, Vol. 3, pp. 1-16.
Boubakri, N. (2011), "Corporate Governance and Issues from the Insurance Industry", *Journal of Risk and Insurance*, Vol. 78, No. 3, pp. 501-518.
Breusch, T. S. and Pagan, A. R. (1979), "A Simple Test for Heteroscedasticity and Random Coefficient Variation", *Econometrica*, Vol. 47, No. 5, pp. 1287-1294.
Chen, H., Cummins, J. D., Sun, T. and Weiss, M. A. (2014), "The Microstructure of the Reinsurance Network among Us Property-Casualty Insurers and Its Effect on Insurers' Performance. Risk Theory Society", *The American Risk and Insurance Association (ARIA)*, Available from: http://www.aria.org/rts/proceedings/2015/04_Chen%20Cummins%20Sun%20Weiss.pdf
Chen, S., Wang, Y., Albitar, K., & Huang, Z (2021), "Does ownership concentration affect corporate environmental

responsibility engagement? The mediating role of corporate leverage", *Borsa Istanbul Review*, Vol. 21, pp. S13-S24.
Chen, T. (2015), "Institutions, board structure, and corporate performance: Evidence from Chinese firms", *Journal of Corporate Finance*, Vol. 32, pp. 217-237.
Ciftci, I., Tatoglu, E., Wood, G., Demirbag, M., and Zaim, S. (2019), "Corporate governance and firm performance in emerging markets: Evidence from Turkey", *International Business Review*, Vol. 28, No. 1, pp. 90-103.
Clark, T. (2004), "Theories of Corporate Governance: The Philosophical Foundations of Corporate Governance", London and New York: Routledge.
Colbert, J. L. and Jahera, J. S. (1988), "The Role of The Audit and Agency Theory", *The Journal of Applied Business Research,* Vol. 4, No. 2, pp. 7-12.
Coluzzi, C., Ferrando, A. and Martinez-Carrascal, C. (2012), "Financing obstacles and growth: an analysis for euro area non-financial firms", *The European Journal of Finance*, Vol. 21, No. 10-11, pp. 773-790.
Cronqvist, H. and Fahlenbrach, R. (2008), "Large Shareholders and Corporate Policies", *The Review of Financial Studies,* Vol. 22, No. 10, pp. 3941-3976.
Crotty, J. (2009), "Structural Causes of the Global Financial Crisis: A Critical Assessment of the 'New Financial Architecture". *Cambridge Journal of Economics*, Vol. 33, No. 4, pp. 563-580.

Dahya, J., Dimitrov, O. and McConnell, J. J. (2008), "Dominant Shareholder, Corporate Boards, and Corporate Value: A Cross-Country Analysis", *Journal of Financial Economics*, Vol. 87, No. 1, pp. 73-100.
Dedu, V. and Chitan, G. (2013), "The Influence of Internal Corporate Governance on Bank Performance - an Empirical Analysis for Romania", *Procedia - Social and Behavioral Sciences*, pp. 1114-1123.
DeFond, M. L., Francis, J. R. and Wong, T. J. (2000), "Auditor Industry Specialization and Market Segmentation: Evidence from Hong Kong", *Auditing: A Journal of Practice and Theory*, Vol. 19, No. 1, pp. 49-66.

DeFond, M., Raghunandan, K. and Subramanyam, K. R. (2002), "Do Non-Audit Service Fees Impair Auditor Independence? Evidence from Going Concern and Audit Opinion", *Journal of Accounting Research*, Vol. 40, pp. 1247-1274.
Desender, K. A. (2009), "The relationship between the ownership structure and board effectiveness", *University of Illinois at Urbana-Champaign, College of Business Working Papers*, 09-0105.
Desender, K. A., Aguilera, R. V., Crespi, R. and GarcÍa-cestona, M. (2013), "When does ownership matter? Board characteristics and behavior", *Strategic Management Journal*, Vol. 34, No. 7, pp. 823-842.
Diacon, S. R., & O'sullivan, N. (1993), "Managerial discretion and performance in large UK life insurance groups", In 20th Seminar of the European Group of Risk and Insurance Economists, Rotterdam, The Netherlands.
Diacon, S. R. and O'Sullivan, N. (1995), "Does Corporate Governance Influence Performance? Some Evidence from U.K. Insurance Companies". *International Review of Law and Economics*, Vol. 15, pp. 405-424.
Ducassy, I. and Guyot, A. (2017), "Complex Ownership Structures, Corporate Governance and Firm Performance: The French Context", *Research in International Business and Finance*, Vol. 39, pp. 291-306.
Earle, J. S., Kucsera, C. and Telegdy, A. (2005), "Ownership Concentration and Corporate Performance on the Budapest Stock Exchange: Do Too Many Cooks Spoil the Goulash", *Corporate Governance: An International Review*, Vol. 13, pp. 254-264.
Elamer, A.A., AlHares, A., Ntim, C.G. and Benyazid, I. (2018), "The corporate governance–risk-taking nexus: evidence from insurance companies", International Journal of Ethics and Systems, Vol. 34 No. 4, pp. 493-509.
Faccio, M. and Lasfer, M. A. (2000), "Do Occupational Pension Funds Monitor Companies in Which They Hold Large Stakes?", *Journal of Corporate Finance*, Vol. 6, pp. 71-110.
Fama, E. F. and Jensen, M. C. (1983), "The Separation of Ownership and Control", *Journal of Law and Economics*, Vol. 26,

pp. 301-325.
Feng, Y., Hassan, A. and Elamer, A.A. (2020), "Corporate governance, ownership structure and capital structure: evidence from Chinese real estate listed companies", International Journal of Accounting & Information Management, Vol. 28 No. 4, pp. 759-783.
Fekadu, G. W. (2015), "Corporate governance on financial performance of insurance industry", *Corporate Ownership & Control*, Vol. 13, No. 1, pp. 1201-1209.
Fich, E. M. and Shivdasani, A. (2006), "Are Busy Boards Effective Monitors?", *Journal of Finance*, Vol. 61, pp. 689-724.
Fiegenbaum, A. and Thomas, H. (1990), "Strategic Groups and Performance: The Us Insurance Industry, 1970–84", *Strategic Management Journal*, Vol. 11, No. 3, pp. 197-215.
FRC (2014), "UK Corporate Governance Code". London: The Financial Reporting Council Ltd. (FRC).
FRC (2016), "UK Corporate Governance Code". London: The Financial Reporting Council Ltd. (FRC).
FRC (2018), "UK Corporate Governance Code". London: The Financial Reporting Council Ltd. (FRC).
Gerged, A.M., Albitar, K. and Al-Haddad, L. (2021), "Corporate environmental disclosure and earnings management—The moderating role of corporate governance structures", *International Journal of Finance & Economics,* https://onlinelibrary.wiley.com/doi/full/10.1002/ijfe.2564

Glotova, I. I., Tomilina, E. P. and Kuzmenko, I. P. (2014), "Modelling the processes of own working capital reproduction in agricultural organizations", *Life Science Journal*, Vol. 11, No. 5, pp. 536-541.
Greene, W. H. (2008), "The Econometric Approach to Efficiency Analysis", *The Measurement of Productive Efficiency and Productivity Growth*, pp. 92-250.
Gul, F. and Leung, S. (2004), "Board Leadership, Outside Directors Expertise and Voluntary Corporate Disclosures", *Journal of Accounting and Public Policy*, Vol. 23, pp. 351-379.
Hausman, J. A. (1978), "Specification Tests in Econometrics", *Econometrica*, Vol. 46, No. 6, pp. 1251-1271.

Himmelberg, C. (2002), “Measuring the real effects of corporate governance”. In A note for the GCGF research meeting. April (Vol. 5).
Hope, O. K. and Thomas, W. B. (2008), “Managerial Empire Building and Firm Disclosure”, *Journal of Accounting Research*, Vol. 46, No. 3, pp. 591-626.
Hsu, W. Y., & Petchsakulwong, P. (2010), “The impact of corporate governance on the efficiency performance of the Thai non-life insurance industry”, The Geneva Papers on Risk and Insurance-Issues and Practice, Vol. 35, No. 1, pp. S28-S49.
Huang, L.-Y., Hsiao, T.-y. and Lai, G. C. (2007), “Does Corporate Governance and Ownership Structure Influence Performance? Evidence from Taiwan Life Insurance Companies”, *Journal of Insurance Issues*, Vol. 30, No. 2, pp. 123-151.
Huang, L.-Y., Lai, G. C., McNamara, M. and Wang, J. (2011), “Corporate Governance and Efficiency: Evidence from U.S. Property-Liability Insurance Industry”, *Journal of Risk and Insurance*, Vol. 78, No. 3, pp. 519-550.
Hussainey, K. and Al-Najjar, B. (2012), “Understanding the Determinants of Riskmetrics/Iss Rating of the Quality of UK Companies' Corporate Governance Practice”, *Canadian Journal of Administrative Sciences*, Vol. 29, No. 4, pp. 366-377.
Insurance Information Institute (2013), “Financial Services Fact Book 2013”, *Insurance Information Institute*.
Jensen, M. C. and Meckling, W. H. (1976), “Theory of the Firm:

Managerial Begavior, Agency Cost and Ownership Structure”, *Journal of Financial Economics*, Vol. 3, No. 4, pp. 305-360.
Jensen, M. C. (1986), “Agency Costs of Free Cash Flow, Corporate Finance, and Takeovers”, *American Economic Review*, Vol. 76, No. 2, pp. 232-329.
Ko, C., Lee, P. and Anandarajan, A. (2019), "The impact of operational risk incidents and moderating influence of corporate governance on credit risk and firm performance", *International Journal of Accounting & Information Management*, Vol. 27 No. 1, pp. 96-110.
Leech, D. and Leahy, J. (1991), “Ownership Structure, Control Type Classifications and the Performance of Large British

Companies", *Economic Journal*, Vol. 101, No. 409, pp. 1418-1437.
Lei, Y., & Browne, M. J. (2017), "Underwriting Strategy and the Underwriting Cycle in Medical Malpractice Insurance", *The Geneva Papers on Risk and Insurance-Issues and Practice*, Vol. 42, No. 1, pp. 152-175.
Liu, C., Uchida, K. and Yang, Y. (2012), "Corporate governance and firm value during the global financial crisis: Evidence from China", *International Review of Financial Analysis*, Vol. 21, pp. 70-80.
Mallin, C. A. (2004), "Corporate Governance". Oxford: Oxford University Press.
Marnet, O. (2005), Behavior and Rationality in Corporate Governance", *Journal of Economic Issues*, Vol. 39, No. 3, pp. 613-632.
Merendino, A., & Melville, R. (2019), "The board of directors and firm performance: empirical evidence from listed companies", *Corporate Governance: The international journal of business in society*, Vol. 19, No. 3, pp. 508-551.
Michaely, R. and Sahaw, W. H. (1995), "Does the Choice of Auditor Convey Quality in an Initial Public Offering?", *Financial Management*, Vol. 24, No. 4, pp. 15-30.
Mitton, T. (2002), "A Cross-Firm Analysis of the Impact of Corporate Governance on the East Asian Financial Crisis", *Journal of Financial Economics*, Vol. 64, No. 2, pp. 215-241.

Nathanson, M. J. (2004), "It's the Economy (and Combined Ratio), Stupid: Examining the Medical Malpractice Litigation Crisis Myth and the Factors Critical to Reform", *Penn State Law Review*, Vol. 108, No. 1077.
Okura, M. and Yamaguchi, S. (2014), "Capital Structure of Non-Life Insurance Firms in Japan", Faculty of Economics, Nagasaki University Discussion paper series, 2014, No. 12, pp. 1-8.
Pucheta-Martínez, M. C., & Gallego-Álvarez, I. (2020), "Do board characteristics drive firm performance? An international perspective", *Review of Managerial Science*, Vol. 14, No. 6, pp. 1251-1297.
Randoy, T., Down, J. and Jenssen, J. (2003), "Corporate

Governance and Board Effectiveness in Maritime Firms", *Journal of Maritime Economics & Logistics*, Vol. 5, No. 23-39.
Saker, J. and Saker, S. (2000), "Large Shareholder Activism in Corporate Governance in Developing Countries: Evidence from India", *International Review of Finance*, Vol. 1, pp. 161-194.
Saravanan, P. (2012), "Corporate governance and company performance: A study with reference to manufacturing firms in India". Available at SSRN 2063677.
Schroeder, M. and Hamburger, T. (2002), "Accounting Reform Gets Big Lift as Senate Panel Backs New Board", *Wall Street Journal*, A1.
Sephton, P. and Mann, J. (2014), "Nonlinear Attractors and Asymmetries between Non-Life Insurance Premiums and Financial Markets", *Empirical Economics*, pp. 1-17.
Shan, Y.G. (2019). "Managerial ownership, board independence and firm performance", *Accounting Research Journal*, Vol. 32 No. 2, pp. 203-220.
Shleifer, A. and Vishny, R. W. (1986), "Large Shareholders and Corporate Control", *Journal of Political Economy*, Vol. 94, pp. 461-489.
Siddiqui, S.S. (2015), "The association between corporate governance and firm performance – a meta-analysis", International Journal of Accounting and Information Management, Vol. 23 No. 3, pp. 218-237
Steiner, S. (2012), "Timeline of European Debt Crisis" [online].

Bankrate.com. Available from: http://www.bankrate.com/finance/economics/timeline-european-debt-crisis-1.aspx
Ullah, M.S., Muttakin, M.B. and Khan, A. (2019), "Corporate governance and corporate social responsibility disclosures in insurance companies", International Journal of Accounting & Information Management, Vol. 27 No. 2, pp. 284-300.
Vintila, G. and Gherghina, S. C. (2012), "An Empirical Examination of the Relationship between Corporate Governance Rating and Listed Companies' Performance", *International Journal of Business and Management*, Vol. 7, No. 22, pp. 46-61.
Wang, J. L., Jeng, V., & Peng, J. L (2007), "The impact of corporate governance structure on the efficiency performance of

insurance companies in Taiwan", *The Geneva Papers on Risk and Insurance-Issues and Practice*, Vol. 32, No. 2, pp. 264-282.
Weir, C. and Laing, D. (1999), "Governance Structures, Size and Corporate Performance in U.K. Firms", *Management Decision*, Vol. 37, No. 5, pp. 457-464.
Wijethilake, C., & Ekanayake, A. (2020), "CEO duality and firm performance: the moderating roles of CEO informal power and board involvements", *Social Responsibility Journal*. Vol. 16, No. 8, pp. 1453-1474
Wintoki, M. B., Linck, J. S. and Netter, J. M. (2012), "Endogeneity and the Dynamics of Internal Corporate Governance", *Journal of Financial Economics*, Vol. 105, No. 3, pp. 581-606.
Yoo, T. and Jung, D. K. (2014), "Corporate Governance Change and Performance: The Roles of Traditional Mechanisms in France and South Korea", *Scandinavian Journal of Management*, Vol. 31, No. 1, pp. 40-53.
Young, S. and Abdoush, T. (2022), "Corporate Governance and Financial Stability of the English Premier League (EPL) Before and During COVID-19", *International Journal of Accounting, Auditing and Performance Evaluation* [Accepted/In Press]
Yu, M. and Wang, Y. (2018), "Firm-specific corporate governance and analysts' earnings forecast characteristics: Evidence from Asian stock markets", *International Journal of Accounting & Information Management*, Vol. 26 No. 3, pp. 335-361.