Effects of Board Composition, Monitoring and Performance in UK Banks

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1. Introduction

Corporate boards play a vital role on the effectiveness of a firm's governance and performance because the board constitutes an important internal governance mechanism that oversees the management strategies and actions, protect the interests of shareholders and ensure conformity with regulatory requirements (Khanchel, 2007; Salim et al., 2016). In the context of banking industry, it is argued that the board is likely to be more important as a governance mechanism, since banking fiduciary responsibilities extend well beyond regulators (Macey and O'Hara, 2003). For example, the Basel Committee on Banking Supervision (BCBS) (2006) in its consultative document titled ''Enhancing Corporate Governance in the Banking Industry'' identifies the board as an essential part of a bank's regulatory reforms. Recent literature (see Adams and Mehran 2012; Aebi et al., 2012) document the pivotal role of corporate boards as an essential instrument to performance of banks, particularly after the global financial crisis in 2008. As Pathan and Faff (2013) aptly point out, the current global financial crisis has increased the appetite of academic researchers to investigate whether and to what extent board affects bank performance.

Despite a sizable research in the area of corporate governance, surprisingly little is known about the effectiveness of boards in banking organizations, as most studies exclude financial firms from their samples (Adams and Mehran, 2008; Tanna et al., 2011). However, studies on banking sector are necessary because of the different features of the banking industry and the importance of corporate governance for banks (See Barth et al., 2004). This is against the backdrop that the existing literatures on the relationship between board and bank performances are inconclusive. For example, Sierra et al. (2006) suggest that strong boards improve bank performance. Adams and Mehran (2012) also find similar results for board size, but they fail to identify any relationship between independent directors and performance. Andres and Vallelado (2008) show a positive effect of both board size and independent directors on bank performance. In contrast, Pathan and Faff (2013) find a negative relationship between both board size and independence and bank performance.

In this study, we attempt to fill this gap by examining the effects of board composition and monitoring mechanisms, namely, board size, board independence, female directors, CEO duality and CEO pay on performance in the UK banks over the period 2000-2014. Our research question is: to what extent do board composition and monitoring mechanisms account for performance in the UK banks? We do so by using three statistical models under the panel dataset estimation, namely, pooled ordinary least square (OLS), fixed effects (FE) and random effects (RE). We then check the robustness of our results with the two-step system generalized methods of moments (SGMM) (Arellano and Bover, 1995; Blundell and Bond, 1998), which utilizes the orthogonality conditions that exists between the lagged dependent variable and the error term to address the endogeneity problem often associated corporate governance variables (Wintoki et al., 2012).

The study finds that board composition and monitoring mechanisms are related to bank performance. More precisely, we find that CEO duality, CEO pay and board size exert a positive and significant influence on performance of the UK banks, while board independence and female directors have a negative and significant impact on performance of the UK banks. Further analysis using sub-samples divided into pre-financial crisis, during the financial crisis and post crisis reinforce the robustness of our findings. This study contributes to the corporate governance literature in the following way. First, majority of previous studies have focused on non-financial firms between board mechanisms and performance (e.g. Weir et al., 2002; Guest, 2009; Muravyev et al., 2016). To the best of our knowledge, there is one relevant study undertaken by Tanna et al. (2011) in the UK context, examining the influence of board structure (board size and non-executive directors) on bank performance based on a sample of 17 UK banks over the period 2001-2006. This study extends Tanna et al. (2011) by employing a large dataset of 79 UK domestic banks. Second, this study deepens our understanding of the effects of within-board governance on bank performance, and thereby contributing to the agency theory. Moreover, our results also appear to be in line with the stewardship theory, and suggest that CEO duality improve internal efficiency through unity of command, offer greater autonomy and better response capacity to CEO. Thus, our results support the multi-theoretical framework that incorporates insights from agency and stewardship theories. Third, this study contributes to research concerned with corporate governance and banks. The banking industry provides an interesting context to expand the consequences of board mechanisms on performance, particularly in light of the recent global financial crisis.

The reminder of this paper proceeds as follows: The next section sets out the hypotheses of the study. Section 3 outlines the data source and method used in this study. Section 4 present and discusses the results of the study. The final section provides a conclusion.

2. Hypotheses Development

Drawing from the literature, the following hypotheses are derived:

H1: CEO duality has negative influence on performance in the UK banks.

H2: Higher CEO pay has positive influence on performance in the UK banks.

H3: Larger board size has positive influence on performance in the UK banks.

H4: Higher proportion of board independence has negative influence on performance in the UK banks.

H5: Higher proportion of female directors on the board has positive influence on performance in the UK banks.

3. Data and Methodology

3.1 Data Source

The sample initially consists of 109 UK domestic banks listed on the Bank of England's list in March, 2015. However, 8 banks have to be excluded because of no information on board

composition and monitoring in their annual reports, and another 22 banks should be eliminated due to missing data. Therefore, the final sample consists of an unbalanced panel of 79 UK domestic banks, with 791 observations between 2000 and 2014.

This study uses the bank-scope database provided by Fitch International, and banks' annual reports. The variables of performance (ROA) and other financial ratios like total assets, efficiency and leverage are collected from bank-scope, which has been widely used by previous studies, including Tanna et al. (2011), Pathan and Faff (2013), Calomiris and Carlson (2016), and Chen and Lin (2016). Moreover, this study hand-collects data on the related board composition and monitoring variables from the annual report of the banks, which commonly used in studies of corporate governance such as those by Liang et al. (2013), Puni et al. (2014), Dong et al. (2016), and Mollah and Liljeblom (2016). For those banks that do not report independent directors' information, the directors' biographies should be read and a judgement made in each case as to whether he or she is an independent director.

3.2 Measurement of Variables

The measurements of independent, dependent and control variables are summarized in Table 1.

Table 1: Definitions of Variables

Variables	Measurement	Exp. Sign
Performance Variable		
ROA	Net income scaled by total assets	
Board Variables		
CEO duality (DUALITY)	A dummy variable which takes a value of 1 if the CEO and chairman are the same person, 0 = otherwise	-
CEO_PAY	The natural logarithm of cash-based compensation	+
Board_SIZE	Total number of members on the board	+
Board_IND	The percentage of non-executive directors on the board	-
Board Gender (GENDER)	A dummy variable takes a value of 1 if there is at least one woman on the board, 0 = otherwise	+
Control Variables		

Bank_Size	Log of total assets
Efficiency	Expenses scaled by revenue
Financial leverage	Shareholders' funds scaled by total assets.

3.3 Econometric Model

This section sets out the econometric models employed to estimate the association between board composition, monitoring and bank performance. Our model is:

$$BP = \beta_1 DUALITY_{it} + \beta_2 CEO\_PAY_{it} + \beta_3 Board\_SIZE_{it} + \beta_4 Board\_IND + \beta_5 GENDER + \delta CONTROLS + \varepsilon_{it}$$

(2)

Where, BP as the dependent variable represents bank performance measure: Return on Asset (ROA). DUALITY represents CEO duality; CEO_PAY is CEO pay; Board_SIZE represents board size; Board_IND represents board independence; GENDER represents board gender. CONTROLS are control variables which include: bank size, efficiency and leverage.

3.4 Estimation Methods

Using panel data enables us to assess bank performance in the sample over time by analysing observations from several consecutive years for the same banks. Meanwhile, the temporal dimension of the data, particularly in periods of great change, enriches the study (Meca et al.,

2015). To get preliminary results, this study uses pooled OLS model. In line with Luo (2015), the pooled OLS is appropriate for this study because the time variant effect is not significant in regression and some sample UK banks have short-period longitudinal data. When the unobserved effect is correlated with independent variables, pooled OLS estimations produces estimators that are biased and inconsistent (Andres and Vallelado, 2008). In this case, this study further employs the fixed effects (FE) and random effects (RE) estimators to overcome this challenge. In addition, it is argued that the board is determined endogenously (Hermalin and Weisbach, 2003). If the strict exogeneity condition fails, the fixed effects are inconsistent and have different probability limits (Wooldridge, 2009). Therefore, two-step system generalized method of moments (SGMM) (Arellano and Bover, 1995; Blundell and Bond, 1998) is employed to check the robustness of the results.

4. Results and Discussions

4.1 Univariate Analysis

Table 2 shows the descriptive statistics of the variables used in this study. The mean value of ROA is 0.42%. CEO duality constitutes 15% of the sample. The mean CEO pay is 0.66 million. This figure is much lower than the average in the US commercial banks (3.43 million) from 2005 to 2010, documented by Tian and Yang (2014). The average board size is 10, which appear relatively smaller compared with 18 and 16 directors in the studies of Adams and Mehran (2008), Andres and Vallelado (2008) in the US and OECD countries. The independent directors constitute about 54% of the board. This suggests that UK banks tend to follow a relatively independent board structure in which the proportion of independent directors is high. Board gender, on average, is 0.12 indicating that female directors account for 12% of total directors in the boardrooms of UK banks. This percentage is almost double the average in the

Asian region (6%), reported by Dyckerhoff et al. (2012). The average efficiency of the sample UK banks is 70.55%, and the average leverage ratio is 7.8%.

Table 2: Descriptive Statistics

Variables	Mean	SD	Min	Max
ROA	0.42	0.77	-2.57	3.81
DUALITY	0.15	0.36	0.00	1.00
CEO_PAY	0.66	0.85	0.10	3.93
Board_SIZE	9.82	2.90	4.00	22.00
Board_IND	0.54	1.99	2.00	16.00
GENDER	0.12	0.43	0.00	1.00
Bank_Size	5.74	1.98	3.32	16.03
Efficiency	70.55	13.98	32.26	99.78
Leverage	7.80	9.02	1.67	97.89

Note: This table reports summary statistics on key variables. The sample is unbalanced panel covering 791 bank-years observations over the period of 2000-2014. BP is dependent variable, measured by ROA. DUALITY represents CEO duality; CEO_PAY is CEO pay; Board_SIZE represents board size; Board_IND represents board independence; GENDER represents board gender. CONTROLS are control variables which include: bank size, efficiency and leverage.

Table 3 shows that none of the correlation coefficients among independent variables is higher than the value of 0.7 (See Gujarati, 2004). Therefore, multicollinearity appears not be a problem in this study. This is confirmed by the variance inflation factors (VIF) calculated to detect multicollinearity among independent variables in this model. The variance inflation

factor scores and they appear to be within the cut-off point of 10 as recommended by Neter et al. (1989).

Table 3: Correlation Matrix

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	VIF
1. ROA	1.00										2.06
2. DUALITY	0.09	0.01	1.00								1.53
3. CEO_PAY	0.10	0.12	-0.25	1.00							1.81
4. Board_SIZE	0.03	0.07	-0.30	0.60	1.00						4.33
5. Board_IND	-0.10	-0.02	-0.35	0.55	0.63	1.00					3.90
6. GENDER	-0.16	-0.10	-0.54	0.23	0.29	0.36	1.00				1.53
7. Bank_Size	-0.07	-0.17	-0.14	0.19	-0.04	0.07	0.05	1.00			1.19
8. Efficiency	-0.17	-0.42	0.03	0.09	0.05	0.08	0.13	0.05	1.00		1.32
9. Leverage	0.05	-0.14	0.10	-0.12	-0.19	-0.15	-0.04	-0.08	0.08	1.00	1.12

Note: BP is dependent variable, measured by ROA. DUALITY represents CEO duality; CEO_PAY is CEO pay; Board_SIZE represents board size; Board_IND represents board independence; GENDER represents board gender. CONTROLS are control variables which include: bank size, efficiency and leverage.

4.2 Regression Results and Discussions

This section reports the relationship between board composition, monitoring and bank performance using ROA. In order to test this relationship, we carried out a regression analysis using OLS, FE and RE models. The Hausman specification test is employed to test the fixed effect model and the random effect models. The null hypothesis is: H_0: The X variables are not correlated with the errors (Random Effects). The alternative hypothesis is: H_1: The X variables are correlated with the errors (Fixed Effects). The analysis suggests that the random effects model can be rejected in favour of the fixed effects model at a 1% critical level. We therefore interpret the results using the fixed effect model.

Table 4 below reports our results across the three approaches, in columns 1-3 (ROA). Overall, our results indicate that CEO duality, CEO pay, and larger board have a positive and significantly effect on performance while board independence and female directors exert negative and significant influence on performance of UK banks.

Table 4: Regression Result – UK Banks' Board Composition, Monitoring and Performance (ROA)

	ROA		
	OLS (1)	FE (2)	RE (3)
Board Variables			
DUALITY	0.03	0.17	0.17
	(0.38)	(2.05)**	(2.14)**
CEO-PAY	0.02	0.11	0.01
	(5.62)***	(2.11)**	(2.33)**
Board_SIZE	0.01	0.08	0.07
	(0.35)	(3.46)***	(3.39)***
Board_IND	-0.07	-0.06	-0.07
	(-2.67)***	(-2.35)**	(-2.68)***
GENDER	-0.22	-0.02	-0.02
	(-2.89)***	(-0.24)	(-0.30)
Control Variables			
Bank_Size	-0.03	-0.05	-0.03
	(-2.37)**	(-2.30)**	(-1.85)*
Efficiency	-0.01	-0.01	-0.01
	(-4.75)***	(-5.00)***	(-5.26)***
Leverage	0.01	0.01	0.01
	(1.82)*	(2.10)**	(2.24)**
N	791	783	783
R-Square	0.10		
Adjusted R-Square	0.09		
F/Wald Statistics (p-value)	10.72	8.48	71.96
	(0.00)***	(0.00)***	(0.00)***
Hausman (p-value)		21.78	
		(0.00)***	

Note: BP is dependent variable, measured by ROA. DUALITY represents CEO duality; CEO_PAY is CEO pay; Board_SIZE represents board size; Board_IND represents board independence; GENDER represents board gender. CONTROLS are control variables which include: ROA, bank size, efficiency and leverage, t-statistics (in parentheses), number of observations (N), R-square, adjusted R-square, F/Wald statistics (p-value), and Hausman test. *p<0.1; **p<0.05; ***p<0.01

Regarding the effect of CEO duality, we document a positive and statistically significant relationship between duality and ROA at the 5% level under the FE and RE approaches in columns 2 and 3. Hypothesis 1 is therefore not supported. This result appears surprising as prior evidence suggests that CEO duality is negatively related to performance (Chahine and

Goergen, 2011; Veprauskaite and Adams, 2013; Jermias and Gani, 2014). It is argued that CEO duality may reduce board's ability to monitor management effectively (Cerbioni and Parbonetti, 2007; Krause et al., 2014) thereby exerting a negative influence. However, this appears not be the case. Our results seem to be in line with the stewardship theory as documented by Palmon and Wald (2002), and Uadiale and State (2010), in which they note that CEO duality could provide internal efficiency through unity of command, which leads to strong and unambiguous leadership.

CEO pay has a positive and significantly relationship with ROA at the 1% and 5% levels under all the three regression models, OLS, FE and RE in columns 1, 2 and 3. Regarding the effect of CEO pay, our results show that CEO pay has a positive relationship with bank performance in columns 1-3 in all the three models. The results provide unequivocal support for Hypothesis 2. Our findings are congruent with prior studies (e.g. Cunat and Guadalupe, 2009; and Livne et al., 2011), which present that high rewards of CEO compensation are associated with high performance. The results support the agency theory as documented by Jensen and Meckling (1976), Fama and Jensen (1983), and Bertrand and Schoar (2003), in which they realize that CEO compensation arises from the separation of ownership and control, and agency theory asserts a positive relationship between management compensation and financial performance.

Board size has a positive and significantly relationship with ROA at the 1% level under the FE and RE in column 2 and 3 respectively. The results provide support Hypothesis 3, and support the studies of Klein (2002) and Coles et al. (2008), which show that larger board of directors can effectively monitor managers. The underlying explanations appear to be in line with the agency theory as documented by Donaldson and Preston (1995), who found that the board with

a large number of members could exercise better control on managers than those with a smaller number.

Board independence has a negative and significantly relationship with ROA at the 1% level under the OLS and RE in column 1 and 3, and 5% level under FE in column 2. Regarding the effect of board independence, our results show that board independence has a negative relationship with bank performance in column 1-3 in respect of all the three analytical approaches. The results provide unequivocal support for Hypothesis 4. Our findings are consistent with prior studies (e.g. Subrahmanyam et al., 1997; Pathan and Faff, 2013), which they indicate that high proportions of independent directors are associated with lower performance. Theoretically, the findings may be explained by the agency theory as documented by Raheja (2005) and Adams and Ferreira (2007) who indicate that, independent directors may lack firm-specific knowledge, and thereby lowering the performance.

Board gender has a negative and significantly relationship with ROA at the 1% level under the OLS in column 1. Hypothesis 5 is therefore not supported. This result appears interesting and surprising as it is contrary to prior evidence which suggests that board gender is positively related to performance (See Campbell and Minguez-Vera, 2008; Hutchinson et al., 2014). It is argued that female directors offer diverse viewpoints to the boardroom to improve board monitoring (Yi, 2011), take their roles very seriously, which can lead to better governance (Eagly and Carli, 2003; Singh and Vinnicombe, 2004), and therefore improve performance. However, this appears not to be the case for the UK banking industry. Our results are echoed by Darmadi (2011), who found that female directors may lead to over monitoring. The underlying explanation appears to be in line with the spirit of the social psychology as stated

by Almazan and Suarez (2003), and Adams and Ferreira (2007). The argue that greater gender diversity may slow decision making because of over-monitoring and increase the likelihood of conflicts; and decrease shareholder value and bank performance.

Regarding control variables, bank size has a negative and significantly relationship with ROA at the 5% level under the OLS and FE in column 1 and 2, and 10% level under RE in column 2. This evidence is consistent with the study of Staikouras et al. (2007), who uncover a negative relationship between bank size and performance, and this is because large bank is able to increase diversification, which lead to lower required returns. Another finding is that efficiency has a negative and significantly relationship with ROA at the 1% level under the OLS, FE and RE in column 1, 2 and 3. This evidence is supported by the study of Fries and Taci (2005), who report that the lower the overheads tend to be more efficient and profitable within financial institutions. Furthermore, leverage has a positive and significantly relationship with ROA at the 10% level under the OLS in column 1, and the 5% level under the FE and RE in column 2 and 3. This result is congruent with the prior studies (Ghosh and Jain, 2000; Demirguc-Kunt and Huizinga, 2010; Berger and Bouwman, 2013), which show that higher leverage tends to be cheaper cost of capital and therefore this variable may have a positive impact on performance.

4.3 Robustness Test

To check for robustness, this study employs several additional specifications to rule out alternative explanations. First, to highlight the differences between the higher CEO pay and lower CEO pay, this study groups the sample into two groups. banks with CEO pay being

above the mean level are placed in one group and those with CEO pay being below the mean level in the other group. The results show that there are no significant changes between banks with higher CEO pay and those with lower CEO pay. Second, we calculate the change of female directors each year in our sample, and thus examine whether a change in the number of women directors affect bank performance. The results obtained remain similar.

This study also specifies alternative dependent variable. Return on equity (ROE) is measured as a ratio of the net profit to equity (Hasen et al., 2012). The results remain similar. Moreover, this study includes another two additional control variables, namely, loan loss provision (LLP), which is measured by total loan loss provisions to total gross loans (Nguyen and Boateng, 2015) and non-performing loans (NPLs), which is the ratio of non-performing loans to gross loans (Shehzad et al., 2010). LLP and NPLs as measuring the quality of the credit portfolio are of vital importance for a bank's performance (Musumeci and Sinkey 1990; Kim and Santomero 1993; Elnahass et al., 2014). The results obtained from LLP and NPLs are similar.

4.4 SGMM Estimation

The regression of board characteristics on performance that underlies the "board effect" argument is a classic example of a regression that is likely to suffer from all three endogeneity problems such as omitted variables, reverse causality and measurement error (Adams et al., 2010). To address the problem of endogeneity, we employ two-step SGMM to check the robustness of our results (Arellano and Bover, 1995; Blundel and Bond, 1998). Following Andres and Vallelado (2008), this study employs the two-step system GMM with adjusted standard error for potential heteroscedasticity as proposed by Blundell et al (1998). The system

estimator regression results are reported in Table 5. The results indicate that the SGMM results appear to be similar to results reported in Table 4.

Table 5: Board Composition, Monitoring and Performance - System Estimator

	ROA
Board Variables	
Lag DUALITY	0.05
	(2.80)***
Lag CEO_PAY	0.01
	(13.04)***
Lag Board_SIZE	0.11
	(23.83)***
Lag Board_IND	-0.11
	(-20.29)***
Lag GENDER	-0.01
	(-2.00)
Control Variables	
Bank_Size	-0.08
	(-34.75)***
Efficiency	-0.01
	(-17.80)***
Leverage	0.01
	(3.59)
N	701

Note: The table presents the results of the two-step system GMM estimate of regressing ROA on board composition and monitoring variables with bias corrected robust standard errors. Figures in parenthesis are t-statistics BP is dependent variable measured by ROA. DUALITY represents CEO duality; CEO_PAY is CEO pay; Board_SIZE represents board size; Board_IND represents board independence; GENDER represents board gender. CONTROLS are control variables which include: ROA, bank size, efficiency and leverage *$p<0.1$; **$p<0.05$; ***$p<0.01$

To assess the impact of the financial crisis in 2008 on our results, we divided the sample into pre-crisis, during crisis and post crisis. Specifically, we examined whether banks adjust their board composition and monitoring on bank performance during the financial crisis. Consequently, this study classified the sample into three groups as follows: the crisis period (2007-2009), pre-crisis period (before 2007), and post-crisis period (after 2009). The results of

Table 6 shows there are no significant changes in response to changes on bank performance before, during and after the financial crisis.

Table 6: Board Composition, Monitoring and Performance in Different Stages of Financial Crisis

	ROA		
	Pre-crisis	**During Crisis**	**Post-crisis**
Board Characteristics			
DUALITY	0.59	0.19	0.01
	(5.54)***	(4.12)***	(0.63)
CEO_PAY	0.01	0.01	0.01
	(4.10)***	(9.56)***	(20.21)***
Board_SIZE	0.02	0.05	0.10
	(4.96)***	(5.10)***	(19.48)**
Board_IND	-0.01	-0.01	-0.11
	(-1.48)	(-0.20)	(-16.50)***
GENDER	-2.23	-0.06	-0.07
	(-24.16)***	(-1.46)	(-5.86)***
Control Variables			
Bank_Size	-0.07	-0.11	-0.07
	(-4.55)***	(-39.76)***	(-18.06)***
Efficiency	-0.01	-0.01	-0.01
	(-9.31)***	(-22.12)***	(-28.05)***
Leverage	0.10	0.01	0.01
	(11.15)***	(5.45)***	(6.03)***
N	231	151	319

Note: The table presents the results of the two-step system GMM estimate of regressing ROA on board characteristics variables with bias corrected robust standard errorsFigures in parenthesis are t-statistics BP is dependent variable measured by ROA. DUALITY represents CEO duality; CEO_PAY is CEO pay; Board_SIZE represents board size; Board_IND represents board independence; GENDER represents board gender. CONTROLS are control variables which include: ROA, bank size, efficiency and leverage *p<0.1; **p<0.05; ***p<0.01

5. Conclusions

It is well known that the fields of corporate governance and board mechanisms have mainly been influenced by agency theory. From an agency perspective, the board of directors as an internal control mechanism address the conflicts of interest between managers (agent) and shareholders (principal) and to bring their interests into congruence. However, there is little definitive and striking evidence regarding the impacts of on banks. In the light of various policy recommendations about the role and function of the board of directors for the governance of UK banks, this paper provides evidence relating to the impact of board composition (board size, board independence, and boar gender) and board monitoring (CEO duality and CEO pay) on the performance of UK banks.

This study has important implications for practitioners. For banks, the results on the key performance enhancing characteristics could serve the purpose of board evaluations. This research has also practical relevance for the selection process of directors as it highlights the importance of having an appropriate mix of competences on board. For institutional investors, this study emphasizes the importance of board composition and monitoring mechanism, particularly on assessing the quality of corporate governance at a firm level. Furthermore, this study is of particular interest to policy makers about stimulating an appropriate corporate governance environment. The study is a modest attempt to provide some academic evidence for current and future governance reforms, particular on UK banks. The results indicate that board should try to use a flexible approach to design, adapt and monitor corporate governance codes. The results also suggest that policy makers should consider how to balance the benefits and costs of governance reforms.

As a cautionary remark, it should be mentioned that our study focuses on accounting-based measurement like ROA. However, there is also have market-based measurement like Tobin's Q (See Pathan and Faff, 2013; Elyasiani and Zhang, 2015; Garcia-Meca et al., 2015). As Garcia-Meca et al. (2015) point out, Tobin's Q can reflect unstructured and volatile bank performance better than ROA. In this context, future research would use both variables to measure performance. Additionally, this study adopts a single country and therefore the findings may not be generalizable to countries that do not have similar governance characteristics like the UK. Future research can undertake a cross-country study to better understand the influence of national contexts of board composition and monitoring on performance. As Minichilli et al. (2010) suggested, a cross-country study should be undertaken as it can allow researchers to investigate board characteristics and effectiveness both within-country and between-countries and thereby developing a universal framework for corporate governance.

References

Adams, R., & Ferreira, D. (2007). A theory of friendly boards. *Journal of Finance,* 62 (2), 217–250.

Adams, R. B., Hermalin, B. E., & Weisbach, M. S. (2010). The role of boards of directors in corporate governance: A conceptual framework and survey. *Journal of Economic Literature*, 48 (1), 58-107.

Adam, R. B., & Mehran, H. (2008). *Corporate performance, board structure, and their determinant in the banking industry.* FRB of New York Staff Report No. 330.

Adam, R. B., & Mehran, H. (2012). Bank board structure and performance: evidence for large bank holding companies. *Journal of Financial Intermediation*, 21 (2), 243-267.

Aebi, V., Sabato, G., & Schmid, M. (2012). Risk management, corporate governance, and bank performance in the financial crisis. *Journal of Banking and Finance* 36 (12), 3213-3226.

Almazan, A., & Suarez, J., 2003. Entrenchment and severance pay in optimal governance structures. *Journal of Finance,* 58 (6), 519-547.

Andres, P. D. &Vallelado, E. (2008). Corporate governance in banking: The role of the board of directors. *Journal of Banking and Finance*, 32 (12), 2570-2585.

Arellano, M., & Bover, O. (1995). Another look at the instrumental variables estimation of error-components models. *Journal of Econometrics,* 68 (1), 29–51.

Barth, J. R., Caprio, G., & Levine, R. (2004). Bank regulation and supervision: What works best. *Journal of Financial Intermediation,* 13 (2), 205-248.

Basel Committee on Banking Supervisor (BCBS) (2006). *Enhancing corporate governance for banking organizations.* Consultative Document.

Berger, A. N., & Bouwman, C. H. S. (2013). How does capital affect bank performance during financial crises? *Journal of Financial Economics,* 109 (9), 146–176.

.

Bertrand, M., & Schoar, A. (2003). Managing with style: The effect of managers on firm policies. *Quarterly Journal of Economics,* 118 (10), 1169–1208.

Blundell, R., & Bond, S. (1998). Initial conditions and moment restrictions in dynamic panel data models. *Journal of Econometrics*, 87 (1), 115–143.

Calomiris, C. W., & Carlson, M. (2016). Corporate governance and risk management at unprotected banks: National banks in the 1890s. *Journal of Financial Economics.* 119 (3), 512-532.

Campbell, K., & Mínguez-Vera, A. (2008). Gender diversity in the boardroom and firm financial performance. *Journal of Business Ethics,* 83 (3), 435–451.

Cerbioni, F., & Parbonetti, A. (2007). Exploring the effects of corporate governance on intellectual capital disclosure: An analysis of European biotechnology companies. *European Accounting Review*, 16 (4), 791–826.

Chahine, S., & Goergen, M. (2011). VC board representation and performance of US IPOs. *Journal of Business Finance and Accounting*, 38 (4), 413–445.

Chen, H. J., & Lin, K. T. (2016). How do banks make the trade-offs among risks? The role of corporate governance. *Journal of Banking and Finance*, In Press, Corrected Proof, 1-31.

Coles, J. L., Daniel, N. D., & Lalitha, N. (2008). Boards: does one size fit all? *Journal of Financial Economics,* 87 (5), 329–356.

Cunat, V., & Guadalupe, M. (2009). Executive compensation and competition in the banking and financial sectors. *Journal of Banking and Finance,* 33 (9), 495-504.

Darmadi, S. (2011). Board diversity and firm performance: The Indonesian evidence. *Corporate Ownership and Control,* 9 (1), 524–539.

Demirguc-Kunt, A., & Huizinga, H. (2010). Bank activity and funding strategies: The impact on risk and returns. *Journal of Financial Economics,* 98 (6), 626–650.

Donaldson, T., & Preston, L. E. (1995). The stakeholder theory of the corporation: Concepts, evidence, and implications. *Academy of Management Review,* 20 (1), 65-91

Dong, Y., Girardone, C., & Kuo, J. M. (2016). Governance, efficiency and risk taking in Chinese banking. *The British Accounting Review,* In Press, corrected proof, 1-19.

Dyckerhoff, S. C., Wang. J., & Chen, J. (2012). *Women matter: An Asian perspective.* Washington D.C., USA: McKinsey & Co.

Eagly, A., & Carli, L. (2003). The female leadership advantage: An evaluation of the evidence. *The Leadership Quarterly,* 14 (8), 807–834.

Elnahass, M., Izzeldin, M., & Abdelsalam, O. (2014). Loan loss provision, bank valuations and discretion: A comparative study between conventional and islamic banks. *Journal of Economic Behaviour and Organization,* 103 (7), 160-173.

Elyasiani, E., & Zhang, L. (2015). Bank holding company performance, risk and busy directors. *Journal of Banking and Finance,* 60 (11), 239-251.

Fama, E. F., & Jensen, M. C. (1983). Separation of ownership and control. *Journal of Law and Economics*, 26 (2), 301–325.

Fries, S., & Taci, A. (2005). Cost efficiency of banks in transition: Evidence from 289 banks in 15 post-communist countries. *Journal of Banking and Finance*, 29 (1), 55–81.

Garcia_Meca, E., Garcia-Sanchez, I. M., & Martinez-Ferrero, J. (2015). Board diversity and its effects on bank performance: An international analysis, *Journal of Banking and Finance,* 53 (4), 202-214.

Ghosh, A., & Jain, P. C. (2000). Financial leverage changes associated with corporate mergers. *Journal of Corporate Finance*, 6 (4), 377-402.

Guest, P. M. (2009). The impact of board size on firm performance: Evidence from the UK. *The European Journal of Finance,* 15 (4), 385-404.

Gujarati, D. N. (2004). *Basic econometric*. Fourth Edition, The McGraw-Hill Companies.

Hasan, I., Schmiedel, H., & Song, L. (2012). Returns to retail banking and payments. *Journal of Financial Services Research,* 41 (3), 163-195

Hermalin, B. E., & Weisbach, M. S. (2003). Boards of directors as an endogenously determined institution: A survey of the economic literature. *Federal Reserve Bank of New York Economic Policy Review,* 9 (1), 7-26.

Hutchinson, M., Mack, J., & Plastow, K. (2014). *Who selects the 'right' directors: An examination of the association between board selection, gender diversity and outcomes.* Accounting and Finance, [Online]

Available at: http://dx.doi.org/10.1111/acfi.12082 [Accessed on 6th October, 2016]

Jensen, M. C., & Meckling, W. H. (1976). Theory of firm—managerial behaviour, agency costs and ownership structure. *Journal of Financial Economics,* 3 (4), 305–360.

Jermias, J., & Gani, L. (2014). The impact of board capital and board characteristics on firm performance. *Journal of Accounting Review,* 46 (1), 135–153.

Khanchel, I. (2007). Corporate governance: Measurement and determinant analysis. *Managerial Auditing Journal*, 22 (8), 740-760.

Kim, D., & Santomero, A. (1993). Forecasting required loan-loss reserves. *Journal of Economics and Business,* 45 (3), 315–329.

Klein, A. (2002). Audit committee, board of director characteristics, and earnings management. *Journal of Accounting and Economics,* 33 (3), 375-400.

Krause, R., Samadeni, M., & Candella, A. (2014). CEO duality: A review and research agenda. *Journal of Management,* 40 (1), 256–286.

Liang, Q., Xu, P., & Jiraporn, P. (2013). Board characteristics and Chinese bank performance. *Journal of Banking and Finance,* 37 (8), 2953-2968.

Livne, G., Maekarian, G., & Milne, A. (2011). Bankers' compensation and fair value accounting. *Journal of Corporate Finance,* 17 (15), 1096-1115.

Luo, Y. L. (2015). CEO power, ownership structure and pay performance in Chinese banking. *Journal of Economics and Business,* 82 (1), 3-16.

Macey, J. R., & O'Hara, M. (2003). Solving the corporate governance problems of banks: A proposal. *Banking Law Journal*, 120 (4), 326.

Meca, E, G., Sanchez, I. M. G., & Ferrero, J. M. (2015). Board diversity and its effects on bank performance: An international analysis. *Journal of Banking and Finance,* 53 (4), 202-214.

Minichilli, A., Zattoni, A., Nielson, S., & Huse, M. (2010). Board task performance: An explanation of micro- and macro-level determinants of board effectiveness. *Journal of Organizational Behaviour,* 33 (2), 193-215.

Mollah, S., & Liljeblom, E. (2016). Governance and bank characteristics in the credit and sovereign debt crises – the impact of CEO power. *Journal of Financial Stability.* 27 (12), 59-73.

Muravyev, A., Talavera, O., & Weir, C. (2016). Performance effects of appointing other firms' executive directors to corporate boards: An analysis of UK firms. *Review of Quantitative Finance and Accounting,* 46 (1), 25-45.

Musumeci, J., & Sinkey, Jr., J. (1990). The international bank crisis and bank loan-loss reserve decisions: The signalling content of partially anticipated events. *Journal of Money, Credit, and Banking*, 22 (3), 370–387.

Nguyen, V. H. T., & Boateng, A. (2015). An analysis of involuntary excess reserves, monetary policy and risk-taking behaviour of Chinese banks. *International Review of Financial Analysis,* 37 (1), 63-72.

Nter, J., Wasserman, W., & Kutner, M. H. (1989). *Applied linear regression models*. Homewood, IL: Irwin.

Palmon, O., & Wald, J. K. (2002). Are two heads better than one: The impact of changes in management structure on performance by firm size. *Journal of Corporate Finance,* 8 (2), 213-226.

Pathan, S., & Faff, R., 2013. Does board structure in banks really affect their performance. *Journal of Banking and Finance,* 37 (15), 1573-1589.

Puni, A., Osei, B. A., & Ofei, S. B. (2014). The effect of board composition on corporate financial performance: Evidence from listed firms in Ghana. *International Journal of Business and Management*, 9 (8), 170-178.

Raheja, C. G. (2005). The determinants of board size and composition: A theory of corporate boards. *Journal of Financial and Quantitative Analysis,* 40 (2), 283-306.

Salim, R., Arjomandi, A., & Seufert, J. H. (2016). Does corporate governance affect Australian banks' performance. *Journal of International Financial Markets, Institutions and Money,* In Press, Corrected Proof.

Shehzad, C. T., & Hann, J. D., Scholtens, B. (2010). The impact of bank ownership concentration on impaired loans and capital adequacy. *Journal of Banking and Finance,* 34 (2), 399-408.

Sierra, G. E., Talmor, E., & Wallace, J. S. (2006). An examination of multiple governance forces within banking holding companies. *Journal of Financial Service Research,* 29 (2), 105-123.

Singh, V., & Vinnicombe, S. (2004). Why so few women directors in top UK boardrooms: Evidence and theoretical explanations. *Corporate Governance International Review*, 12 (3), 479–489.

Staikouras, P. K., Staikouras, C. K., & Agoraki, M. E. K. (2007). The effect of board size and composition on European bank performance. *European Journal of Law and Economics,* 23 (1), 1-27.

Subrahmanyan, V. N., & Rosenstein, S. (1997). The role of outside directors in bank acquisitions. *Journal of Financial Management*, 26 (1), 23–26.

Tanna, S., Pasiouras, F., & Nnadi, M. (2011). The effect of board size and composition on the efficiency of UK banks. *International Journal of the Economics of Business*, 18 (3), 441-462.

Uadiale, O. M. (2010). The impact of board structure on corporate financial performance in Nigeria. *International Journal of Business and Management,* 5 (10), 155-166.

Veprauskaite, E., & Adams, M. (2013). Do powerful chief executives influence the financial performance of U.K. firms. *Journal of Accounting Review,* 12 (3), 229–241.

Weir, C., Laing, D., & McKnight, P. J. (2002). Internal and external governance mechanisms: Their impact on the performance of large UK public companies. *Journal of Business Finance and Accounting*, 29 (5), 579-611.

Wintoki, M. B., Linck, J. S., & Netter, J. M. (2012). Endogeneity and the dynamics of internal corporate governance. *Journal of Financial Economics,* 105 (3), 581-606.

Wooldridge, J. M. (2009). *Econometric analysis of cross section and panel data.* MIT Press.

Yi, A. (2011). Mind the gap: Half of Asia's boards have no women, a risky position for governance and growth. The Korn/Ferry Institute.