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DO BOARD CHARACTERISTICS IMPACT THE MARKET PERFORMANCE OF INDIAN BANKS?

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ABSTRACT

This paper explores the role of board characteristics of Indian banks on their market performance. We conducted panel data analysis on a sample of 29 Indian banks that form part of the National Stock Exchange (NSE) 500 index (covering a period of 8 years from 2009-2016). While ten board characteristics were considered as independent variables, Tobin's Q was considered as the dependent variable (Tobin's Q was assumed to be a proxy for market performance of banks). Findings suggest that only three out of ten board characteristics (average number of boards served, CEO duality and number of meetings conducted) positively affect market performance of Indian banks. Our sample included 29 Indian banks covering a period of 8 years. Also, other corporate governance mechanisms, such as characteristics of audit committee, stakeholder relations committee, nomination and remuneration committee and risk management committee were not considered for the study. Hence caution must be taken in generalizing the results of the study.

Contribution/ Originality: This study is one of very few studies which have investigated the impact of board characteristics on the market performance of banks. Ten board characteristics are extracted from the annual reports of Indian banks and these may be used by researchers in the future, to act as proxy for corporate governance

1. INTRODUCTION

Corporate Governance (CG) creates and sustains monitoring frameworks which guide the managerial actions such that the agents are motivated to enhance the well-being of the various stakeholders of the firm (Clarke, 1998; Cooper and Owen, 2007). The literature has extensively described the positive effect of corporate governance on the financial performance of firms. For instance, firms with better CG mechanisms report superior profitability (Balasubramanian *et al.*, 2010; Francis *et al.*, 2013; Ararat *et al.*, 2017) have access to cheaper source of funds (Anderson *et al.*, 2004; Ghouma *et al.*, 2018) produce higher firm value (Klein *et al.*, 2004; Cheung *et al.*, 2011; Nini *et al.*, 2012) have better market liquidity (Elshandidy and Neri, 2015) better linkages with the credit market (Funchal and Monte-Mor, 2016) sound financing mix (Jiraporn *et al.*, 2012) and higher dividend payout (Pinkowitz *et al.*, 2006; Harford *et al.*, 2008).

Fama and Jensen (1983) contend that the board is the central decision making authority in the organization. The previous studies indicate that the boards improve the quality of the discussion thereby enhancing the quality of the decision making process, such that it results in the safeguarding of the shareholder interests by the firm (John and Senbet, 1998; Finegold *et al*., 2007; Garcia-Torea *et al*., 2016).

The development of a sound and market oriented banking and financial system is imperative for developing economies and banks' financial performance is an important determinant of the growth rate of the emerging economies (Acharya *et al*., 2017). A number of studies have related the board characteristics with the performance of banks in developed economies (Adams and Mehran, 2005; Pathan *et al*., 2007; Andres and Vallelado, 2008; Belkhir, 2009; Lin and Zhang, 2009; Pathan, 2009; Ferreira *et al*., 2010; Adams and Mehran, 2012; Bertay *et al*., 2013; Nyamongo and Temesgen, 2013; Berger *et al*., 2014). Interestingly, few researchers argue that there is no relationship between board parameters and bank performance (Laeven, 2013; Alemu and Negasa, 2015; John *et al*., 2016). To the best of the knowledge of the authors, no research work has been carried out with an objective of assessing the influence of board characteristics on the performance of the banks operating in India.

This paper seeks to address the following research questions:

1) Is there a relationship between board characteristics and the market performance of Indian banks?

2) Which are the board characteristics that determine the market performance of Indian banks?

The paper has the following objectives.

1) To explore the relationship between board characteristics and the market performance of the Indian banks (measured through Tobin's Q).

2) To empirically investigate the impact of board characteristics on the market performance of the Indian banks (proxied by Tobin's Q).

This study is based on data related to board characteristics and market performance of twenty-nine listed banks. Data on board characteristics were collected from the annual reports of the sample banks. Data on market performance (Tobin's Q) and control variables (bank age and bank size) was collected from CMIE Prowess, the database of Centre for Monitoring Indian Economy. Findings suggest that the board characteristics of Indian banks have a positive and significant impact on their market performance. The uniqueness of the paper is that it introduces a new measure of corporate governance which is constructed using the board characteristics of the sample banks that were collected from their annual reports.

The findings of the article have major implications:

1) Firstly, banks can improve their market performance (market prices) by improving their board composition such that their market values are maximized.

2) Secondly, researchers can get more insights on the influence of board characteristics on the market performance of banks by extending the scope of the study.

The remainder of the study is organized as follows: the second section deals with the literature review and the development of the theoretical framework. The third section presents the methodology conveying information about the sample selection, variables used, and the model specification. Analysis and discussion of the results are presented in the fourth section. Final section concludes the study and spells out the direction for further research.

2. LITERATURE REVIEW

Corporate governance impacts investment, capital structure choices (Detthamrong *et al*., 2017) as well as dividend pay-out decisions (Setiawan and Phua, 2013). Extant research suggests that effective CG practices enhance the organizational performance (Beltratti and Stulz, 2012; Andreou *et al*., 2016; Elmagrhi *et al*., 2017; Pillai and Al-malkawi, 2018). Board related parameters are assumed to be a proxy for corporate governance of firms (Boone *et al*., 2007; Andres and Vallelado, 2008). The board of the firm has the obligation of monitoring its performance on behalf

of the shareholders (Acharya *et al*., 2011). It is the duty of the board of directors to advise the executive managers on a regular basis though in practice it is neglected by the board members (Barroso *et al*., 2011).

Kor and Sundaramurthy (2009) report that board characteristics have a positive effect on the growth of firms. Conger and Lawler, (2008) indicate that board characteristics contribute to a higher firm value for the largest U.K. firms. Abidin *et al*. (2014) in their study based on a sample of 75 randomly chosen firms listed in Bursa Malaysia, argue that board characteristics have a positive impact on the performance of firms. Chaghadari and Chaleshtori (2011) based on a sample of 30 listed Malaysian companies, contend that board characteristics have a mixed effect on firm performance.

According to the 'modern theory of financial intermediation', liquidity creation is an essential role of banks (Berger and Bouwman, 2009; Fungáčová *et al*., 2017). In emerging economies, financial markets tend to be less developed, hence banks play a predominant role in providing access to capital markets (Ogura, 2018). Banks play a major role in providing access to credit to various forms of economic entities in countries with underdeveloped capital markets (Sufian and Chong, 2008). What differentiates banks from other financial entities is that, banks mobilize a major portion of its funds through liabilities that are largely in the form of deposits and their assets mainly comprise of loans with different maturity periods (Macey and O'Hara, 2003). It is critical to understand, whether performance of banks is shaped by governance at bank level, country level, or both (Betratti, 2009). Literature suggests that informational asymmetries are larger with banks (Borio *et al*., 2001). The literature consists of studies with mixed results on the association between corporate governance and bank performance. A number of authors, have revealed the positive association between board parameters and performance of banks (Crawford *et al*., 1995; Adams and Mehran, 2005; Andres and Vallelado, 2008; Belkhir, 2009; Adams and Mehran, 2012). On the contrary, some studies report the existence of a negative relationship between board characteristics and performance of banks (Ferreira *et al*., 2010; Mehran *et al*., 2011; Westman, 2011; Nyamongo and Temesgen, 2013). However, some researchers have concluded that these two variables are not at all related (Laeven, 2013; Nyamongo and Temesgen, 2013; Alemu and Negasa, 2015; John *et al*., 2016).

Williams and Nguyen (2005) investigate for a sample of 231 commercial banks based in Indonesia, Korea, Malaysia, Philippines, and Thailand for the period 1990 to 2003 and reveal that board characteristics are related to bank performance measured through accounting profitability metrics. Based on their study of publicly traded U.S. commercial banks for the period 1994 to 2002, Cornett *et al*. (2009) conclude that improvements in performance (through bank efficiency) are linked to board characteristics. Wang *et al*. (2012) study 68 U.S. bank holding companies and point out that board characteristics have a negative impact on bank performance. Interestingly, a study of U.S. banking firms, over the period 1997-2011, reveals that the structure of the board, (especially for banks with lower market capitalization), positively impacts performance demonstrated through higher return on assets (Pathan and Faff, 2013). Tu *et al*. (2014) report that board characteristics have a positive influence on bank ROE and ROA measured for a sample of 75 banks based in Vietnam. Jadah and Adzis (2016) evaluate the linkage between board characteristics and bank performance for an unbalanced sample of 20 Iraqi banks, over a ten-year period from 2005 to 2014 and find that board characteristics impact bank ROE positively.

Pathan *et al*. (2007) look at 13 banks based in Thailand (during the period 1999-2003), and indicate that board characteristics negatively impact bank performance (measured through ROE and ROA). In their research works on the fifty largest Chinese banks over the period 2003 to 2010, Liang *et al*. (2013) state that board characteristics negatively influence the bank performance measured through ROA and Tobin's Q.

Romano *et al*. (2012) in their study based on a sample of 25 Italian banks over the period 2006 to 2010, find that some board characteristics positively influence bank performance (measured by ROA and ROE) whereas some other board characteristics negatively impact bank performance (through ROA and ROE). Fernandes *et al*. (2016) argues that board characteristics have an impact on bank stability based on a sample of large European banks that received bailout packages. El-Masry *et al*. (2016) in his evaluation of 90 banks operating in GCC countries (i.e. Saudi

Arabia, Kuwait, the United Arab Emirates, Qatar, Bahrain, and Oman) consisting of 30 Islamic banks and 60 non Islamic banks over the period 2003 to 2012, state that board characteristics of conventional banks do not impact their ROA and ROE while for Islamic Banks the board characteristics negatively influence their ROE.

In developed countries, the efficiency of the banks which is "a quick and convenient way of bank's ability to turn resources into revenue" is known to portray the quality of financial development (Koetter and Wedow, 2010; Greenwood and Scharfstein, 2013). Relatively, fewer studies look at the relationship between board characteristics and bank performance, also those studies focus primarily on the impact of board characteristics on the performance and efficiency scores of banks (Tecles and Tabak, 2010).

An understanding of board characteristics of banks is imperative especially in light of the prominent role that banks play in emerging economies, and the nature of the banking reforms that these economies have implemented (Deb, 2013). Therefore, the research questions that come to the fore are:

(i) Is there a relationship between board characteristics and the market performance of Indian banks?

(ii)Which are the board characteristics that determine the market performance of Indian banks?

This work introduces a new measure of CG, which attempts to measure corporate governance using data collected on board characteristics from the annual reports of Indian banks. The previous studies have used the data on board characteristics that are reported by secondary databases such as CMIE Prowess and Bloomberg.

Therefore, this work aims to understand the impact of board characteristics on the market performance of Indian banks through the theoretical framework which is presented in figure I

Figure-1. Theoretical Framework

3. DATA AND METHODOLOGY

This paper examines the impact of board characteristics on the market performance of Indian banks. Our initial sample comprised of 33 banks that are included in the National stock Exchange 500 index. The annual reports of four banks were not available during the period 2009 -2016, and therefore our final sample comprised of 29 banks (refer Appendix 1 for the list of sample banks).

The data on board characteristics of sample banks were collected from the annual reports of banks. The data on the market performance and control variables for the study were collected from CMIE Prowess, the database of Centre for Monitoring Indian Economy (Khanna and Palepu, 2000). The CMIE database is a credible source of information (Mishra and Mohanty, 2014; Haldar and Rao, 2015; Arora and Sharma, 2016; Saravanan *et al.*, 2017). It provides data on financial statements such as balance sheet, income statement, and cash flow statements for the listed firms in India.

3.1. Dependent Variable

The dependent variable related to market performance used by this study and its measurement are presented below.

Tobin's Q is the ratio of market value of a company to its replacement costs. As it is arduous to estimate the replacement cost, we consider the book value of banks as a proxy for their replacement costs. This measure is useful for understanding the cross sectional differences in banks (Beltratti and Stulz, 2012).

3.2. Independent Variables

In order to understand the influence of board characteristics on the market performance on Indian banks, the following ten independent variables were identified.

1) Proportion of non-executive directors: It is defined as the ratio of the strength of the non-executive directors to the total number of board members (Armstrong *et al*., 2014).

2) Number of board members: It is the strength of the board of directors of banks (Johl *et al*., 2015).

3) CEO Duality: It is a measure of the distinction between the roles of the chairman and CEO and we assign a dummy value of 1 if chairman and chief executive officer are separated and 0 if they are merged (Mohammad *et al*., 2013).

4) Proportion of women directors: It is defined as the strength of the women directors to total number of board members (Abdullah *et al*., 2016).

5) Annual remuneration per board member: It is defined as the ratio of total remuneration of the board to the total number of board members (Tremblay *et al*., 2003).

6) Annual remuneration per executive director: It is the ratio of the total remuneration of executive directors to the total number of executive board members (Basu *et al*., 2007).

7) Annual remuneration per non-executive director: It is the ratio of the total remuneration of non-executive directors to the total number of non-executive board members (Murphy, 2013).

8) Number of board meetings: It is taken as the total number of board meetings in a year (Mohammad *et al*., 2013).

9) Average no of meetings attended by directors: It is defined as the ratio of the sum total of meetings attended by directors to the total number of board members (Chou *et al*., 2013).

10) Average number of boards served: It represents the multiple directorship aspect of the board of directors and is defined as the ratio of the number of boards each director serves on to the strength of the board (Barros *et al*., 2013).

3.3. Control Variables

Firm performance is impacted by age, Anderson and Eshima (2013) and size of the firm. Bank age is defined as the years since the inception date of the bank. Bank size is defined as the logarithm of the total assets (Qian and Yeung, 2015). Therefore, the control variables for the paper are bank age and bank size.

3.4. Method

Several approaches are available for panel data analysis. These include ordinary least squares (OLS), fixed effects model (FEM), and random effects model methodologies (Greene, 2005). The study used OLS methodology advocated by Wintoki *et al.* (2012). The ordinary least squares method was used to empirically examine the causal/functional relationship among the variables (Bhaumik, 2015). Multiple regression methodology was adopted after satisfying the five assumptions (i.e. normality, homoscedasticity, linearity, non-autocorrelation and no multicollinearity assumptions). The paper employed panel data methodology as followed by Matthews *et al.* (2007). Panel data has' both cross sectional and time series elements', and' is more informative allowing us to construct, and test more complicated behavioural models than pure cross section, or time series models' (Baltagi, 2005). To investigate the issue of panel cointegration it is important to examine the existence of panel unit roots in the pooled data set for the banks. As per the results of the Levin Lin Chu test (panel unit root test :refer Appendix 4) it is to be noted that all the dependent ,independent and control variables are observed to be stationary .Hence we conduct a static panel data testing of fixed effects, as well as static panel data of random effects.'The models that were

estimated using panel data were so specified that the heterogeneity among cross sectional units was taken care of '(Baltagi *et al*., 2003). The Hausman test helped us to choose between fixed effects panel data model, and random effects panel data model (Bhaumik, 2015).

3.5. Model

The study has employed the following model for the empirical examination.

$QRatio_{it}=\alpha+\beta_1 ANBS_{it}+\beta_2 ANMA_{it}+\beta_3 CDS_{it}+\beta_4 NBME_{it}+\beta_5 NBM_{it}+\beta_6 PNED_{it}+\beta_7 PWD_{it}+ \gamma_1 BANK\_AGE_{it} + \gamma_2 L\_BANK\_ASSETS_{it}+ \varepsilon_{it}$

Where;

Tobin's Q refers to Q ratio

ANBS refers to the average no of boards each director serves on

ANMA refers to the average number of meetings attended by each director

CDS refers to the separation of the roles of the chairman and CEO for the banks

NBME refers to the number of meetings of the bank's board in a year

NBM refers to the strength of the board

PNED refers to the proportion of non-executive directors on the bank's board

PWD refers to the proportion of women directors on the respective board.

The control variable BANK_AGE refers to age of the particular bank and L_BANK_ASSETS refers to logarithm of bank assets.

Three independent variables namely, annual remuneration per executive board member, annual remuneration per board member and annual remuneration per non-executive board member were excluded from the study to avoid the problem of multicollinearity (refer Appendix 3). Hence, this paper has employed seven board characteristics as the proxy for corporate governance.

4. RESULTS AND DISCUSSION

a) Descriptive Statistics

Table 1 presents the descriptive statistics of the board characteristics of the sample banks. We can observe from the table that, the average annual remuneration of the non-executive directors of the sample banks is Rs 2,15,243.3, and the standard deviation for the same is Rs 4,80, 186. The average annual remuneration per executive directors is Rs 7,38,052.6, and the standard deviation is Rs 14,94, 014.The average annual remuneration per board members is Rs 9,53,295.9, with the standard deviation being Rs 18,98,218. The average number of boards served by individual member is 1.756 banks, and the average attendance in board meetings being 87%. The average CEO duality score equals 0.52. The average number of board meetings per year is 12.70 for the sample banks. The sample banks have an average 11.06 board members with the mean proportion of non-executive directors being 0.77. The mean proportion of women directors, for the sample banks is observed to be 0.07. Standard deviation of the variables is shown in table 1. As represented in table 1, the distributions of average number of meetings attended, CEO Duality Score, and proportion of non-executive directors are negatively skewed. The distributions of annual remuneration per non-executive director, annual remuneration per executive director, annual remuneration per board member, average number of boards served, number of board members, number of board meetings and the proportion of women directors are positively skewed. The annual remuneration per non-executive director, annual remuneration per executive director and the annual remuneration per board member have high kurtosis values, thereby representing departure from normality. The average number of boards served, average number of meetings attended, number of meetings conducted and the proportion of non-executive directors have kurtosis values exceeding three, and therefore, represent minor departure from normality. The distributions of CEO Duality and

proportion of women directors have kurtosis values less than three, thereby representing lighter tails. The coefficient of variation for the independent variables is given in table 1.1.

Table-1. Descriptive statistics of the independent variables

	ARPNED	ARPED	ARPBM	ANBS	ANMA	CDS	NBME	NBM	PNED	PWD
Mean	215243.3	738052.6	953295.9	1.7566	0.8713	12.6983	0.7725	11.0689	0.7724	0.0723
Median	111751.4	393939.6	505939.1	1.3465	1	12.6983	0.0777	11	0.777	0.083
Maximum	5229797	14816397	17786791	7.3	1					
Minimum	0	25755	17786791	0	0.52	0	4	7	0.3636	0
Standard Deviation	480186.3	1494014	189218	1.5833	0.0779	0.5008	4.3049	2.009	0.0921	0.0613
Skewness	6.9615	6.2408	5.9723	1.2405	-1.0153	-0.0690	0.4735	0.4795	-0.5488	0.2796
Kurtosis	61.696	48.7697	44.1321	4.1762	4.4423	1.0048	4.2441	3.8451	4.2048	2.2628
Coefficient of Variation	223.090	202.426	1509.573	90.132	8.947	96.818	33.901	18.155	11.919	84.723

Where

ANBS refers to the average no of boards each director serves on

ANMA refers to the average number of meetings attended by each director

CDS refers to the separation of the roles of the chairman and CEO for the banks

NBME refers to the number of meetings of the bank's board in a year

NBM refers to the strength of the board

PNED refers to the proportion of non-executive directors on the bank's board

PWD refers to the proportion of women directors on the respective board

ARPBM refers to the ratio of the total remuneration of the board to the total number of board members

ARPED refers to the ratio of the total remuneration of executive directors to the total number of executive board members

ARPNED refers to the ratio of the total remuneration of non-executive directors to the total number of non-executive board members

From Table 2, we can observe that, the mean Q ratio for the sample banks is 1.43 times, whereas, the standard deviation of Q ratio is 1.26 times. The sample banks have a mean age of 73.94 years with a standard deviation of 35.26 years. The log of assets for sample banks has an average of 6.19, and a standard deviation of 0.46. The table 1.2 depicts the distribution of logarithm of bank assets and bank age and both these control variables are negatively skewed. On the other hand, the distribution of Q Ratio is positively skewed. Q Ratio has quite high kurtosis value, thereby representing a departure from normality. The log of bank assets, and bank age on the other hand have kurtosis values less than three, representing lighter tails.

Table-2. Descriptive statistics of the dependent variable and control variables

	Q_RATIO	L_BANK_ASSETS	BANK_AGE
Mean	1.432543	6.18676	73.94397
Median	1.05	6.250417	81.5
Maximum	8.45	7.433224	151
Minimum	0.26	5.021146	6
Std. Dev.	1.259398	0.459269	35.2634
Skewness	2.343499	-0.08463	-0.317233
Kurtosis	9.818711	2.905008	2.318575

Where

Tobin's Q refers to Q ratio.

The control variable BANK_AGE refers to age of the particular bank and L_BANK_ASSETS refers to logarithm of bank assets.

b) Correlation Analysis

To check for the possibility of spurious regression coefficients arising from multicollinearity in the regressors , pairwise correlation analysis was done. The Pearson pairwise correlations was estimated for the independent, dependent, and control variables. From table 3, we can see that the proportion of non-executive directors was negatively correlated with the annual remuneration per executive director (-0.217**) at 1% significance level. The number of board members was negatively correlated with the annual remuneration per board member (-0.184*), and the annual remuneration per executive director (-0.142*) at 5% significance level, while it was positively correlated with the number of board meetings (0.195**), and negatively correlated with the annual remuneration per non-executive director (-0.189 **) at 1% significance level. The CEO Duality variable was negatively correlated with the number of board meetings (-0.206**) at 1% significance level. The number of board meetings is negatively correlated with the annual remuneration per executive director (-0.215**), the annual remuneration per non-executive director (-0.253**) and with the proportion of women directors (-0.190**) at 1% significance level and with the average number of boards served (-0.538*) at 5% significance level. The average number of meetings attended was negatively correlated with the average number of boards served (-0.265*) at 5% significance level. Also, the average number of boards served was positively correlated with the annual remuneration per non-executive director (0.161*) at 5% significance level, and it is negatively associated with the number of board meetings (-0.538**) at 1% significance level. The proportion of women directors was negatively correlated with the number of board meetings (-0.190**) at 1% significance level, and positively correlated with the average number of boards served (0.156*) at 5% significance level. As per the results given in table 2 indicate that the correlations between annual remuneration per executive director, the annual remuneration per non-executive director, and the annual remuneration per board member were quite high (0.213**,0.434** and 0.795**). For statistical consistency, the paper used a panel with seven of the ten CG variables originally proposed, leaving out the annual remuneration explanatory variables (refer Appendix 3)

Table-3. Correlation Analysis

Correlations

		Q Ratio	Arpbm	Pned	Arped	Arpned	Nbm	Cds	Pwd	Nbme	Anma	Anbs	Bank_Age	L_Bank_Assets
Q Ratio	Pearson Correlation	1	.202**	.002	.189**	.196**	-.110	.172**	.053	-.150*	-.071	.284**	-.382**	-.118
	Sig. (2-tailed)		.002	.979	.004	.003	.095	.009	.424	.022	.278	.000	.000	.072
ARPBM	Pearson Correlation	.202**	1	.010	.879**	.988**	-.184**	-.001	.110	-.253**	-.045	.158*	-.282**	.073
	Sig. (2-tailed)	.002		.884	.000	.000	.005	.993	.095	.000	.497	.016	.000	.265
PNED	Pearson Correlation	.002	.010	1	-.217**	.082	-.064	.031	-.021	.051	.080	-.126	.037	-.409**
	Sig. (2-tailed)	.979	.884		.001	.213	.332	.636	.756	.440	.227	.055	.574	.000
ARPED	Pearson Correlation	.189**	.879**	-.217**	1	.795**	-.142*	.019	.132*	-.215**	-.062	.124	-.235**	.134*
	Sig. (2-tailed)	.004	.000	.001		.000	.031	.776	.045	.001	.349	.059	.000	.041
ARPNED	Pearson Correlation	.196**	.988**	.082	.795**	1	-.189**	-.007	.097	-.253**	-.037	.161*	-.282**	.050
	Sig. (2-tailed)	.003	.000	.213	.000		.004	.919	.140	.000	.575	.014	.000	.446
NBM	Pearson Correlation	-.110	-.184**	-.064	-.142*	-.189**	1	-.049	.081	.195**	-.081	.106	.074	.296**
	Sig. (2-tailed)	.095	.005	.332	.031	.004		.462	.218	.003	.219	.107	.262	.000
CEO	Pearson Correlation	.172**	-.001	.031	.019	-.007	-.049	1	.018	-.206**	.025	.055	-.068	-.165*
Duality_score	Sig. (2-tailed)	.009	.993	.636	.776	.919	.462		.782	.002	.707	.400	.301	.012
PWD	Pearson Correlation	.053	.110	-.021	.132*	.097	.081	.018	1	-.190**	.065	.156*	-.196**	.243**
	Sig. (2-tailed)	.424	.095	.756	.045	.140	.218	.782		.004	.321	.018	.003	.000
NBME	Pearson Correlation	-.150*	-.253**	.051	-.215**	-.253**	.195**	-.206**	-.190**	1	.039	-.538**	.601**	-.141*
	Sig. (2-tailed)	.022	.000	.440	.001	.000	.003	.002	.004		.556	.000	.000	.031
ANBA	Pearson Correlation	-.071	-.045	.080	-.062	-.037	-.081	.025	.065	.039	1	-.265**	.061	-.128
	Sig. (2-tailed)	.278	.497	.227	.349	.575	.219	.707	.321	.556		.000	.357	.051
ANBS	Pearson Correlation	.284**	.158*	-.126	.124	.161*	.106	.055	.156*	-.538**	-.265**	1	-.598**	.345**
	Sig. (2-tailed)	.000	.016	.055	.059	.014	.107	.400	.018	.000	.000		.000	.000
bank_age	Pearson Correlation	-.382**	-.282**	.037	-.235**	-.282**	.074	-.068	-.196**	.601**	.061	-.598**	1	-.096
	Sig. (2-tailed)	.000	.000	.574	.000	.000	.262	.301	.003	.000	.357	.000		.144
l_bank_assets	Pearson Correlation	-.118	.073	-.409**	.134*	.050	.296**	-.165*	.243**	-.141*	-.128	.345**	-.096	1
	Sig. (2-tailed)	.072	.265	.000	.041	.446	.000	.012	.000	.031	.051	.000	.144	

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Where

ANBS refers to the average no of boards each director serves on

ANMA refers to the average number of meetings attended by each director

CDS refers to the separation of the roles of the chairman and CEO for the banks

NBME refers to the number of meetings of the bank's board in a year

NBM refers to the strength of the board

PNED refers to the proportion of non-executive directors on the bank's board

PWD refers to the proportion of women directors on the respective board.

ARPBM refers to the ratio of the total remuneration of the board to the total number of board members

ARPED refers to the ratio of the total remuneration of executive directors to the total number of executive board members

ARPNED refers to the ratio of the total remuneration of non-executive directors to the total number of non-executive board members

Q ratio refers to Tobin's Q

BANK_AGE refers to age of the particular bank

L_BANK_ASSETS refers to logarithm of bank assets.

c) Regression Analysis

c) Regression Analysis

4.1. Robust Regression

The values obtained for heteroscedasticity for the OLS estimator for the model were high (refer Appendix 2). Therefore, we employ robust regression, as an alternative to ordinary least squares regression. As the errors were found to be heteroskedastic, robust regression handled the violation of OLS assumptions, and did not get influenced by the violations.

We can observe from table 4 that only two out of seven board characteristics variables viz. CEO Duality Score and average number of boards served influence the market performance of Indian banks measured by Tobin's Q.

The coefficient for average number of boards served was 0.1636 ,indicating that the Q Ratio increases by 0.17 times for every unit increase in the average number of boards served by the board directors of the sample banks which is in support of the findings of Carpenter and Westphal (2001). The coefficient for the CEO Duality Score was 0.21 thus indicating that the Q ratio increases by 0.21 times for every unit increase in the CEO Duality scores. This supports the conclusion of Syriopoulos and Tsatsaronis (2012). The remaining five board characteristics were found to be insignificant in determining the market performance of banks. Both the control variables had a negative and significant association with the market performance of the banks. The overall model was significant at 1 % level of significance.

Table-4. Estimation results of Robust Regression

Robust regression				
F(9, 222) = 8.37				
Prob > F = 0.0000				
QRatio	**Coef.**	**Std. Err.**	**t**	**P>|t|**
PNED	0.3280883	0.5095123	0.64	0.52
NBM	0.0140152	0.0233114	0.6	0.548
CDS	0.2138281	0.0890601	2.4	0.017
PWD	1.011772	0.7372873	1.37	0.171
NBME	0.0065433	0.0137663	0.48	0.635
ANMA	0.2904464	-0.5747514	-0.51	0.614
ANBS	0.1636209	0.0391097	4.18	0
bank_age	-0.0032278	0.0016868	-1.91	0.057
l_bank_assets	-0.4119614	0.11807	-3.49	0.001

Where

Q ratio refers to Tobin's Q

ANBS refers to the average no of boards each director serves on

ANMA refers to the average number of meetings attended by each director

CDS refers to the separation of the roles of the chairman and CEO for the banks

NBME refers to the number of meetings of the bank's board in a year

NBM refers to the strength of the board

PNED refers to the proportion of non-executive directors on the bank's board

PWD refers to the proportion of women directors on the respective board.

The control variable BANK_AGE refers to age of the particular bank and L_BANK_ASSETS refers to logarithm of bank assets

4.2. Fixed Effects Panel Data Regression

We conducted the Hausman test to examine if the model could be tested with the random effects method or fixed effects method. Based on the Hausman test result (refer Table 5), we have followed the fixed effects method for estimation of Q ratio of sample banks (see Table 5).

We can observe from table 6 that only three out of seven board characteristics variables viz. CEO Duality Score, average number of boards served and number of board meetings influence the market performance of Indian banks measured by Tobin's Q.

The coefficient for average number of boards served is 0.184 therefore indicating that the Q Ratio increased by 0.18 times for every unit increase in the average number of boards served by the sample banks. This is in line with the findings of Carpenter and Westphal (2001). The coefficient for the CEO Duality Score is 0.376 thus indicating that the Q ratio increases by 0.38 times for every unit increase in the CEO Duality scores. This supports the findings of Syriopoulos and Tsatsaronis (2012). The coefficient for number of meetings is 0.0686, thus indicating that the Q ratio of banks increases by 0.07 times for every unit increase in the number of board meetings held. The remaining four board characteristics were found to be insignificant in determining the market performance of banks. Both the control variables had a negative and significant association with the market performance of the banks. The r square value was 0. 235. Further the overall model was significant at 1 % level of significance.

Table 5 presents the results of the Hausman test while table 6 presents the estimation of fixed effect panel data regression to examine the effect of changes in board characteristics on performance of banks.

Table-5. Results of the Hausman Test

Correlated Random Effects - Hausman Test			
Test cross-section random effects			
Test Summary	**Chi-Sq. Statistic**	**Chi-Sq. d.f.**	**Prob.**
Cross-section random	17.340421	7	0.0153

Table-6. Results of the Fixed Effects Panel data regression

Cross -section and period fixed effects test equation		
Dependent Variable:Q Ratio		
Total panel(balanced) observations:232		
Sample : 1 232		
Periods included: 8		
Cross Sections included: 29		
Variable	**Coefficient**	**Prob**
C	5.64394	0.0029
ANBS	0.183952	0.0074
ANMA	-0.487847	0.6263
CDS	0.376188	0.016
NBME	0.068659	0.0046
NBM	-0.06322	0.1207
PNED	-0.660927	0.457
PWD	0.786542	0.5406
L_BANK_ASSETS	-0.490857	0.0178
BANK_AGE	-0.01333	0
Durbin-Watson stat	1.032124	
Prob(F-statistic)	0	
F stat	7.5833	
R-squared	0.23514	

Where

ARPNED is the average of remuneration per non-executive director.

ARPED is the average of remuneration per executive director.

ARPBM is the average remuneration per board member.

ANBS is the average number of boards served per board member.

ANMA is the average number of meetings attended per board member

CDS is the CEO Duality Score

NBME is the number of board meetings conducted.

NBM is the number of board members

PNED is the proportion of non-executive directors

PWD is the proportion of women directors

Bank_Age is the age of the bank measured since the date of inception

L_Bank_Assets is logarithm of the total assets of the bank

Q_Ratio is the ratio of (Market value of the bank/Replacement value of the bank)

5. CONCLUSION, LIMITATIONS AND SCOPE FOR FURTHER RESEARCH

The paper has measured corporate governance of Indian banks using data reported by them in their annual reports for ten board characteristics. This paper concludes that three out of ten board characteristics considered by the study namely, the average number of boards served , CEO duality and the number of board meetings conducted ,positively affect the market performance of Indian banks(measured through Q ratio)This reflects that busier boards, greater separation of chairman and CEO roles and higher frequency of board meetings contribute positively to maximization of market value(measured through Q ratio of the sample banks).

The contribution of the study to the domain of corporate governance and bank performance are many folds .Firstly, this study measures corporate governance through perusal of annual reports of the sample banks and considers ten characteristics of the board as proxies for corporate governance. Researchers hereafter may use these variables as proxy for corporate governance in their research works. Secondly, Indian banks can improve their market performance by inducting the board members with experience and expertise. Thirdly, Indian banks can improve their Q ratio by separating the role of their chairman and CEO. Finally, market performance of Indian banks can be increased by conducting board meetings at a higher frequency.

As the present study looks at a sample of twenty –nine Indian banks over a period of eight years only, the results of the study may differ if time window is enhanced. Further other corporate governance mechanisms (for instance, characteristics of audit committee, nomination and remuneration committee, stakeholders relation committee,corporate social responsibility committee, risk management committee and so on) could be considered. Further research can be conducted on the relationship between board characteristics and other financial decisions such as dividend payout and capital structure decisions of the banks. This study can be extended to other sectors of the economy apart from the banking sector.

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APPENDIX

Appendix-1

Allahabad Bank
Andhra Bank
Axis Bank
Bank of Baroda
Bank of India
Canara Bank
City Union Bank Ltd.
Corporation Bank
Federal Bank Ltd.
ICICI Bank Ltd
HDFC Bank Ltd
Indian Bank
Indusind Bank
Indian Overseas Bank
Jammu and Kashmir Bank
Laxmi Vilas Bank
Karnataka Bank
Karur Vysya Bank
Kotak Mahindra Bank
Oriental Bank of Commerce
Punjab National Bank
South Indian Bank
State Bank Of India
Syndicate Bank
UCO Bank
Union Bank of India
United Bank of India
Vijaya Bank
Yes Bank

Appendix-2

BG test for heteroscedasticity

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity	
Ho: Constant variance	
Variables: fitted values of Qratio	
chi2(1) =	34.87
Prob > chi2 =	0

Appendix-3

Test for multicollinearity

Variable	VIF	1/VIF
ARPED	56.27	0.017771
ARPNED	55.74	0.017941
ARPBM	55.74	0.017941
ANBS	2.15	0.465785
CDS	1.11	0.902655
NBME	1.96	0.510767
PNED	1.56	0.641980
NBM	1.26	0.795952
PWD	1.14	0.873619
ANBA	1.12	0.893554
bank_age	2.02	0.494505
l_bank_assets	1.65	0.606420
Mean VIF		11.45

Appendix-4

Variable	P value for the LLC test
ARPNED	0.0000
ARPBM	0.0487
ARPED	0.0000
PNED	0.0000
NBM	0.0000
PWD	0.0000
NBME	0.0000
ANBS	0.0000
ANMA	0.0000
CDS	0.0000
Qratio	0.0000
Bank_Age	0.0000
L_Bank_assets	0.0000