Efficacy of Corporate Governance in Determining Firm Performance: A Panel Data Approach

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Abstract

The present study analyses the level of governance upheld by Indian banks and its effect on their financial performance. The study also analyses the role of gender diversity in moderating the effect of corporate governance on bank performance. The study has been conducted on 30 public and private sector banks operating in India for a period of 12 years. Content analysis technique has been used to assess the level of governance in banks with the help of a corporate governance scorecard. Various accounting ratios have been used as a proxy for firm performance along with required control variables. Panel data regression analysis has been performed to analyse the effect of level of corporate governance on performance of the banks. The results show that the level of corporate governance maintained by the banks does not have a significant effect on their financial performance. The study also concludes that though gender diversity does not have a main effect on bank performance, it plays a significantly positive role in affecting the impact of corporate governance on bank performance.

Keywords: *Corporate Governance, Banking Sector, Bank Financial Performance*

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Introduction

To ensure efficient and effective governance in a corporation, all the related parties and stakeholders must provide cooperative assistance. The actual and utmost duty of better corporate governance rests on the shoulders of the directors and managers of the corporation. The recommendations of various corporate governance committees and the corporate governance laws till date regarding the directors of the corporations are proof enough of the vital role these directors play in corporate governance performance of the company. These recommendations form the basis of the present legal framework applicable to the corporate bodies around the world regarding corporate governance. Clause 49 of the Listing Agreement by SEBI (Securities and Exchange Board of India) regulates the corporate governance of companies in India. At present, the companies in India follow the corporate governance regulations as prescribed under the Securities and Exchange Board of India (Listing Obligations and Disclosure Requirements) Regulations, 2015.

Women have proved their competence in various fields that have a major contribution towards development of society. With the development of regulatory stipulations regarding appointment of women directors in the Companies Act, 2013 and in the SEBI (LODR) regulations, fair representation of women in the arena of corporate governance can be expected. The current regulation for women directors on board stipulates that at least one woman director must be present on the boards of Indian companies, with at least one independent woman director being a mandatory requirement.

The present study examines the level of corporate governance practices of the public sector and private sector commercial banks in India. Banks form an essential component of the Indian economy. As banks are financial institutions, they have a more profound effect on the economy as well as on the other sectors of the economy. Unlike other corporate organizations in the country, the banking sector in India is dominantly controlled by the Government of India. Reserve Bank of India also has significant influence on the functioning of banks. The regulations governing the banks in India are specific to them and are different as compared to the regulations imposed on other corporate bodies. Moreover, as the regulations and the reporting practices of banking organisations differ from other corporations, most studies conducted on corporate governance exclude such companies from the sample (Song, Ji, & Lee, 2013; Alhazaimeh, Palaniappan, & Almsafir, 2014; Bohdanowicz, 2015; Manzaneque, Priego, & Merino, 2016). Therefore, it becomes imperative to study the level of corporate governance in the major banking companies in India and the impact of level of governance on the financial performance of banks. The study also extends further to study the role played by the presence of women directors in moderating the effect of level of corporate governance of a bank on its financial performance.

Review of Literature

Studies conducted on corporate governance reveal mixed results regarding the effect of governance measures on performance of firms. A number of studies concluded that good corporate governance measures have a positive and significant effect on firm performance (Weisbach, 1988; Hossain, Cahan, & Adams, 2000; Chung, Wright, & Kedia, 2003). Whereas, some studies have shown a negative and significant relation between corporate governance measures and firm performance (Bathala & Rao, 1995; Hutchinson, 2002). Moreover, many studies have also provided evidence that corporate governance variables do not have any significant effect on performance of firms (Prevost, Rao, & Hossain, 2002; Park & Shin, 2003; Singh & Davidson, 2003).

Berger, Clarke, Cull, Klapper, and Udell (2005) analysed the effect of ownership dimension of corporate governance on bank performance. The study was conducted on banks of Argentina and the quarterly information on the banks from Q2 of 1993 to Q4 of 1999 was used as the data set in the study. The findings of the study reveal that state-owned banks perform poorly in the long-term. State-owned banks that were undergoing privatisation during the period specifically had poor performance and the performance of these banks improved after privatisation.

In a study by Dedu and Chitan (2013), conducted for the financial years 2004 to 2011 on the banks of Romania listed on Bucharest Stock Exchange, the impact of internal corporate governance factors on bank performance was studied. The study concluded that internal corporate governance when measured through an index, depicted a negative impact on the performance of the banks. The study therefore recommended that there is a need to improve the measures of corporate governance and countercyclicaly implement it.

Fanta, Kemal, and Waka (2013) studied the impact of various internal and external factors of corporate governance on performance of banks in Ethiopia for the period 2005 to 2011. The internal factors of governance included in the study were board size, presence of audit committee, and bank size. The external corporate governance factors included in the study were capital adequacy ratio, government intervention, lack of awareness about corporate governance, lack of national standards of governance, weak regulatory framework and lack of organised stock exchanges. The findings of the study show that except for bank size, all the internal corporate governance factors have significantly negative impact on bank performance. Moreover, the external factors included in the study also have a significantly negative impact on performance. However, capital adequacy ratio and bank size have significantly positive impact on performance.

Poojari (2013) studied the corporate failure cases of 3 financial firms viz. Lehman Brothers, Bear Stearns and The Royal Bank of Scotland. The study focuses on analysing some intangible governance characteristics of the firms like risk management, diversity and cohesion, communication, etc. The study brings to light that risk management system had failed in the 3 companies; the information regarding exposures did not reach the board of directors and higher level management in time. Moreover, most managers of the bank did not have proper training of risk management. The study also suggested that a company's board, to be well-organised, must have a reasonably diverse board, specially regading gender of the members. The boards of the 3 failed companies under study were under-represented in the sense of presence of women directors.

Orazalin, Mahmood, and Lee (2016), through their panel data analysis on varied dimensions of corporate governance and their impact on operating performance of Russian banks, reveal that corporate governance had a significant positive impact on banks' operating performance after the financial crisis. The study brought to light that in the wake of financial crisis, the banks were enforced with improvement in their corporate governance framework, which thereby had a positive impact on performance.

Abobakr (2017) analysed the impact of varied corporate governance factors on performance of 25 banks of Egypt for the period 2006 to 2014. Generalised Least Square (GLS) Random Effects Model was applied to study the relationship between the variables. ROA (Return on Assets) and ROE (Return on Equity) were used as dependent variables in the study. The findings of the study reveal that corporate governance variables viz. CEO duality, CRAR (Capital-to-Risk weighted Assets Ratio), bank size and board size have significantly positive effect on bank performance. However, other factors viz. gender diversity, block ownership, board qualifications and non-executive directors do not have a significant impact on performance of the banks. The study also concluded that Egyptian banks still have a poor governance framework as compared to the banks in other developing countries. The Egyptian banks especially lack in transparency and disclosure aspects of governance.

Majority of such studies have been concentrated on the corporate governance of companies in developed countries rather than in the developing and transition economies, where the corporate governance structure and the rules and regulations regarding governance are still developing.

As the public sector banks in India are dominantly owned and controlled by the Government of India and the Reserve Bank of India, and both the regulatory bodies have their nominees on the boards of the nationalized banks in India, the level of compliance with good corporate governance practices can be expected to be higher in the public sector banks as compared to the private sector banks in India. However, as private sector banks have no government backing, they must practice higher levels of corporate governance to efficiently compete with their public counterparts in attracting and sustaining investor confidence, customer loyalty and their share in the market, resulting in comparatively higher governance scores than the public sector banks.

H_1: There will be significant difference between the governance scores of public sector banks and private sector banks.

The concept of 'corporate governance' is based on the agency theory and problem of information asymmetry between the management and the stakeholders (Schillhofer, 2003; Michelberger, 2016). According to the agency theory as proposed by Jensen & Meckling (1976), better governance of an enterprise would result in reduction of the agency cost arising due to conflict in the interests of the stockholders and the managers, thereby resulting in better firm performance. Moreover, good governance not only mitigates type I agency conflict (conflicting interests of managers and stockholders) but also prevents type II agency conflict (conflicting interests of stockholders and other stakeholders), thereby enhancing performance (Roe, 2004).

H_2 : An increase in corporate governance score of banks has a significant positive effect on firm financial performance.

Previous studies conducted on the effects of gender diversity on firm performance have shown mixed results. Major studies conducted on gender diversity have shown a significant positive impact of gender diversity on performance of the firms (Carter, Simkins, & Simpson, 2003; Erhardt *et. al.,* 2003; Campbell & Mı´nguez-Vera, 2007). Some studies have also shown no impact of gender diversity on firm performance (Rose, 2007; Marinova, Plantenga, & Remery, 2010).

Erhardt, Werbel, and Shrader, (2003) studied gender diversity on the boards of 127 large firms of United States. The data was used for the years 1993 and 1998. The analysis was conducted through correlation and regression analysis. The results of the study reveal that gender diversity on the board of the companies has a positively significant effect on the performance of the firms when the performance was measured with return on assets (ROA) and return on investments (ROI).

Dwyer, Richard, and Chadwick (2003) studied the effect of gender diversity on performance of 535 banks of United States. The study was conducted through a questionnaire administered on the senior level executives and officials of the banks. The study concludes that the effect of gender diversity on performance of the banks depends on the organisational culture supported by the banks. The strategic orientation also plays a role in the same. Moreover, there can also be a multi-variate interaction factor between the variables viz gender diversity, bank performance, organisational culture and the strategic orientation of the banks.

Kawatra and Krishnan (2004) studied the impact of leaders' traits on the organisational culture. The study was conducted on 109 MBA students of India with the help of a 2*2 design. Four types of leadership were chosen for the study viz. transformational feminine leader, feminine leader, transformational masculine leader and no leader. For measuring organisational culture, 54 measures were used. The Kruskal-Wallis non-parametric test results showed that presence of feminine leadership increases collaboration, people-orientation and team-orientation. On the other hand, it reduces competitiveness, performance expectation, achievement-orientation, result-orientation, stability, secure employment and predictability.

Verma and Krishnan (2013) studied the role played by the gender of the leader (male and female) on trasformational leadership. The study also analysed the impact of the leader's gender on the organisational commitment of the followers. The study was conducted on 84 managers who belonged to a manufacturing concern in India. A 2*2 experimental design was implemented on the participants. Results of the study show that masculinity of the leader increases normative commitment in followers and an androgynous leader increases continuance commitment in the followers. Also, feminity aspect of a leader tends to reduce inspirational motivation aspect of transformational leadership.

Setiyono and Tarazi (2014) conducted a study on Indonesian banks for a period of ten years ranging from 2001 to 2011, having 4,200 firm-year observations. The study analysed the effect of gender diversity on the boards of Indonesian banks on the performance of the banks and level of risk. The findings of the study reveal that gender diversity on board reduces bank risk but does not have a significant impact on the performance of the banks.

Nguyen, Locke, and Reddy (2015) studied the impact of gender diversity on board on the performance of 120 firms of Vietnam which were publically listed. The study covered a period of 4 years from 2008 to 2011. The study applied a dynamic modelling technique which controlled for potential endogeniety in the study. The results of the study show that gender diversity on board has a significant positive impact on performance of the banks. The results do not change when other proxies of gender diversity are used in the model. Moreover, the study also concludes that as the number of women directors on board increase, the performance of the banks improve. However, this positive effect holds true only upto the point of women directors forming 20 percent of the board membership. An increase in proportion of women directors beyond 20 percent would cease the positive effects of gender diversity on performance.

The role played by gender diversity in determining the performance of firms has been explained by various corporate governance theories developed till date. With the help of agency theory, human resource theory, social psychology theory, etc., the role of women directors has been explained as the role an agent plays for his/ her principal, the efficacy of women directors in bringing different attributes to the board and making decisions with higher levels of creativity and innovation (Cox & Blake, 1991; Dallas, 2002; Carter, Simkins, & Simpson, 2003; Adams & Funk, 2012; Lucas-Pe´rez et. al., 2014; Liao, Luo, & Quingliang, 2015). Women directors are the agents of the stakeholders of the company and therefore, its their duty to protect the interests of the stakeholders. Keeping this view in mind, women directors are expected to have a positive impact on performance of the firms.

H_3: Presence of gender diversity on boards of banks has significant positive effect on bank performance.

Gender diversity has now been recognised as a vital aspect of corporate governance and has found place in the governance legislations around the world. Presence of required levels of gender diversity on the boards of the firms is considered as a good corporate governance practice. Previous studies have also proved a positive significance of gender diversity on board in context of performance of the firm, including financial performance (Carter, Simkins, & Simpson, 2003; Erhardt *et. al.,* 2003; Campbell & Mı´nguez-Vera, 2007; Julizaerma & Sori, 2012; Alvarado, Fuentes, & Laffarga, 2015). Therefore, it is imperative to study whether gender diversity plays a moderating role in determining the effect of level of corporate governance on performance of the banks.

H_4 : Presence of gender diversity on boards of banks positively moderates the effect of level of corporate governance on bank performance.

Data

Sample

Public sector banks and private sector banks have been selected for the study. Data for the study has been collected from annual reports of the banks, from the official websites of BSE and NSE and from the statistical tables relating to banks published by RBI each year. However, due to non-availability of Annual Reports for the period of 12 years i.e. from financial year 2006-07 to 2017-18, on the official website of the banks, 18 banks were excluded from the sample. Further, banks which did not clearly disclose their reports on corporate governance in the annual reports in the earlier periods of the study were excluded from the sample. The final sample for the study consists of 30 public sector and private sector banks. The period of the study ranges for 12 financial years with 360 firm year observations.

Variables

Dependent Variables

In order to maintain the robustness of the study, two accounting-based measures of financial performance of the banks have been used viz. the Return on Assets (ROA) and Return on Equity (ROE).

Independent Variables

The Corporate governance score (CGSCORE) calculated from the corporate governance index is the main independent variable in the study along with a dummy variable (Wom_Dir) that measures presence or absence of women directors on the boards of the banks. The corporate governance score is calculated using a weighted scorecard developed by Das (2007). The total corporate governance score for the banks include scores for each bank on the following dimensions of corporate governance: bank's philosophy on corporate governance, board of directors, board meetings, code of conduct, board committees, disclosure and transparency, means of communication to shareholders, general body meetings, and disclosure of stakeholders' interests. The score of a bank for a particular year can range between 0 and 100. The level of governance of a bank in a particular year can be categorised into five categories (Das, 2007).

Table 1: Score Range and Category

Score Range	Rank
86-100	Excellent
71-85	Very Good
56-70	Good
41-55	Average
Below 41	Poor

Control Variables

Various other variables that may have a significant impact on the performance of the banks have been included in the study. The microeconomic factors governing performance of the banks can be bank size, loans to assets ratio, number of employees, financial leverage, monetary policy rate, net results, bank age, capital adequacy, non-performing assets, management efficiency, ownership, etc. (Majumdar, 1997; Cordella & Yeyati, 1998; Aggarwal, 2002; Mohan & Ray, 2003; Sanyal & Shankar, 2011; Albitar, 2015; Akben-Selcuk, 2016; Weersainghe & Perera, 2013). Five of such microeconomic factors were included as control variables in the study. In order to control for the effects of macroeconomic factors on performance of the banks, time dummy variables were included in the model. The control variables include sector (public sector and private sector), bank size, bank age, capital adequacy ratio, and non-performing assets ratio.

Method

The corporate governance score has been calculated with the method of content analysis by adopting a scorecard developed by Das (2007), and making required changes in the scorecard so as to fit it to the critieria of banking companies. The hypothesis of the study regarding significant difference between corporate governance score of public and private sector banks has been studied with the help of Mann-Whitney U test, as the variable CGSCORE did not fulfill the assumption of normality. The second and third hypotheses of the study have been tested with the help of linear regression analysis. As the data of the study is longitudinal in nature, panel data analysis has been applied. Levin-Lin-Chu unit-root test has been applied to test for stationarity of data. In order to control for possible heteroscedasticity and autocorrelation in the models, cluster robust standard errors have been used with banks being the cluster variable. As the 'within subject variability' is low in corporate governance variables, fixed effects modelling would not be appropriate (Torres-Reyna, 2007; Battaglia & Gallo, 2015; Williams, 2017). Therefore, random effects modelling has been applied in the study. Breusch-Pagan LM test has been used to check for significant random effects in the model. Presence of multicollinearity in the model has been tested with Variance Inflation Factor and Tolerance Values. In order to test the fourth hypothesis of the study, moderation analysis has been applied.

Results and Discussion

As per the results of Mann-Whitney U test, there is no significant difference between the governance scores of public sector banks and private sector banks. Therefore, we could not find sufficient evidence to reject the first null hypothesis of the study i.e. there is no significant difference between the governance scores of public sector banks and private sector banks in India. The mean value of CGSCORE for banks depicts that on an average, the banks in India have a 'good' level of governance. The mean score of public sector banks (63.157) and private sector banks (64.537) also shows that on an average, public sector banks and private sector banks have good governance levels. Among the 360 cases, 234 cases had atleast one woman director on board. Out of the 204 cases of public sector banks, 138 cases (67.64 percent) have at least one woman director on board. In the case of private sector banks, out of 156 cases 96 cases (61.53 percent) had at least one woman director on board. Therefore, it can be said that public sector banks have shown better performance as compared to private sector banks regarding appointment of women directors on bank boards.

Basic Models for the Study

The following two models in the study determine the effect of level of corporate governance in banks on their performance.

ROA = -0.005 CGSCORE + 0.094 Wom_Dir + 0.095 LogTA -0.090 LogAGE + 0.057 CRAR – 0.319 NPA + 0.019 Sector – 0.288 (i)

ROE = -0.015 CGSCORE + 1.945 Wom_Dir + 1.037 LogTA + 0.177 LogAGE + 0.199 CRAR – 4.619 NPA – 1.739 Sector + 1.758 (ii)

The following two models in the study determine the effect of level of corporate governance in banks on their performance in the presence of women directors on board.

ROA = -0.056 CGSCORE + 0.078 Wom_Dir + 3.689 CGSCORE*Wom_Dir + 0.086 LogTA + 0.081 LogAGE + 0.754 CRAR – 0.451 NPA + 0.025 Sector – 0.256 (i)

ROE = -0.019 CGSCORE + 1.456 Wom_Dir + 5.025 CGSCORE*Wom_Dir + 1.251 LogTA + 0.551 LogAGE + 0.256 CRAR – 3.918 NPA – 2.215 Sector – 1.226 (ii)

The results of panel data regression analysis on the first model reveal that there is no significant main effect of corporate governance score on bank financial performance, measured by either ROA or ROE. This finding corroborates with the findings of previous studies viz. Prevost, Rao, and Hossain (2002), Park and Shin (2003), Singh and Davidson (2003), etc. The results also reveal that there does not exist a significant main effect of presence of women directors on bank boards (Wom_Dir) on bank financial performance (Rose, 2007; Marinova, Plantenga, & Remery, 2010).

Table 2: Mann-Whitney U Test

	CGSCORE
Mann-Whitney U	3060.500
Z	-0.477
Sig.(2-tailed)	0.633

Table 3: Levin-Lin-Chu Test for Stationarity

	Levin-Lin-Chu Unit-Root Test			
	Level		*First-difference*	
	Statistic	p-value	Statistics	p-value
ROA	-3.3634	0.0004***	-	-
ROE	-0.2989	0.3825	-4.7454	0.0000***
CGSCORE	-5.3137	0.0000***	-	-
LogTA	-7.2127	0.0000***	-	-
LogAGE	-9.5166	0.0000***	-	-
CRAR	-6.2215	0.0000***	-	-
NPA	-32.1264	0.0000***	-	-

****Significant at 0.001 ** Significant at 0.01 * Significant at 0.05*

Table 4: Multicollinearity Diagnostics

	VIF Values	Tolerance Values
CGSCORE	1.220	0.819
Wom_Dir	2.191	0.456
LogTA	1.950	0.513
LogAGE	2.415	0.414
CRAR	1.879	0.532
NPA	1.322	0.757
Sector	3.013	0.332

Therefore, we fail to reject the second and third null hypotheses of the study. Among the control variables, firm size, capital adequacy ratio and NPA ratio have a significant effect on firm performance. However, age of the bank and sector do not have any effect on performance of the banks, as measured by ROA and ROE. The variables firm size and capital adequacy ratio as expected, have a positive significant effect on performance. Whereas, NPA ratio has a significant negative effect on performance. The R^2 of the models show that the independent variables (IVs) in the model explain 79.01 percent and 76.32 percent of the change in the dependent variables (DVs). The Wald statistic shows the goodness-of-fit of the model and that both the models are highly significant.

The results of the panel data analysis on the second model shows that the interaction term in the model between CGSCORE and Wom_Dir has a significantly positive effect on the performance of the banks, both in the case of ROA and ROE. Therefore, we reject the fourth null hypothesis of the study. The results suggest that an increase in the level of corporate governance of the banks that appoint women directors on board would result in significantly higher ROA and ROE as compared to the banks which do not appoint women directors on board. The value of the standardised coefficients reveal that, with one unit increase in the corporate governance score of banks, the banks having gender diversity on board would experience a rise in their Return on Assets by approximately 3 percent and a rise in Return on Equity by approximately 5 percent. The R^2 of the interaction models show that the independent variables (IVs) in the model explain 86.92 percent and 79.21 percent of the change in the dependent variables (DVs). The Wald statistic shows the goodness-of-fit of the model and that both the models are highly significant.

Applicability and Generalizability

The results can be explained with the fact that there is little variation in the governance score of banks over the years and between the banks. Majority of the banks in the sample fall under the category of 'good' governance and only a few fall under the category of 'average' and 'very good' governance level, and therefore, level of governance does not have an impact on performance (Black, 2001). Yet another reason for the insignificant effect can be the fact that the banking operations in India are highly controlled by the regulations of Government of India and Reserve Bank of India, which may have a defining role in deciding the financial performance of the banks, thereby making the role of governance limited in case of Indian banks. The boards of the public sector banks are dominated by the directors nominated by Government of India and Reserve Bank of India, thereby raising a question on transparency in the governance of these banks. Reduction in the controlling power held by Government and RBI may result in the governance of the banks playing a defining role in performance of the banks. According to the former RBI governor Raghuram Rajan, "*With so many overlapping constituencies to satisfy, it is a wonder that bank management has time to devote to the management of the bank*," (PTI, 2016). The recent mergers of public sector banks proved that public sector banks are lacking in strong corporate governance. Also, one of the primary reasons behind the mergers was to strengthen the governance of the merged banks. Rising NPAs, inefficient management, and mounting losses resulted in the merging of sick banks. One of the noteworthy facts about Indian banks is that even after a significant time from the announcement of SEBI regulations regarding gender diversity in firms, the performance of the banks regarding the implementation of the regulation is questionable. Gender diversity present on the boards of these banks reflect tokenism, and do not reach the point of critical mass. The reason behind the main effect of gender diversity being insignificant could be the fact that Indian banks have very low proportion of women directors on their boards (not reaching the 'critical mass' of 3 women directors), and in majority of cases, out of 360 firm year observations, gender diversity was absent on the bank boards. The results of the study bring to light the important role of corporate governance, but also emphasise that a postive effect will be seen with the presence of gender diversity on boards. Regulations regarding appointment of women directors on board have also been mandated in other emerging economies of the world. Moreover, the gender diversity conditions in these countries are far better when compared to the gender diversity conditions in India. In Australia, women hold approximately 27 percent of seats on board; in Norway, approximately 35 percent, in Finland 29 percent, in Kenya 19 percent, in Botswana 16 percent, etc. (Gender representation on corporate boards of directors, 2020). However, even after a good proportion of board seats being held by women directors, better firm performance cannot be guaranteed. Therefore, in order to increase the probability of enhanced performance, gender diversity must be clubbed with better corporate governance and an effective level of both the factors, best suited to the firm, must be implemented. As banks are the lifeblood of any economy, strategic planning regarding the optimum combination of governance and diversity is required. Moreover, disclosure regulations regarding governance items that are included in 'mandatory' category must be revised.

Limitations

The present study suffers from the following limitations. The study has been conducted on only 30 banks in India, which form a small portion of the overall population. An increase in the number of banks under study and an increase in the period of study may reveal different results. The study has been based on overall governance of the banks; however, studies done on specific factors of governance may spread more light on the governance factors that have an impact on bank performance. Bank performance measured by different proxies like market measures, productivity measures etc. may result in different conclusions. Moreover, the present study does not take into account the endogeneity factor that may have affected the results of the regression analysis.

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