Board characteristics and banks profitability: empirical evidence from India

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Abstract: The present paper seeks to examine the association between board characteristics and banks profitability. The study is based on convenience sampling of 10 Indian banks for the period from 2010 to 2019. Banks profitability is measured by return on assets, return on capital employed, profit after tax and return on net worth, while board of directors' characteristics is measured by board of directors' size, board of directors' composition, board of directors' diligence, board executive directors and board promoters. The study is used leverage, size, and liquidity as controlling variables. Fixed and random effects models are used for analyzing the data. The findings revealed that Total board size positively and significantly impacts return on assets, Return on capital employed, Profit after detecting tax and Return on net worth, while percentage of promoter negatively and insignificant impacts return on assets, Return on capital employed, profit after detecting tax and Return on net worth. The present study contributes to the existing literature by examining the impact of board characteristics which includes board promoters and executive directors on Indian banks profitability.

Keywords: return on assets; return on capital employed; profit after tax; return on net worth; board characteristics.

1. Introduction

In the last two decades, the international banking sector has undergone significant structural reforms and the behavior of banks with a stronger focus on profitability and rigorous asset management has changed dramatically in recent years (Mirzaei, et al.2013).the Indian banking system is divided generally into five categories: In the second schedule of the Reserve Bank of India (RBI) Act,1934, public sector banks (PSBs), private sector banks, international banks, regional rural banks (RRBs) and cooperative banks are included (Kumar& Prakash, A. 2019). The report of RBI (2017) indicated that the profitability of banks has largely improved due to an improvement in net interest margins and a lower provisioning rate for stabilizing non-performing loans. Corporate governance refers to the procedures and processes by which the board of directors and senior management are directed and managed by their CEO, and the literature emphasizes the fact that the board of directors is an

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important and highly efficient internal corporate governance system and fulfils two important corporate functions: executive oversight and providing business resources and evaluation for the sector (Martínez &Álvarez, I. 2020). Sarkar, J., & Sarkar(2018) Observe In the wake of the global financial crisis of 2008, the role of the board of directors in the governance of financial institutions has been increasingly scrutinized by both policymakers and academics. While globalization has also accelerated the transfer of values, ideas and business practices around the world, and mainly related to the movement of capital and goods, corporate governance concerns gained a worldwide audience in 2001 with the dramatic fall of Enron, and suddenly the board of directors of several underperforming businesses were reluctantly put into the spotlight. (Kaymak, T., & Bektas, E. 2008) Thus, in view of the above, the objective of this paper is to study the association between board characteristics and banks profitability, the present study contributes to the existing literature by examining the impact of board characteristics which includes board promoters and executive directors on Indian banks profitability. This article is structured as follows: Section 2 introduces some studies in the literature of board characteristics and banks profitability; Section 3 provides Research design; Section 4 exhibits the discussion of the results; Section 5 concludes and provides Conclusion.

2. Literature review

2.1. Board characteristics

Different studies have been conducted to examine different dimensions of corporate governance (e.g, Hashed & Almaqtari, 2020; Almaqtari & Hashed, et al., 2020; Farhan et al., 2020; Almaqtari & Shamim et al., 2020; Almaqtari & Al-Hattami et al., 2020; Al Maqtari & Farhan et al., 2020). Gafoor et al. (2018) explored the impact on bank efficiency of board structure characteristics such as board size, independence and CEO duality. They explored also a substantial link between the size of the board and the output of the bank when the size of the board is between 6 and 9. A positive and critical correlation between board independence and bank performance is also found. Naseem, M. A et al. (2017) stated the size of the board, the number of meetings and the independence of the board are essential features of corporate governance to create a connection with the disclosure of corporate social responsibility. Endrikat, J et al. (2020) boards of directors control organizational policy and decision-making through management oversight and the provision of resources.

Shukla, A.et al. (2018) indicated that only three out of ten board characteristics (average number of boards served, the duality of the CEO and number of meetings held) had a positive effect on Indian banks' market performance. While board size and board occupancy are positively linked to discretionary accruals, board independence and independence of the audit committee and discretionary accruals have a negative relation (Kapoor, N., & Goel, S. 2016). Rachdi, H., and Ameur, I. G. B. (2011) report that small bank board is related to a lot of performance and with more bank risk-taking, the presence of freelance administrators among the board of directors affects negatively the performance, however, has no vital result on the risk-taking, lower chief executive officer possession is associated with lower performance in Tunisian banks, banks with high charter worth are associated with lower ROA and ROE and more bank risk and also the tiny size banks establishments seem to assume lower risks. Gender diversity and the presence of a committee on corporate social responsibility are positively linked to the environmental performance of corporations. This result is consistent with the view that women's educational history, talent, and

experience help foster sustainable initiatives for the environment. The presence of a committee on corporate social responsibility represents the dedication of a corporation to sustainable growth (García Martín, C. J., & Herrero, B. 2020). Vitolla, F et al. (2020) suggest additional reasons for identifying directors who are likely to interact broadly and transparently. Integrated reporting is an instrument that investors are constantly looking at with growing interest Therefore, corporations are encouraged to redesign the board of directors in a manner that favors virtuous behavior, including transparency and Companies should designate broader boards of directors capable of better tracking and promoting the production of integrated reports of high quality.

2.2. banks profitability

Boadi, I.et al (2017) showed that SMEs substantially contribute to the profitability of banks in Ghana. Interestingly, in all the models, transaction costs were negligible in the administration of SME loans. Higher inflation lowers the actual value of the loan and erodes the returns of interest to SMEs on the overall loan. GDP growth, on the other hand, boosts the growth of bank income. The authors conclude that several independent variables have an effect that is different from expected, particularly with regard to ownership, which has a statistically significant positive impact on the profitability of banks. (Garcia, M. T. M., & Trindade, M. J. 2019) Boussaada, R., and Hakimi, A. (2020) showed that multiple large shareholders (MLS) appear to decrease bank profitability for both asset returns (ROA) and return on equity under the dispersion hypothesis (ROE). However, an alliance between the first and the second-largest shareholder improves bank profitability only for ROA under the alignment of interests' hypothesis. Karyani, E.et al (2019) stated that board-level RGOV processes and risk management activities have little effect on bank performance. However, the negative impact on the profitability of the management-level RGOV system is in relative contrast to the assumptions of the Basel Committee. The most critical factors that could influence the profitability of banks for all profit measures are cost efficiency, maintaining a high capital adequacy ratio, and improving asset quality. (Mehta, A., & Bhavani, G. 2017). Mashamba, T (2018) Advocates the introduction in emerging market economies of the Basel III liquidity regulations. This evidence contributes to the interaction between regulations on liquidity and the discourse on bank profitability. Saona, P (2016) suggested that steps taken by central banks in the area should be motivated primarily by prudential regulation and oversight tools of conventional short-term monetary policy instruments, as the most efficient means of ensuring that best practices in the local banking sector converge with international benchmarks. The risk of credit and liquidity, the productivity of management, the diversification of companies, the concentration/competition of the industry and the economic growth of both ROAA and ROAE have an effect on bank profitability (Petria, N et al.2015).

Table 1. Prior studies on Board characteristics

No.	Studies By	Sample Size	Time limit	Methods	Results
1	Gafoor, C. A et al. (2018)	36	2001–2014	Descriptive, Regression.	Explored the impact on bank efficiency of board structure characteristics such as board size, independence and CEO duality. And a substantial link between the size of the board and the output of the bank when the size of the board is between 6 and 9. A positive and critical correlation between board independence and bank performance is also found.
2	Naseem, M. A etal. (2017)	179	2009-2015	Binary logistic regression	the size of the board, the number of meetings and the independence of the board are essential features of corporate governance to create a connection with the disclosure of corporate social responsibility
3	Endrikat, J et al. (2020)	82			Boards of directors control organizational policy and decision-making through management oversight and the provision of resources.
4	Shukla, A.et al.(2018)	29	2009-2016	Panel data analysis	Findings indicated that only three out of ten board characteristics (average number of boards served, the duality of the CEO and number of meetings held) had a positive effect on Indian banks' market performance.
5	Kapoor, N., and Goel. (2016)	500	2006–2013	Panel data	While board size and board occupancy are positively linked to discretionary accruals, board independence and independence of the audit committee and discretionary accruals have a negative relation.
6	Rachdi, H.and Ameu I. G. B. (2011)	11	1997-2006	Regression Eq.	small bank board is related to a lot of performance and with more bank risk-taking, the presence of freelance administrators among the board of directors affects negatively the performance, however, has no vital result on the risk-taking, lower chief executive officer possession is associated with lower performance in Tunisian banks, banks with high charter worth are associated with lower ROA and ROE and more bank risk and also the tiny size banks establishments seem to assume lower risks
7	García Martín, C. J. and Herrero, B. (202	644	2002 - 2017	Panel data regression models	Gender diversity and the presence of a committee on corporate social responsibility are positively linked to the environmental performance of corporations. This result is consistent with the view that women's educational history, talent, and experience help foster sustainable initiatives for the environment. The presence of a committee on corporate social responsibility represents the dedication of a corporation to sustainable growth.
8	Vitolla, F et al. (2020)	134		Cross section	Suggest additional reasons for identifying directors who are likely to interact broadly and transparently. Integrated reporting is an instrument that investors are constantly looking at with growing interest. Therefore, corporations are encouraged to redesign the board of directors in a manner that favours virtuous behavior, including transparency. Companies should designate broader boards of directors capable of better tracking and promoting the production of integrated reports of high quality

Table 2. Prior studies on banks profitability

No.	Studies By	Sample		Methods	Results
		Size	Time limit		
1	Boadi, I.et al.(2017)	10	1997- 2014	Regression tool	The outcome of the study shows that SMEs substantially contribute to the profitability of banks in Ghana. Interestingly, in all the models, transaction costs were negligible in the administration of SME loans. Higher inflation lowers the actual value of the loan and erodes the returns of interest to SMEs on the overall loan. GDP growth, on the other hand, boosts the growth of bank income
2	Garcia, M. T. M and rindade, M. J. (2019)	17	2010-2016	panel data	The authors conclude that several independent variables have an effect that is different from expected, particularly with regard to ownership, which Has a statistically significant positive impact on the profitability of banks.
3	Boussaada, R and hakimi, A. (2020).	38	2004–2015	panel data	Empirical findings show that multiple large shareholders (MLS) appear to decrease bank profitability for both asset returns (ROA) and return on equity under the dispersion hypothesis (ROE). However, an alliance between the first and the second-largest shareholder improves bank profitability only for ROA under the alignment of interests' hypothesis.
4	Karyani, E.et al (2019)	57	2010–2014	regression models	Results have shown that board-level RGOV processes and risk management activities have little effect on bank performance. However, the negative impact on the profitability of the management-level RGOV system is in relative contrast to the assumptions of the Basel Committee.
5	Mehta, and Bhavani, G. (2017).		2006-2013	panel data	The most critical factors that could influence the profitability of banks for all profit measures are cost efficiency, maintaining a high capital adequacy ratio, and improving asset quality.
6	Mashamba, T. (2018).	40	2011-2016	panel regression model	The study advocates the introduction in emerging market economies of the Basel III liquidity regulations. This evidence contributes to the interaction between regulations on liquidity and the discourse on bank profitability.
7	Saona, P. (2016).	964	1995-2012	panel data	suggested that steps taken by central banks in the area should be motivated primarily by prudential regulation and oversight tools of conventional short-term monetary policy instruments, as the most efficient means of ensuring that best practices in the local banking sector converge with international benchmarks
8	Petria, N et al. (2015)	27	2004-2011	regression	The risk of credit and liquidity, the productivity of management, the diversification of companies, the concentration/competition of the industry and the economic growth of both ROAA and ROAE have an effect on bank profitability.

3. Research design

This present study relies on secondary data that are extracted from ProwessQ database. Financial data covers 10 years from 2010 to 2019. The study is based on convenience non probability sampling, in which 10 Indian banks were selected for conducting this research. The study uses four profitability

measures: return on assets, return on capital employed, profit after tax and return on net worth, while board of directors' characteristics is measured by board of directors' size, board of directors' composition, board of directors' diligence, board executive directors and board promoters. The study is used leverage, size, and liquidity as controlling variables. Fixed and random effects models are used for analyzing the data.

Table 3.   Variables description

Variables	symbol	formlue
return on assets	ROA	Net income divided by total assets at the end of the year.
Return on capital employed	ROCE	Earnings before interst and taxes/ capital employed
Profit after	PAT	It is banks profit after detecting tax
Return on net worth	RONW	Net icome divided by shareholders equity
Total board size	TBS	It refers to all dependent and independent directors.
board of directors' composition	BC	It is the percentage of independent directors in the board
board of directors' diligence	BD	It refers to the percentage of board of directors attendance in the meetings
executive directors	PEX	It the percentage of executive directors in the board
promoters	PP	percentage of promoter in the board
size	SIZE	Natural logarithm of total assets
Leverage	LEV	Total debt /shareholder's equity
Current ratio	CR	Total current assets /total current liabilities

To examine the association between board characteristics and banks profitability: four regression models are designed as follows:

$$(ROA)_{it=} \alpha + \beta_1 (TBS)_{it} + \beta_2 (BC)_{it} + \beta_3 (BD)_{it} + \beta_4 (PEX)_{it} + \beta_5 (PP)_{it} + \beta_6 (SIZE)_{it} + \beta_7 (LEV)_{it} + \beta_8 (CR)_{it} + \varepsilon_{it} \tag{1}$$

$$(ROCE)_{it=} \alpha + \beta_1 (TBS)_{it} + \beta_2 (BC)_{it} + \beta_3 (BD)_{it} + \beta_4 (PEX)_{it} + \beta_5 (PP)_{it} + \beta_6 (SIZE)_{it} + \beta_7 (LEV)_{it} + \beta_8 (CR)_{it} + \varepsilon_{it} \tag{2}$$

$$(PAT)_{it=} \alpha + \beta_1 (TBS)_{it} + \beta_2 (BC)_{it} + \beta_3 (BD)_{it} + \beta_4 (PEX)_{it} + \beta_5 (PP)_{it} + \beta_6 (SIZE)_{it} + \beta_7 (LEV)_{it} + \beta_8 (CR)_{it} + \varepsilon_{it} \tag{3}$$

$$(RONW)_{it=} \alpha + \beta_1 (TBS)_{it} + \beta_2 (BC)_{it} + \beta_3 (BD)_{it} + \beta_4 (PEX)_{it} + \beta_5 (PP)_{it} + \beta_6 (SIZE)_{it} + \beta_7 (LEV)_{it} + \beta_8 (CR)_{it} + \varepsilon_{it} \tag{4}$$

Where:

(ROA) it = Stands for return on assets I, at time t.

(ROCE) it = Return on capital employed I, at time t.

(PAT) it = Profit after tax i at time t.

(RONW) it = Return on net worth i at time t.

(TBS) $_{it}$ = Total board size i at time t.

(BC) $_{it}$ = board of directors' composition i at time t.

(BD) $_{it}$ = board of directors' diligence i at time t.

(PEX) $_{it}$ = percentage of executive directors in the board i at time t.

(PP) $_{it}$ = percentage of promoter in the board i at time t.

(SIZE) $_{it}$ = size of a bank i at time t.

(LEV) $_{it}$ = Leverage of bank i at time t.

(CR) $_{it}$ = current ratio i at time t.

(α) = Common y-intercept.

(β1-β8) = Coefficients of the explanatory variables

(ε) $_{it}$ = Stochastic error term of company i at time t.

4. Results and discussion

This section is the core of this research which has been divided into four sub-sections descriptive statistics, correlation matrix, panel diagnostic test and regression analysis.

4.1. Descriptive statistics

Descriptive statistics shows the central tendency for all variables used in the study which are Minimum, Maximum, Mean and Std. Deviation. Results in table4 shows that the mean values of profitability measures ROA, ROCE, PAT and RONW of Indian banks are 0.768, 2.267, 5630.350 and 5.668, respectively with 2.049, 11.561, 28870.419 and 23.851 standard deviations respectively. Regarding board characteristics, results in table4reveal that the mean values of TBS, BC, BD, PEX and PP of Indian selected banks are 13.580, 0.257, 0.703, 0.285 and 0.017 respectively with 3.465, 0.231, 0.185, 0.101 and 0.057 standard deviations. On the other hand, the descriptive statistics of the controlling variables SIZE, LEV and CR are 6.172, 1.486 and 4.303 respectively.

Table 4. descriptive statistics

Variables	N	Minimum	Maximum	Mean	Std. Deviation
ROA	100	-3.800	10.220	0.768	2.049
ROCE	100	-42.430	20.530	2.267	11.561
PAT	100	-83339.600	82236.600	5630.350	28870.419
RONW	100	-84.600	64.050	5.668	23.851
TBS	100	5.000	21.000	13.580	3.465
BC	100	0.000	0.850	0.257	0.231
BD	100	0.455	2.154	0.703	0.185
PEX	100	0.060	0.500	0.285	0.101
PP	100	0.000	0.270	0.017	0.057
SIZE	100	3.390	6.904	6.172	0.709
LEV	100	0.050	5.350	1.486	1.023
CR	100	0.100	11.750	4.303	2.220

4.2. Correlation matrix

Table6 represents the coefficient correlation matrix for all variables. It is clear from Table6 that TBS has a negative association with ROA and positive and significant association with PAT. BC, BD and LEV have insignificant relationship with all profitability measures of Indian banks. On the contrary, EXP, SIZE and CR negatively and significantly relate to all profitability measures of Indian banks. Furthermore, form Table6 we can see that there is no high correlation coefficient between the independent variables which means that there is no multicollinearity between the variables of the study. Moreover, tolerance and Variance inflation factors test have been to check the absence of Multicollinearity in the regression models, results in Table6 show that there is no Multicollinearity in any models as long as the values of VIF are less than 10.

Table 5.   correlation matrix

Variable	ROA	ROCE	PAT	RONW	TBS	BC	BD	EXP	PP	SIZE	LEV	CR
ROA	1	.624**	.412**	.814**	-.350**	.120	-.007	-.299**	.120	-.727**	.530**	-.547**
ROCE	.624**	1	.699**	.925**	.113	.078	.059	-.589**	.107	-.318**	-.018	-.311**
PAT	.412**	.699**	1	.710**	.324**	.107	.035	-.388**	.376**	.066	.006	-.249*
RONW	.814**	.925**	.710**	1	-.004	.033	.023	-.477**	.135	-.433**	.231*	-.406**
TBS	-.350**	.113	.324**	-.004	1	-.041	-.415**	-.017	.093	.643**	-.419**	.316**
BC	.120	.078	.107	.033	-.041	1	.057	-.329**	.256*	-.126	.037	-.250*
BD	-.007	.059	.035	.023	-.415**	.057	1	-.147	-.005	-.012	-.042	-.045
EXP	-.299**	-.589**	-.388**	-.477**	-.017	-.329**	-.147	1	-.250*	.301**	.185	.256*
PP	.120	.107	.376**	.135	.093	.256*	-.005	-.250*	1	.043	.070	-.263**
SIZE	-.727**	-.318**	.066	-.433**	.643**	-.126	-.012	.301**	.043	1	-.479**	.597**
LEV	.530**	-.018	.006	.231*	-.419**	.037	-.042	.185	.070	-.479**	1	-.517**
CR	-.547**	-.311**	-.249*	-.406**	.316**	-.250*	-.045	.256*	-.263**	.597**	-.517**	1

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

4.3. Panel diagnostic tests

Table5 shows the panel diagnostic tests: Redundant Fixed Effects Tests and Correlated Random Effects - Hausman Test. Redundant Fixed Effects Tests are used to find out wither the models have one or two ways intercept, the tests show that the four models have two ways intercept as long as the Probability value of Cross-section and period is less than 0.05. On the other hand, Hausman Test is used to choose whether to go for random or fixed effect models. The test indicates that random effect model is appropriate for model 1, 2 and 4, while fixed effect model is appropriate for mode 3.

Table 6. Redundant Fixed Effects/ Hausman test

ROA Model			ROCE Model			PAT Model			RONW Model		
Effects Test	Statistic	Prob.	Effects Test	Statistic	Prob.	Effects Test	Statistic	Prob.	Effects Test	Statistic	Prob.
Cross-section F	5.523	0.00	Cross-section F	5.1777	0.00	Cross-section F	4.402	0.00	Cross-section F	4.3301	0.00
Period F	2.089	0.00	Period F	4.0522	0.00	Period F	3.457	0.001	Period F	4.8445	0.00

Correlated Random Effects - Hausman Test											
ROA Model			ROCE Model			PAT Model			RONW Model		
Test Summary	Chi-Sq. Statistic	Prob.	Test Summary	Chi-Sq. Statistic	Prob.	Test Summary	Chi-Sq. Statistic	Prob.	Test Summary	Chi-Sq. Statistic	Prob.
Cross-section random	6.486	0.6	Cross-section random	7.8414	0.449	Cross-section random	19.35	0.013	Cross-section random	11.345	0.183

4.4. Regression analysis

Results in table 7 demonstrate the findings of the four regression Models formulated in this study. Result of model 1 that examines the impact of board of directors' characteristics on return on assets of Indian banks. Results of random effect model show that the R^2 and adjusted R^2 are fairly good, R^2 is 0.56 which means that 0.46 of the variation in return on assets of Indian banks is attributable jointly by board of directors' size, board of directors' composition, board of directors' diligence, board executive directors, board promoters, leverage, size, while the rest of variation in return on assets of Indian banks can be explained by other variables which are not included in this study. It is clear from table 7 that TBS has a positive and significant impact on return on assets of Indian banks. On the contrary, size has a negative and significant impact on the profitability measured by return on assets.

Regarding return on capital employed model, results in table7 demonstrate the findings of model 2 that examines the impact of board of directors' characteristics on capital employed of Indian banks. Results of random effect model show that the R^2 and adjusted R^2 are fairly good, R^2 is 0.53 which means that 0 0.53 of the variation in return on capital employed of Indian banks is attributable jointly by board of directors' size, board of directors' composition, board of directors' diligence, board executive directors, board promoters, leverage, size, while the rest of variation in return on capital employed of Indian banks can be explained by another variables which are not included in this study. It is clear from table7that TBS and BD has a positive and significant impact on return on capital employed of Indian banks. On the contrary, BC, PEX, SIZE and CR have a negative and significant impact on the profitability measured by return on capital employed.

Regarding profit after tax model, results in table7demonstrate the findings of model 3 that examines the impact of board of directors' characteristics on profit after tax model of Indian banks. Results of fixed effect model show that the R^2 and adjusted R^2 are fairly good, R^2 is 0.60 which means that 0.60 of the variation in return on profit after tax model of Indian banks is attributable jointly by board of directors' size, board of directors' composition, board of directors' diligence, board executive directors, board promoters, leverage, size, while the rest of variation in r profit after tax of Indian banks can be explained by another variables which are not included in this study. It is clear from table7that TBS has a positive and significant impact on profit after tax of Indian banks. On the contrary, PEX and CR have a negative and significant impact on the profitability measured by profit after tax.

Table 6. Regression model

	ROA(Random effect model)						ROCE(Random effect model)					
Variable	Coef.	Std. Error	t-Stat.	Prob.	Tolerance	VIF	Coef.	Std. Error	t-Stat.	Prob.	Tolerance	VIF
TBS	0.152	0.062	2.463	0.016	0.325	3.075	1.731	0.407	4.257	0.000	0.325	3.075
BC	-0.387	0.643	-0.603	0.548	0.836	1.196	-8.984	4.150	-2.165	0.033	0.836	1.196
BD	0.747	0.807	0.927	0.357	0.534	1.873	11.432	5.370	2.129	0.036	0.534	1.873
PEX	-3.215	1.661	-1.935	0.056	0.779	1.284	-50.305	10.949	-4.594	0.000	0.779	1.284
PP	-2.064	2.875	-0.718	0.475	0.600	1.668	-5.615	18.435	-0.305	0.761	0.600	1.668
SIZE	-2.345	0.419	-5.601	0.000	0.464	2.153	-6.744	2.589	-2.605	0.011	0.464	2.153
LEV	0.176	0.211	0.833	0.407	0.530	1.887	-0.331	1.333	-0.248	0.804	0.530	1.887
CR	-0.111	0.085	-1.317	0.191	0.257	3.885	-1.586	0.559	-2.838	0.006	0.257	3.885
C	13.913	2.471	5.631	0.000			36.391	14.449	2.519	0.014		
R-squared					0.467		R-squared				0.534	
Adjusted R-squared					0.420		Adjusted R-squared				0.493	
F-statistic					9.963		F-statistic				13.047	
Prob(F-statistic)					0.000		Prob(F-statistic)				0.000	
Durbin-Watson stat					1.867		Durbin-Watson stat				1.050	

	PAT (fixed effect model)						RONW (Random effect model)					
Variable	Coef.	Std. Error	t-Stat.	Prob.	Tolerance	VIF	Coef.	Std. Error	t-Stat.	Prob.	Tolerance	VIF
TBS	4160.316	1229.507	3.384	0.001	0.325	3.075	3.655	0.864	4.232	0.000	0.325	3.075
BC	1114.343	13199.470	0.084	0.933	0.836	1.196	-17.663	8.693	-2.032	0.045	0.836	1.196
BD	26558.350	15374.480	1.727	0.088	0.534	1.873	23.463	11.501	2.040	0.044	0.534	1.873
PEX	-111461.800	32171.830	-3.465	0.001	0.779	1.284	-93.915	23.261	-4.037	0.000	0.779	1.284
PP	-9727.299	57953.550	-0.168	0.867	0.600	1.668	-5.170	38.253	-0.135	0.893	0.600	1.668
SIZE	-10529.830	9783.108	-1.076	0.285	0.464	2.153	-18.479	5.290	-3.493	0.001	0.464	2.153
LEV	-4684.784	4384.316	-1.069	0.288	0.530	1.887	2.531	2.734	0.926	0.357	0.530	1.887
CR	-4946.522	1616.822	-3.059	0.003	0.257	3.885	-2.288	1.186	-1.929	0.057	0.257	3.885
C	55308.120	62632.030	0.883	0.380			91.044	28.239	3.224	0.002		
R-squared					0.606		R-squared				0.508	
Adjusted R-squared					0.524		Adjusted R-squared				0.464	
F-statistic					7.405		F-statistic				11.724	
Prob(F-statistic)					0.000		Prob(F-statistic)				0.000	
Durbin-Watson stat					1.673		Durbin-Watson stat				1.188	

Regarding return on net worth model, results in table7demonstrate the findings of model 3 that examines the impact of board of directors' characteristics on return on net worth of Indian banks. Results of random effect model show that the R^2 and adjusted R^2 are fairly good, R^2 is 0.50 which means that 0 0.50 of the variation in return on net worth of Indian banks is attributable jointly by board of directors' size, board of directors' composition, board of directors' diligence, board executive directors, board promoters, leverage, size, while the rest of variation in return on net worth of Indian banks can be explained by other variables which are not included in this study. It is clear from table7that TBS, BD have a positive and significant impact on return on net worth of Indian banks. On the contrary, BC, PEX, size and CR have a negative and significant impact on the profitability measured by return on net worth.

5. Conclusion

The present paper seeks to examine the association between board characteristics and banks profitability. This present study relies on secondary data that are extracted from ProwessQ database. Financial data covers 10 years from 2010 to 2019. The study is based on convenience non probability sampling, in which 10 Indian banks were selected for conducting this research. The study uses four profitability measures: return on assets, return on capital employed, profit after tax and return on net worth, while board of directors' characteristics is measured by board of directors' size, board of directors' composition, board of directors' diligence, board executive directors and board promoters. The study is used leverage, size, and liquidity as controlling variables. Fixed and random effects models are used for analyzing the data.

. The findings revealed that TBS positively and significantly impacts ROA, ROCE, PAT and RONW, while PP negatively and insignificant impacts ROA, ROCE, PAT and RONW. The present study contributes to the existing literature by examining the impact of board characteristics which includes board promoters and executive directors on Indian banks profitability.

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