

DO NOMINEE DIRECTORS INFLUENCE BANK PERFORMANCE?

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Abstract

How to cite this paper: Gupta, N., Mahakud, J., Tripathi, P. M., Agarwal, T., & Bakhshi, P. (2021). Do nominee directors influence bank performance? *Corporate Ownership & Control*, 19(1), 121–145. <https://doi.org/10.22495/cocv19i1art10>

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ISSN Online: 1810-3057

ISSN Print: 1727-9232

Received: 05.06.2021

Accepted: 15.10.2021

JEL Classification: G340, G380, G210

DOI: 10.22495/cocv19i1art10

The purpose of this study is to examine the impact of board characteristics on the performance of Indian commercial banks. The study differs from the earlier studies as it analyses the impact of Government official nominee directors and Reserve Bank of India (RBI) nominee directors on the bank performance. A panel data approach has been used in this study. Particularly, the fixed effect estimation technique is used to examine the relationship between board characteristics, and bank performance during the period 2009–2010 to 2016–2017. The authors find that board size, female directors, and the average number of directorships held by outside directors are inversely related to performance. The central government official directors and RBI nominee directors negatively and significantly affect the performance of public sector banks. The results are robust across the various proxies of bank performance, and sub-samples classified on the basis of ownership, size of the bank, and bank capitalization. This study provides insights to policy regulators and policymakers who are entrusted with the appointment of the board of directors in the banks in light of the ongoing regulatory reforms.

Keywords: Bank Performance, Board Characteristics, Non-Executive Directors, Public Sector Bank, Private Sector Bank, Board Size

Authors' individual contribution: Conceptualization — N.G., J.M., P.M.T., T.A., and P.B.; Methodology — N.G., J.M., and P.M.T.; Formal Analysis — N.G. and J.M.; Investigation — N.G., J.M., and P.B.; Writing — Original Draft — N.G., J.M., P.M.T., T.A., and P.B.; Writing — Review & Editing — N.G., J.M., P.M.T., T.A., and P.B.; Supervision — N.G. and J.M.

Declaration of conflicting interests: The Authors declare that there is no conflict of interest.

1. INTRODUCTION

Over the years, several studies have been carried out to examine the role of corporate governance in firm performance. It is expected that good corporate governance may increase bank performance and optimize value for the stakeholders and shareholders in the long run. The various corporate governance theories, like agency theory, stewardship theory, and resource dependency theory, also describe the role of corporate governance in firm

performance. Agency theory explains the link between the principals (shareholders) and agents (directors) of the company. It postulates that the directors are the agents of the company, who are hired by the principals to perform work. The agents are entrusted with the smooth running of the business. The shareholders expect that the directors as agents should take care of the principal's interest. On the contrary, it may also happen that the agents may be surrendered to their personal interest, unscrupulous behavior, and fail to

meet the anticipations of the principal. It focuses on the separation of ownership and control. On the other hand, the steward theory emphasizes that the stewards (company executives) should protect and maximize the owners' (shareholders') wealth through firm performance. The stewards feel self-satisfaction and are motivated when organizational accomplishments are attained. It focuses on the autonomy of executives so that the shareholders' returns may be maximized. The employees should have a sense of ownership and act diligently. Additionally, the resource dependency theory recognizes the role of the board of directors in providing access to resources needed by the firm through their connections with the peripheral environment. The directors carry resources to the firm, like information, expertise, access to suppliers, buyers, public policymakers, social groups, etc. These resources improve the organizational working, performance, and probability of survival. Corporate governance mechanisms include shareholding pattern, ownership concentration, board of director's characteristics, age, and audit committee characteristics, etc. (Cornett, McNutt, & Tehranian, 2009). The extant empirical studies emphasize the impact of board composition, board diversity, multiple directorships, gender diversity, frequency of board meetings, chairman/CEO duality, etc., on financial performance (Liang, Xu, & Jiraporn, 2013). In this context, this study analyses the impact of the various board characteristics on the commercial banks' performance in India.

There is quite a lot of convincing rationale to consider the Indian banking sector for study. First, the Indian banking sector is divided into public sector banks and private sector banks. The constitution of the board of directors varies between private and public sector banks. The composition of the board of directors in Indian banks is also different from the of non-financial firms. As per Sec. 10(2)(a) of the Indian Banking Regulation Act 1949, at least fifty-one percent of the Board should possess expertise in accountancy, agriculture and rural economy, banking, co-operation, economics, finance, law, a small-scale industry with a minimum of two persons from agriculture and rural economy, co-operation or small scale industry domain. Secondly, the mode of selection of the board of directors varies across private and public sector banks. The directors of the public banks are appointed by the central government on the advice of the Reserve Bank of India (RBI) whereas the directors of the private banks are appointed by the board with the prior permission of the RBI and are further approved at the annual general meeting. The private sector banks have more autonomy in appointing the directors on the board relatively. This provides an opportunity to analyze whether the differences in the mode of selection of directors in the banks with different ownerships bear any impact on the board efficiency and, thus, the bank performance. Thirdly, the composition of the board of directors in public and private sector banks also differ in the Indian context. In public sector banks, the central government shareholding is more than 50 percent. Therefore, the central government is empowered to appoint a Government Official nominee director on the board of the banks.

Additionally, under Sec. 9(3)(c) of the Banking Companies (Acquisition and Transfer of Undertakings) Act, 1970, the Reserve Bank of India also appoints its nominee director on the bank board to ensure its effective functioning, which may not be present in the private sector banks. The earlier studies in the Indian context analyse the impact of nominee directors on the Indian banks' performance, but not specifically, which nominee director. Hence, this study provides fresh evidence about the relationship of RBI nominee directors and the central government official nominee directors with bank performance. The empirical validation of the relationship between various board characteristics and bank performance is limited to developed economies. However, this issue has been neglected in the Indian context though there is dissimilarity in the board structure in the Indian commercial banks. Hence, this paper extends the literature by amplifying the insight of bank governance structures and performance in the Indian context as the structure and efficacy of bank governance may vary in India due to different stages of financial liberalization and the adoption of stringent regulations post-Satyam fiasco which are at par with the finest practices of developed countries and may add to the existing literature of developing countries by providing strong evidence.

Most of the earlier studies concentrate on the developed countries and suggest a significant role of different board characteristics (size, independence, gender diversity, frequency of board meetings) in bank operations (Denis & McConnell, 2003; Macey & O'Hara, 2003; Adams & Mehran, 2012; Adams, Hermalin, & Weisbach, 2010). The difference in ownership structure, board structure, and process of appointment of the directors in the Indian banks makes it vital to have out-of-sample empirical evidence from the Indian market and provides robust evidence regarding the impact of board characteristics on commercial banks' performance. This study explores a sample of 36 Indian listed banks from 2010-2017, reflecting new reforms and new company regulations and their effects on the Indian banking sector. Employing the fixed effect static panel data model on the basis of the Hausman and LM test, we find that a larger board size lowers the performance. Our results show that banks with Government official directors and RBI nominee directors on their board have lower performance and poor asset quality. For checking the robustness of the empirical results, we further classify the banks on the basis of various characteristics like ownership, bank size, and the capital adequacy ratio to identify the effect of board characteristics on the performance of banks classified on the basis of these parameters. We find more or less similar results after conducting the robustness test and address the endogeneity issue by using the GMM technique. Our research adds to the existing literature on economics, finance, and organizational theory that tries to explore the outcome of various board characteristics, specifically the Reserve Bank of India and the central government official nominee directors on Indian commercial banks' performance. Overall, our findings imply that board characteristics significantly influence commercial banks' performance in India.

The rest of the study is structured as follows. Section 2 presents the legal framework of Indian corporate governance. Section 3 examines the literature related to board functioning (like size, composition, board activity) and its impact on bank performance. Section 4 describes the data and research methods employed. Findings and analysis are presented in Section 5, while the last section summarizes and concludes the study.

2. CORPORATE GOVERNANCE IN INDIA

The study of corporate governance in Indian banks is important as it has unique governance features not prevalent internationally. This part provides some important recent legal provisions related to banks in India. A set of corporate governance codes was first set in motion by the Confederation of Indian Industry (CII) in 1998, which was later made mandatory for listed companies by the enactment of Clause 49 of the Listing Agreement. Kumar Mangalam Birla Committee, set up in 1999 to promote and enhance the canons of sound corporate governance, acknowledged the significance of independent directors, as well as audit committee and its vital recommendations, were included in Clause 49 of Listing Agreement with effect from 2001, which was further amended in 2004. Subsequent to US scandals, the Naresh Chandra Committee, established in August 2002 by the Department of Company Affairs (DCA), stressed on financial and non-financial disclosures, independent auditing, and board supervision, the rationale for debarring auditors from non-audit services, and the compulsory rotation of audit partners. Narayana Murthy Committee reviewed Clause 49 and laid stress on the audit committee, reports, independent directors, RPT (related party transactions), risk management, number of directorships, director remuneration, code of conduct and financial disclosures, directors' independence, and role of insiders. However, currently, the key corporate governance norms have been merged into the new Companies Act, 2013.

The constitution of the board of directors of Indian banks is governed by the Indian Banking Regulation Act, 1949, the Banking Companies (Acquisition and Transfer of Undertakings) Act, 1970, and Nationalized Banks (Management & Miscellaneous Provisions) Scheme, 1970. The Indian Companies Act, 2013, defines a director as a director appointed under Sec. 2(34). The one-person company, private limited company, and a public limited company is mandatory to have a minimum of one, two, and three directors respectively, with a maximum of 15 directors, which can further be increased up to 20 by passing a special resolution. The public companies are having a paid-up share capital of at least Rs. 100 million, turnover higher than Rs. 1000 million and outstanding loans, debentures, and deposits exceeding Rs. 500 million, are obliged to appoint at least two independent directors (Rule 4, Companies (Appointment and Qualification of Directors) Rules, 2013). The listed company-exceeding paid-up capital Rs. 1000 million and turnover Rs. 3000 million or more — is obligatory to appoint at least one women director (Sec. 149 (1(a)). Every independent director in each board meeting, every financial year is required to

give a declaration that he meets the criteria of independence and is not entitled to any stock option and may receive remuneration by way of fee provided under Sub-section (5) of Section 197, reimbursement of expenses for attending meetings and commission in profit as approved by the board members. An independent director can be appointed for a term up to five consecutive years but is eligible for reappointment by passing a special resolution (Sec. 152). He cannot hold office for more than two consecutive terms but is eligible for appointment after the expiration of three years of ceasing to become an independent director. During the period of three years, he should not be associated with the company in any other manner. The provisions of Sub-sections (6) and (7) of Section 152 in respect of retirement of directors by rotation are not applicable for the appointment of independent directors.

The first board meeting of a company should be held within thirty days of incorporation, and a notice of a minimum of seven days must be given in advance for each board meeting. Clause 12 of Nationalized Bank (Management and Miscellaneous Provisions) Scheme, 1970, requires holding of a minimum of 6 meetings in a financial year whereas Clause 49 of the Listing Agreement mandates for holding at least four board meetings, with a maximum, elapse of four months between two meetings. A person can be a managing director in more than one company with the approval of the board of directors of the first company (Sec. 203(3)). A person can be an executive director without acceptance of remuneration. The subscribers to the memorandum of association are deemed to be the first directors of the company. A person cannot be appointed as the director of the company unless he has been allotted the Director Identification Number (DIN) (Sec. 154), has to give his consent to work as a director and such consent has to be filed with the registrar of companies within thirty days of appointment (Sec. 170(2)). The nominee directors are nominated by the central government under Sec. 9(3)(g) (Chartered accountant director) and Sec. 9(3)(i) (Shareholder director) whereas under Sec. 9(3)(b) of the Banking Companies (Acquisition and Transfer of Undertakings) Act, 1970, and Sec. 3(1) of the Nationalized Banks (Management and Miscellaneous Provisions) Scheme, 1970, the central government is empowered to appoint a government official nominee director on the board of the banks. A listed company is required to appoint a small shareholder director elected by the small shareholders who are holding shares of the nominal value of not more than Rs. 20,000 (Sec. 151) for not more than three years, and such a director is not liable to retire by rotation. Additionally, under Sec. 9(3)(c) of the Banking Companies (Acquisition and Transfer of Undertakings) Act, 1970, the Reserve Bank of India may also appoint its nominee director on the bank board to ensure its effective functioning. Under Sec. 9(3)(i) of the Bank Nationalization Act, 1970, public shareholders are entitled to elect a director for every 16% of the shareholdings or fraction thereof. The compliance of Clause 49 listing agreement is mandatory for listed banks and provides for at least one-third of the board consisting of independent directors if the chairman is a non-executive director and one-half

in case he is an executive director. Additionally, if the non-executive chairman is the promoter or relative of the promoter or a director of the board or at one level below then also a minimum of fifty percent of the board should be independent. Section 149(3) of the Indian Companies Act 2013 lays down for the appointment of a resident director who has stayed in India for not less than 182 days in the previous financial year. A director is prohibited from holding membership in more than ten committees or chairmanship in more than five committees across all the companies in which he is holding directorship. Stock Exchange Board of India (SEBI) restricts the number of directorships in listed companies up to seven and a maximum of three listed companies for a full-time director of a listed company. The minimum academic qualification prescribed for the non-executive director is graduate, must possess 20 years of relevant experience with a proven track record, and should not be a director of a bank or financial institution within the last six years, either continuously or intermittently. The maximum age for the independent director is sixty-seven years. Former CMDs (chairman and managing directors) and EDs (executive directors) can serve as independent directors after one year of retirement except in the bank from which they have retired. Sec. 16 of the Banking Regulation Act, 1949, prohibits the appointment of the common directors and states that a director cannot become a board member of two banking companies simultaneously. The following section presents the literature review discussing the role of the board of directors and its relationship with bank performance and finally leads to the formulation of hypotheses on different aspects of the board in the Indian banks.

3. LITERATURE ON THE ROLE OF CORPORATE GOVERNANCE IN BANKS

Different governance theories like agency theory, resource dependency theory, stewardship theory, etc., establish the existence of a link between the board of directors and firm performance (Jensen & Meckling, 1976; Davis, Schoorman, & Donaldson, 1997). However, no single governance theory is able to explain the board-performance nexus due to the additional variety and complexity (Nicholson & Kiel, 2007). Agency theory lays emphasis on the divergence of managers' and shareholders' goals (Jensen & Meckling, 1976) and highlights on optimization of an adequate control system for its resolution. It proposes that the higher proportion of non-executive directors, departure of chairman/CEO duality helps in increasing performances (Jensen, 1993). On the other hand, the resource dependency theory recognizes the board size and board activeness as vital resources for improving performance. Combining these two theories, Hillman and Dalziel (2003) suggest that the board of directors are the agents of shareholders having fiduciary duties, supervise subordinates (agency theory) and provide necessary resources (resource dependency theory). The extant empirical studies emphasize numerous issues like the impact of board composition, board diversity, multiple directorships, gender diversity, frequency of board

meetings, chairman/CEO duality, etc., on performance (Filatotchev, Strange, Piesse, & Lien, 2007; Agoraki, Delis, & Pasiouras, 2011; Liang et al., 2013; Al-Saidi & Al-Shammari, 2013).

3.1. Board size

The existing literature considers the board as a vital resource for companies and hence supports the resource depending theory (Nicholson & Kiel, 2007) which presumes that the directors with higher corporate networks enable the company to access more and varied resources like finance and capital (Mizruchi & Stearns, 1988), long-term suppliers (Banerji & Sambharya, 1996), clientele (Frooman, 1999), and major stakeholders (Freeman & Evan, 1990), leading to enhanced firm performance. The findings regarding the relationship between board size and performance are mixed. Some researchers contend that larger boards have a positive impact on performance (Pearce & Zahra, 1992; Majeed, Jun, Zia-Ur-Rehman, Mohsin, & Rafiq, 2020) due to their required proficiency and skills (Xie, Davidson, & DaDalt, 2003) and generally prevail in larger banks (Cornett et al., 2009). Gafoor, Mariappan, and Thyagarajan (2018), Hakimi, Rachdi, Mokni, and Hssini (2018), Kakanda, Salim, and Chandren (2017), and Haris, Yao, Tariq, Javaid, and Ain (2019) have revealed that larger boards improve performance by reducing agency cost, increases the representation of the different class of stakeholders, and bring a variety of expertise and resources which contribute to effective monitoring and decision-making. A larger board size enhances performance as it enlarges the pool of competence with more knowledge and skills relative to smaller boards (Van den Berghe & Levrau, 2004) and may shrink the dominance of the CEO (Goodstein, Gautam, & Boeker, 1994; Forbes & Milliken, 1999). However, some researchers contend that larger board size may decline effectiveness and deterioration in the sense of responsibility, resulting in bureaucracy, which may drastically hamper the board processes, owing to group dynamics problems. Jensen (1993) and Kaur and Vij (2017) argue that large boards prove to be less efficient in addressing the problems of coordination, make the decision-making procedure rigid, and give undue control to CEOs. Yermack (1996), Wang, Lu, and Lin (2012), and Pathan and Faff (2013) also revealed the enhanced effectiveness of smaller boards, as larger board size may not be cost-efficient due to poor communication and delayed decision-making process supporting the findings of Jensen (1993). For banks, Adams and Mehran (2003) while analyzing the American Bank holding companies, Kyereboah-Coleman and Biekpe (2006) in Ghana banks and Bouteska (2020) in five Eurozone countries (the UK, Germany, France, Italy, and Spain) confirmed a positive relationship supporting that larger boards enhance the managerial supervision and intellectual capital aiding in effective decision-making, whereas Pathan, Skully, and Wickramanayake (2007) and Al-Manaseer, Al-Hindawi, Al-Dahiyat, and Sartawi (2012) find a negative association with bank performance. Ghosh and Ansari (2018), while analyzing the Indian co-operative board, indicate that bigger boards exhibit lower returns. Similarly, de Andres and Vallelado (2008),

using large commercial banks from six developed countries, have concluded an inverted U-shaped relationship between board size and bank performance and established that performance increases with the increase in directors up to 19 only, after which it takes U-turn. Jensen (1993) suggested an appropriate board size of up to 8 directors, whereas Lipton and Lorsch (1992) recommended a span of control of 10 for CEO. Considering the unique feature of the Indian banking system, we hypothesize that larger boards provide increased resources and pool of expertise and hence, in line with resource dependency theory, improve the firm performance. Therefore, we posit our hypothesis as:

H1: All else equal board size affects the bank performance.

3.2. Board activity

Another feature of the resource dependency theory is the occurrence of board meetings in a financial year. Frequent meetings offer a platform to board members for exchanging ideas of monitoring executives and discussing long-term strategy. The agency theory suggests that agency costs can be abridged by escalating monitoring activities through regular meetings, which may boost performance and help in better assessment of executives while remaining persistently attentive regarding firms' activities and easing it by resolving the issues instantly. Frequent meetings permit directors to deliberate tactics about how to pave the path to success for the organization. Hence, the increased frequency of meetings ensures improved supervision resulting in tight control over executives leading to a positive effect on performance. The empirical results about the relationship between the frequency of board meetings and performance are assorted. Gafoor et al. (2018) and Kaur and Vij (2017) established a positive impact of the frequency of board meetings on performance. Similar results were found by Ntim and Osei (2011) in the study of 169 South African listed companies during 2002-2007. However, Vafeas (1999) revealed that increased frequency of board meetings may affect board operation and impact the performance negatively, which may aim at addressing the poor performance and may be due to the board response to deteriorating performance. Though the time dedicated by the board varies from one organization to another, the author has established the varied costs (managerial time, travel cost, and directors' sitting fees) and benefits (enhanced time for directors to discuss, set strategy, and supervise management) of board meetings. Consequently, devoting adequate time is decisive to ensure that benefits overshadow the costs and should be utilized inside the board room. El Mehdi (2007) established that board activities need not necessarily have a positive relationship with firm performance. Similarly, Amran (2011), analyzing the sample of 328 companies from 2003 to 2007 in Malaysia, and Kakanda et al. (2017) show that a higher frequency of board meetings leads to a decline in performance. Even though earlier studies produce contrasting results, extensive researches prove that they help in boosting performance. Therefore, in agreement with the resource dependency theory, we expect that more meetings are a source of qualitative and

enhanced deliberation of the banks' operations and thus affect the performance positively. Hence, we hypothesize:

H2: Banks' performance is positively associated with the frequency of board meetings.

3.3. Non-executive directors

Earlier studies reveal that non-executive directors endorse healthier corporate governance, mitigate risk and add value to the firm. The separation of management from ownership requires higher representation of stakeholders in the form of outside directors which is at the core of agency theory and positively impact firm performance (Staikouras, Staikouras, & Agoraki, 2007; Pathan et al., 2007; Ali Shah, Butt, & Hassan, 2009; McKnight & Weir, 2009; Al-Hawary, 2011; Kakanda et al., 2017). In fact, non-executive directors ensure organizations accountability (Dalton, Daily, Ellstrand, & Johnson, 1998; Daily, Dalton, & Cannella, 2003) and are bound to effectively supervise business in order to protect their corporate fame as competent and autonomous decision-making authority, since their presence involve additional cost (fees, travel expenses, etc.). Recent corporate scandals have stressed on higher independence of corporate boards as it acts as an effective deterrent to unscrupulous financial statements, supporting the suggestions of Beasley, Carcello, Hermanson, and Lapides (2000) and Farber (2005) that businesses disclosing deceptive financial statements may be dominated by executive directors. The boards comprising one-half of non-executive directors have higher profitability (Black, Jang, & Kim, 2006). Jensen and Meckling (1976) revealed that domination of the board by non-executive directors supports mitigating the agency problem by controlling the unscrupulous conduct of management in safeguarding the shareholders' interests, stimulate quality decisions and provide a tactical enhancement in performance. Stock prices react to the selection of independent directors positively (Rosenstein & Wyatt, 1990) and drops after their sudden death (Nguyen & Nielsen, 2010). Independent directors are less likely to have an in-depth knowledge of the internal workings of the banks on whose boards they sit. They are also less likely to have the financial expertise to understand the complexity of the securitization processes banks were engaging in or to assess the associated risks banks were taking on. Thus, although board independence is generally seen to be a good thing, in the case of banks, greater independence may be a bad thing because a more independent board will not have sufficient expertise to monitor the actions of the CEO.

In the banking industry, Pathan et al. (2007) and Al-Manaseer et al. (2012) established a positive association between the proportion of independent directors and performance. Whereas Agrawal and Knoeber (1996) using Tobin's Q, whereas Coles, McWilliams, and Sen (2001) using MVA have reported decline in firm value due to the presence of independent directors, as in conjecture with executive directors, they may work together against the interest of stakeholders. Similarly, a negative relationship in the banking industry has also been indicated in Jordan (Bino & Tomar, 2012), Ghana

(Kyereboah-Coleman & Biekpe, 2006), and Pakistan (Majeed et al., 2020). Consequently, it may be contended that a board with higher non-executive directors is more probably expected to monitor management effectively, restrain the self-centered behavior of the CEO, and provide tactical guidelines leading to enhanced performance. Thus, based on the theoretical expectation of agency theory, we hypothesize:

H3: Bank performance is positively associated with the higher proportion of non-executive directors.

3.4. Women directorship

Board's gender diversity has grabbed increased attention in governance literature and is highly debatable (Carter, Simkins, & Simpson, 2003; Farrell & Hersch, 2005). Female representation on boards has progressively but slowly improved over time which recognizes the contribution of female directors in firm performance. Adams and Ferreira (2009) were among pioneers to study the role of woman directors, show their higher attendance relative to their male counterparts and higher inclination towards joining the board committees. Female directors are expected to be hard working with better communication proficiency, which contributes to quality board decisions and is a vital source of competence and expertise, consistent with the resource dependency theory. Hence, women may prove to be effective supervisors, can reduce agency costs, and ultimately enhance performance. However, earlier findings on the impact of women directors on performance are indecisive. Carter et al. (2003), Erhardt, Werbel, and Shrader (2003), Fernandes, Farinha, Martins, and Mateus (2017), and Kaur and Vij (2017) evidenced the positive impact of women directors on firm performance. Even though earlier literature points out minor improvement in firm value (Campbell & Mínguez-Vera, 2008), some authors suggest the contrary. They undermined the suitability of women for banks with higher risk and leverage since they are supposed to be less risk-prone. Banks led by female directors are associated with higher credit risk (Tran, Do, & Nguyen, 2020). Additionally, a higher proportion of female directors can be detrimental and may result in unwarranted monitoring leading to conflict of interests between directors and a decline in firm value (Pathan & Faff, 2013). Similarly, Shrader, Blackburn, and Iles (1997) show an inverse relationship between the proportion of female directors and firm performance when measured with ROA and ROE. Though the findings are mixed, in line with resource dependency theory, it is assumed that they may provide necessary input to effective decision-making and help in improving the performance of banks and hence we hypothesize that:

H4: Banks' performance is positively related to female directors.

3.5. Nominee directors

Agency theory claims that government banks witness minor disciplinary effects from the financial market, which may encourage their nominees to follow their individual interests at the cost of stakeholders' interests. Since the nationalization of

banks in 1969, the central government has used its exclusive power to appoint nominee directors on bank boards. The RBI also monitors the functioning of the banks by appointing its nominee on the bank board, for example, RBI nominates one director on the State Bank of India board under Sec. 19 (f) of the SBI Act, 1955. The RBI under Sec. 25(1) (b) of State Bank of India (Subsidiary Banks) Act, 1959, is also empowered to appoint its nominee director on the board of subsidiaries of the State Bank of India. Additionally, the Bank Nationalization Act, 1969, provides for the appointment of RBI nominee directors on public banks' boards. The appointment of government official nominee and RBI nominee directors reduces the autonomy of bank boards. Mostly RBI nominee directors are the RBI serving officials and are expected to be accountable and participate actively in bank operations. However, it is contended that there may be a conflict of interest between the bank management and the RBI nominee directors. The central government opines that the presence of RBI nominee directors improves boards functioning, and their withdrawal may be inappropriate due to mounting NPAs and diminishing profits. It is also argued that during the course of time, RBI should empower the boards by withdrawing its nominee directors since a conflict of interest may arise between the two. The Narasimham Committee (1990) and P. J. Nayak Committee (2014) on banking sector reforms too suggested the renouncement of seats by RBI and government official nominee director. Directors of the private banks undergo greater environmental force and a severe penalizing effect relative to their public counterparts, which reduce the efficiency of public banks. Additionally, La Porta, Lopez-de-Silanes, and Shleifer (2002) reveal that government shareholding in banks and the presence of government representatives is a major cause of inefficiency and higher non-performing loans and predicts a negative effect on banks' performance. The study of Hajer and Anis (2018) found that directors representing state and public institutions have a negative and significant effect on bank performance confirming the agency theory. Sarkar and Sarkar (2018), with respect to institutional nominee directors in the Indian context, reveal that their existence affects bank performance negatively, especially its market valuation, as the market expects them to take conservative decisions. Hence, in congruence with earlier discussion, we hypothesize:

H5: The higher proportion of government nominee directors reduces the bank's performance.

H6: The higher the proportion of RBI nominee directors, the less performing banks will be.

3.6. Busy directors

The busy hypothesis is the number of directorships, a director holds in different company boards (Ferris, Jagannathan, & Pritchard, 2003). Ferris et al. (2003) were among the first to evaluate the significance of busy boards in explaining the performance of non-financial firms and revealed that executives of larger and profitable firms are more inclined towards holding multiple directorships which elevates an endogeneity issue as directors of lucrative and huge firms are supposed to entice

additional directorships which may add value to firms concomitantly. Though one view claims that directors serving on manifold boards ameliorate the board's decision-making aptitude as they have superior professional maturity, corporate networks, have access to resources, and hook up suppliers and customers to organization (Pfeffer, 1972; Booth & Deli, 1996) and hence impact the firms positively (Harris & Shimizu, 2004). The busy boards have higher corporate networks, have access to diversified resources necessary for improving performance, and thus provide substantial support to resource depending theory. Busy directors are suspected to evade their responsibilities due to scarcity of time and energy, which is less expected in banks due to numerous reasons. Firstly, banking executives are under strict scrutiny, relatively as their responsibility extends beyond the shareholders and includes depositors and regulators. Additionally, they face higher liability risk since the court of law may penalize bank directors regarding breach of duty, particularly during bank collapse (Macey & O'Hara, 2003). Concurrently, bank directors may be vulnerable to higher pecuniary penalties levied by bank regulators for infringement of fiduciary duties. Another profound contradictory view (Fich & Shivdasani, 2005) suggests that directors overstressing themselves by serving added boards in the lure of financial incentives, devote minimal time, undermine their responsibilities, and disregard their duties. Several studies also contend that directors due to multiple directorships are incapable of successfully monitoring the organizations because of over-commitment, creating grave agency problems and subsequently postulate an inverse relationship. Jiraporn and DaDalt (2009) find that directors holding a manifold directorship sit on fewer board committees as a result of which directors' ability to effectively monitor is compromised. It is widely discussed that directors who serve on multiple boards have an edge in domain knowledge, practical experience, and corporate standing but are less energetic in controlling and advising firms due to their hectic schedules. The study of Fich and Shivdasani (2006) evaluated the effective monitoring of busy boards and ascertain, a board is busy, if most of its outside directors are holding directorship in three or more company boards and suggest that busyness of directors is detrimental to firm performance leading to lower market-to-book value and pathetic profitability. Sarkar and Sarkar (2018) reveal that the lack of industrial leadership, adequate experience, and the gap in the managerial market partly contribute to multiple directorships in the Indian context. Using a sample of 72 publicly listed European banks, Fernandes et al. (2017) find that banks' busy boards experienced worse stock returns during the crisis. Hence, consistent with the resource dependency theory, and limited supply in the executive's market, the busyness of directors may positively contribute to bank performance. Elyasiani and Zhang (2015) revealed that bank holding company performance is positively associated with the busyness of directors. Additionally, busy directors are not more likely to become problem directors (fail the 75% attendance standard), and if sitting on boards of both BHC and non-financial

firms, they attend more of the BHC board meetings, than those of the non-financials. Thus, we formulate the following proposition:

H7: Banks' performance bears a positive relationship with the presence of busy directors.

3.7. Board meeting attendance

A crucial means by which a board exercises its power on the firms is through decisions and plans formulated during board meetings. Resource dependency theory suggests that directors provide resources through attending the board meetings to the company necessary for its smooth functioning. The directors, particularly outside directors, are expected to be present at the board meeting, which is vital for gathering information, decision-making, and managerial supervision (Adams & Ferreira, 2009). It is somewhat more intricate to assess their efforts exhaustively and can partially be identified by investigating their meeting attendance (Chou, Li, & Yin, 2010). Regular failure to attend board meetings implies the unwillingness of directors towards their duties and indicates poor monitoring quality of the board in lieu of shareholders to lessen agency problems. Board attendance impacts firm value and their absence may obstruct other board members from accomplishing their duties fruitfully contributing to the agency problem. The increased board attendance implies more effective board supervision and subsequently, firm enhancement. Chou, Chung, and Yin (2013) have investigated board meeting attendance and its relationship with the performance of Taiwanese listed companies. They observe that family, ultimate, grey, and independent directors have a positive relationship with firm performance if board meetings are attended by themselves and adverse or insignificant impact on firm performance if they appoint a proxy to attend the meetings. Executive directors' meeting attendance and authorized meeting attendance have an insignificant impact on firm performance. Hence, presence at board meetings is necessary for accomplishing a director's duty and ensures higher firm performance. Thus, we posit the following hypothesis:

H8: Higher board meeting attendance of inside directors implies higher bank performance.

H9: Higher board meeting attendance of outside directors is positively related to bank performance.

3.8. Control variables

Following earlier studies (Lin & Zhang, 2009; Berger, Hasan, & Zhou, 2009), we have considered four control variables, such as bank size, bank age, growth of deposits, and capital structure in our analysis. Large banks have an advantage of a large number of borrowers, economies of scale, and diversification, leading to low funding costs and, consequently, higher profits (Smirlock, 1985; Oyelade, 2019). On the other hand, the opposing view is that an increase in bank size leads to higher levels of marketing, operational, asymmetric information, and bureaucratic costs, and results in a negative link between profitability and size. In the existing empirical literature, some of

the studies find a positive relationship between bank size and profitability (Bougatef, 2017; Chowdhury & Rasid, 2017) and other strands of literature find evidence of the negative effect of size on profitability (Gul, Srinidhi, & Ng, 2011; Singh & Sharma, 2016). Thus, the size effect on profitability remains ambiguous.

Secondly, a firm's age may affect its financial performance because a long presence in the market helps a firm to achieve a competitive advantage. Staikouras et al. (2007) have examined the South Eastern European (SEE) banking industry over the period 1998-2003 and reveal a positive and significant relationship between bank age and performance. Al-Baidhani (2016), in his study on Islamic banks, in Yemen, along with six GCC countries, has revealed a positive and significant impact of age on ROE confirming the learning curve principle, which suggests that banks become proficient from their past experiences. Higher ROE of older banks may be the result of bank age and the market share, as well as the longer custom and good reputation enjoyed during the course of time. The new banks focus on capturing market share rather than profitability and hence are not profitable in the initial years. Most of the empirical studies find a positive and significant association between bank age and profitability (Tan & Floros, 2012; Tan, 2016; Pervan, Pervan, & Ćurak, 2019). However, it is also assumed that older firms may have a rigid administrative process, enhanced bureaucracy with limited investment opportunities in the later stage of their life cycle, which may adversely affect profitability. Therefore, the impact of age on profitability is not conclusive.

Third, the control variable is the yearly growth of deposits. We calculate the banks' growth by the annual growth of the deposits of the banks. A rapidly growing bank is expected to enlarge its business and, ultimately, profits. It depends on the banks' ability to convert their deposit into income earnings reflecting its operating efficiency. Growth may also be realized by the investment in inferior quality assets, which impacts the bank profits negatively and needs to be determined empirically.

The fourth and last is the ratio of total equity to total assets for accounting bank capitalization (capital ratio) used in earlier studies (Bino & Tomar, 2012) for measuring capital strength. The relationship between equity capital and profitability is also ambiguous. Some of the existing theoretical studies argue that more capital leads to less need for external funding and lower cost of capital, lower bankruptcy cost, and therefore, a positive relationship can be expected between equity capital ratio and profitability (Berger, 1995). Additionally, Fahrul (2012) showed that the equity to assets ratio (EAR) had a significant positive effect on ROA and net interest margin (NIM). On the other hand, higher equity capital declines the level of financial leverage and risk, which ultimately adversely affects the overall profitability of

the banks. The empirical findings on the relationship between equity capital ratio and profitability are mixed in nature. Most of the studies find a positive association between equity capital and performance (Saeed, 2014; Batten & Vo, 2019). On the other hand, Guru, Staunton, and Shanmugam (2002), Goddard, Molyneux, and Wilson (2004), Ali (2011), and Chronopoulos, Liu, McMillan, and Wilson (2012) find a negative relationship between equity capital ratio and performance.

4. VARIABLES AND DATA

4.1. Variables

We use several proxies for measuring bank performance. Following previous studies (Erhardt et al., 2003; de Andres & Villedado, 2008; Lin & Zhang, 2009; Berger et al., 2009; Gupta & Mahakud, 2020a, 2020b; Gupta, Agarwal, & Jagwani, 2021; Gupta & Mahakud, 2021), we use five different proxies, such as return on assets (*ROA*), return on equity (*ROE*), net interest margin (*NIM*), and pre-provision profitability ratio (*PPR*), and non-performing loan ratio (*NPLR*) for measuring the performance of the banks. *ROA* is calculated as the ratio of net income to total assets, which assesses how efficiently a bank is using its assets for generating income. *ROE* measures the rate of return on resources provided by shareholders. It indicates the number of earnings per rupee that equity shareholders have invested. A higher ratio is better for shareholders. *NIM* is measured as net interest income divided by the total assets. *PPR* is measured as the ratio of operating profit (operating income minus operating expenses) to total assets. *NPLR* has been calculated as the ratio of the total amount of non-performing loans to total loans (Liang et al., 2013).

The explanatory variables used in this study include the board characteristics and other bank-specific control variables. The explanatory variables regarding the board characteristics variables used in the study include board size (*BS*), the total number of board meetings held during the year (*BM*), percentage of non-executive directors (*OUT*), the proportion of female directors (*Female*), proportion of government official nominee directors (*GOV*), the proportion of RBI nominee directors (*RBI*), average number of directorships held by executive directors (*BUSYINSIDE*), average number of directorships held by non-executive directors (*BUSYOUT*), percentage of board meetings attended by non-executive directors (*BMOUTSIDE*) and executive directors (*BMINSIDE*). The bank-specific variables used in this study are bank size (*FSIZE*), bank age (*FAGE*), yearly growth in deposits (*DG*), and equity to asset ratio (*ETA*). The measures of all these variables are summarized in Table 1.

Table 1. Variables used in this study

<i>Panel A: Dependent variables</i>		
<i>Variables</i>	<i>Measures</i>	
<i>ROA</i>	Net income/Total assets	
<i>ROE</i>	Net profit/Total equity	
<i>NIM</i>	(Investment income - Interest expenses)/Average earning assets	
<i>PPR</i> (pre-provision profit ratio)	(Operating income - Operating expenses)/Total assets	
<i>Panel B: Board variables</i>		
<i>Variables</i>	<i>Measures</i>	<i>Predicted sign</i>
<i>BS</i>	Total number of directors in the board	+/-
<i>BM</i>	Total number of board meetings held in a financial year	+/-
<i>OUT</i> (%)	Percentage of non-executive directors	+
<i>Female</i> (%)	Percentage of female directors	+/-
<i>GOV</i> (%)	Percentage of government nominee directors	-
<i>RBI</i> (%)	Percentage of RBI nominee directors	-
<i>BUSYOUT</i>	Average number of directorships held by non-executive directors	+
<i>BUSYINSIDE</i>	Average number of directorships held by executive directors	+
<i>BMOUTSIDE</i> (%)	Percentage of board meetings attended by non-executive directors	+
<i>BMINSIDE</i> (%)	Percentage of board meetings attended by executive directors	+
<i>Panel C: Control variables</i>		
<i>Variables</i>	<i>Measures</i>	
<i>FSIZE</i>	Natural log of total assets	
<i>FAGE</i>	Log (Current year - Year of establishment)	
<i>DG</i>	Percentage of growth in deposits	
<i>ETA</i>	Total equity capital to total asset ratio	

4.2. Data

We target all the commercial banks operating in India. We have included those commercial banks which have continuous data available throughout the time period. The foreign banks have been excluded as they are not registered in India under the Indian Companies Act, 2013, and are not listed on the Indian stock exchanges. They are operating as the branch office of their parent organization. Hence, it is not mandatory for them to comply with Clause 49 of the Listing Agreement and submit the corporate governance report to stock exchanges. Therefore, their corporate governance data is not available. Finally, we construct a panel data sample of 36 banks, which include 21 public sector banks and 15 private sector banks. The period of the study

is 2009–2010 to 2016–2017. The data on the board characteristics is hand collected from the annual reports, as well as the website of the respective banks. The monetary information has been gathered from the Prowess IQ CMIE database and the Bloomberg database. For further analysis, data has been divided into different subsets. On the basis of ownership, we have divided the whole sample into public and private banks. On the basis of size, the banks with total assets in the above tercile have been termed as large banks, and those with an asset value in the lower tercile have been termed as small banks. Similarly, well-capitalized banks have been defined as the banks in the first tercile, and low-capitalized banks have been defined as the banks in the third tercile.

Table 2. Number of banks and observations by bank category

	<i>All</i>	<i>Public sector banks</i>	<i>Private sector banks</i>
Number of banks	36	21	15
Number of observations	288	168	120

4.2.1. Descriptive statistics of data

Table 3 shows the descriptive statistics for independent variables, dependent variables, and control variables used in the study. The average *ROA* of sample banks is 0.65; *ROE* is 0.91; *NIM* is 2.95, and the pre-provision profit ratio is 0.17. The private sector banks (*ROA* = 1.05) are more profitable as compared to public sector banks (*ROA* = 0.36%). The level of *NPA* is lower in private sector banks relative to their public counterparts. The average board size in public and private sector banks is 10.76 and 10.84, respectively, indicating that private sector banks have large board sizes relatively. Discussing the outside directors, at least 76.13% of the board consists of non-executive directors in our sample banks as against the requirement of Clause 49 of SEBI Listing Agreement for the board to consist of at least 50% of non-executive directors when the board chairman is an executive director

and two-third when he is the non-executive director. The board of private sector banks (82.9%) has a higher percentage of outside directors than public sector banks (71.24%). The public sector banks (mean = 7.72) have fewer outside directors compared to private sector banks (mean = 8.97). The minimum number of outside directors in both the banks is 2, whereas the maximum is 12 (public) and 14 (private) and are within the limits of 15 as prescribed by the Indian Companies Act, 2013. The female representation in Indian banks is considerably low, with an average of 8.21%. The number of women directors in public banks (9.06%) is higher than in private banks (7.02%). There are also some banks that do not have even a single woman director on their board. The female representation is more in public sector banks (mean = 0.964) as compared to private sector banks (mean = 0.783) and varies from 0 to 3 in both cases. On average, the number of directorships held by

outside directors is 1.78 directorships per director. The average number of directorships held by outside directors in public sector banks and private sector

banks is 1.17 and 2.62, respectively, suggesting that the outside directors of private banks are busier than public sector banks.

Table 3. Descriptive statistics of the variables used in the study (Whole sample)

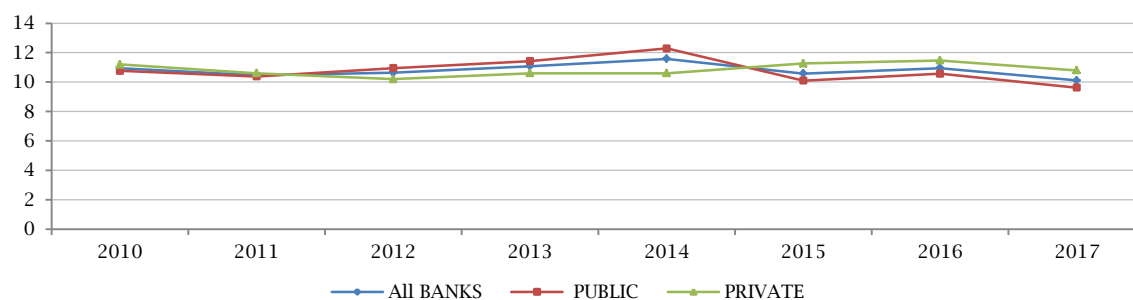
	Mean		
	All	Public	Private
No. of observations	288	168	120
Panel A: Dependent variables			
ROA	0.65	0.36	1.05
ROE	0.09	0.07	0.11
NIM	0.02	0.02	0.03
PPR	0.17	0.15	0.19
Panel B: Board variables			
BS	10.79	10.76	10.84
BM	12.40	13.47	10.90
OUT (%)	76.13	71.24	82.99
Female (%)	8.21	9.06	7.029
GOV (%)	6.17	9.80	1.07
RBI (%)	6.49	10.29	1.17
BUSYOUT	1.78	1.17	2.62
BUSYINSIDE	1.46	1.66	1.18
BMINSIDE (%)	95.19	95.74	94.43
BMOUSIDE (%)	82.31	83.93	80.04
Panel C: Control variables			
FSIZE (000, million)	210.04	265.86	131.89
FAGE	77.916	90.928	59.7
DG	14.56	11.50	18.84
ETA	0.04	0.03	0.05

Notes: The sample is a panel data of public, private, and all the banks during the period 2010–2017. Panel A reports the summary statistics of dependent variables. Panel B reports the summary statistics of board variables. Panel C reports the summary statistics of control variables. For the definition of variables, please refer to Table 1.

The average number of directorships held by executive directors is 1.46 directorships, whereas it is 1.66 for public sector banks and 1.18 for private sector banks, which shows that executive directors of public sector banks are busier than their private sector counterparts. Merely holding a large number of meetings is not fruitful until a significant number of board meetings are attended by directors. The average percentage of board meetings attended by executive directors is 95.19%, whereas, in the case of public sector banks and private sector banks, it is 95.74% and 94.43%, respectively, and indicates that executive directors in public sector banks are more serious towards attending the board meeting.

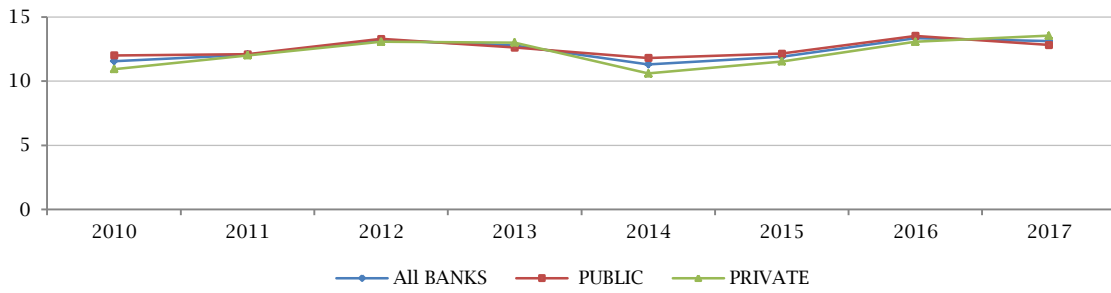
The average percentage of board meetings attended by outside directors is 82.31%, whereas it is 83.93% and 80.04% for public sector banks and private sector banks, respectively, indicating that non-executive directors in public sector banks are more attentive towards attending the board meetings. The representation of government nominee directors in public sector banks (mean = 1.017) and RBI nominee directors (mean = 0.952) is more than in private sector banks (government nominee directors, mean = 0.133, and RBI nominee directors, mean = 0.183). There are also some private sector banks whose board entirely consists of outside directors except the CEO.

Figure 1. Trends in board size during 2010–2017



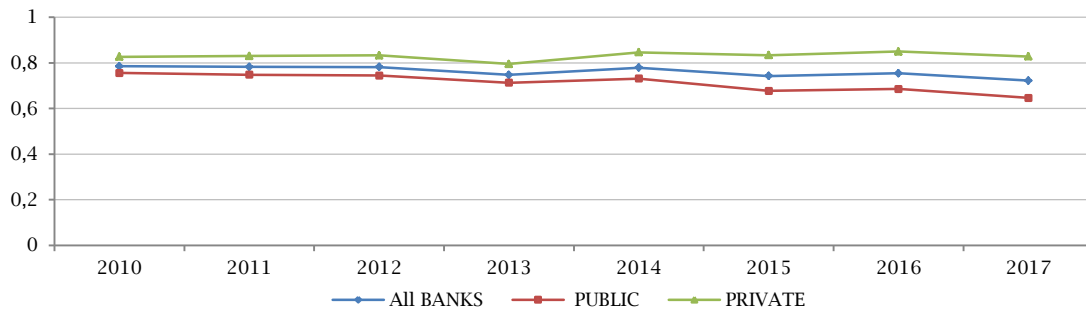
Source: Annual reports of the respective banks.

Figure 2. Trends in board meeting during 2010-2017



Source: Annual reports of the respective banks.

Figure 3. Trends in outside directors during 2010-2017

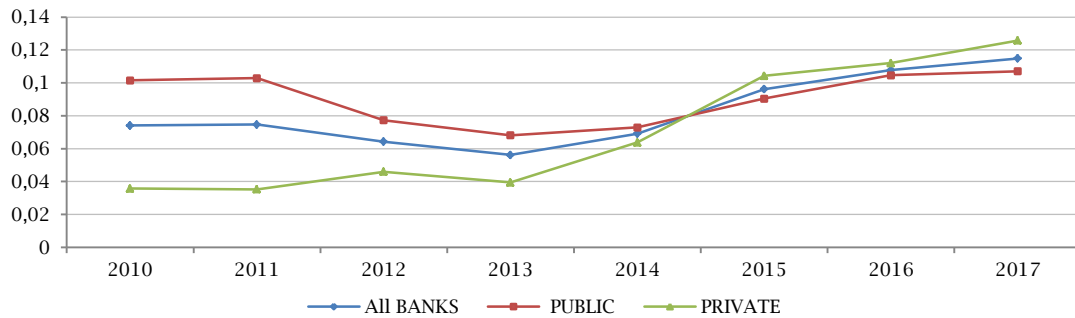


Source: Annual reports of the respective banks.

Figures 1 to 5 show the trend of the various board characteristics over the sample period. It reveals that the appointment of the female directors on the board has increased after 2014, which might be because of the mandatory requirement under

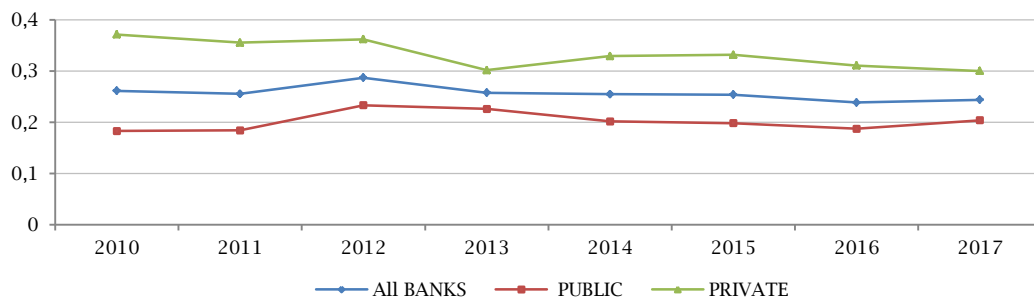
the Companies Act, 2013, which makes it mandatory to appoint at least one woman director on the board. Over the period of time, the directors are becoming less busy and are refraining from the additional assignments.

Figure 4. Trends in female directors during 2010-2017



Source: Annual reports of the respective banks.

Figure 5. Trends in busy directors during 2010-2017



Source: Annual reports of the respective banks.

Table 4. Correlation matrix (All banks)

Variable	ROA	ROE	NIM	PPR	NPLR	BS	BM	OUT	Female	GOV	RBI	BUSYOUT	BUSYINSIDE	BMINSIDE	BMOUTSIDE	FSIZE	FAGE	DG	ETA
ROA	1.00																		
ROE	0.87***	1.00																	
NIM	0.58***	0.38***	1.00																
PPR	0.68***	0.48***	0.57***	1.00															
NPLR	-0.80**	-0.80**	-0.45**	-0.37**	1.00														
BS	-0.16*	-0.14**	0.16**	-0.21**	0.13**	1.00													
BM	-0.28**	-0.08	0.32**	-0.35**	0.20**	0.17**	1.00												
OUT	0.25***	0.24***	0.21**	0.09	-0.40**	0.14**	-0.05	1.00											
Female	-0.10*	-0.11*	0.05	-0.07	0.14**	0.007	-0.17**	-0.08	1.00										
GOV	-0.42**	-0.20**	-0.58**	-0.14	0.46***	-0.18**	0.25***	-0.55**	0.13**	1.00									
RBI	-0.38**	-0.15**	0.39**	-0.22**	0.38***	0.03	0.37***	-0.38**	0.003	0.57***	1.00								
BUSYOUT	-0.26***	-0.06	-0.22**	-0.33***	0.23**	0.09*	-0.53**	0.12**	0.12	-0.25**	-0.41**	1.00							
BUSYINSIDE	0.12**	0.03	0.07	-0.27***	-0.02	0.15*	-0.20**	-0.23**	0.17**	0.13*	-0.01	0.22	1.00						
BMINSIDE	-0.004	-0.008	-0.02	-0.01	0.04	-0.08	0.04	-0.02	0.001	0.009	-0.07	-0.12*	-0.01	1.00					
BMOUTSIDE	-0.18**	-0.15**	-0.10*	-0.18**	0.15*	-0.04	0.07	-0.06	0.11*	0.08	0.16**	-0.13**	-0.12**	0.28***	1.00				
FSIZE	-0.05	-0.10*	-0.09*	-0.39***	0.25***	0.20**	-0.01	-0.56**	0.31**	0.46***	0.25***	0.05	0.49***	0.02	0.04	1.00			
FAGE	0.39***	0.13**	0.35***	0.39***	-0.29**	0.16**	-0.33**	-0.005	-0.01	-0.20**	-0.28**	0.40***	0.33***	-0.08	-0.13	0.28***	1.00		
DG	0.44***	0.40***	0.27***	0.25***	-0.42**	0.03	-0.17**	0.17**	-0.14*	-0.32**	-0.18**	0.18**	0.09	0.001	-0.10*	-0.16**	0.16*	1.00	
ETA	-0.21**	-0.20**	0.009	-0.36**	0.05	-0.18**	-0.19**	0.23**	-0.03	-0.17**	-0.12**	0.20**	-0.23**	-0.10*	-0.09	-0.59**	-0.09	0.02	1.00

Notes: *, **, and *** show the 10%, 5%, and 1% level of significance, respectively.
For the definition of variables please refer to Table 1.

The correlation matrix presented in Table 4 rules out the problem of multicollinearity as the values of the correlation coefficient is very small, and most of the coefficients are statistically insignificant. The percentage of RBI nominee directors, percentage of central government official nominee directors, female directors, frequency of board meetings, the percentage of board meetings attended by the non-executive directors are negatively correlated to bank performance whereas the board size, percentage of outside directors, average number of directorship held by non-executive directors are positively correlated to banks performance. Board size, as expected, has a positive association, which is consistent with the resource dependency theory suggesting a larger board carries necessary resources and professional expertise.

$$\begin{aligned}
 BANKP_{it} = & \alpha_i + \beta_1 BS_{it} + \beta_2 BM_{it} + \beta_3 Out_{it} + \beta_4 Female_{it} + \beta_5 GOV_{it} + \beta_6 RBI_{it} + \beta_7 BUSYOUT_{it} \\
 & + \beta_8 BUSYINSIDE_{it} + \beta_9 BMOUTSIDE_{it} + \beta_{10} BMINSIDE_{it} + \beta_{11} FSIZE_{it} + \beta_{12} FAGE_{it} \\
 & + \beta_{13} DG_{it} + \beta_{14} ETA_{it} + \varepsilon_{i,t}
 \end{aligned} \quad (1)$$

where, $BANKP$ = Bank performance indicators measured by ROA , ROE , NIM , PPR , and $NPLR$; ε_{it} is the disturbance term; i is the value of the bank from 1 to 36 and t is the values of years from 2010 to 2017. The β parameters capture the possible effect of diverse board features on bank performance indicators.

The board characteristics used in the study are as follows: BS is board size; BM is the total number of board meetings held in a financial year; OUT is the percentage of NED/outside directors; $Female$ is the percentage of female directors; GOV is the percentage of government official nominee directors; RBI is the percentage of RBI nominee directors; $BUSYOUT$ is busy non-executive directors; $BUSYINSIDE$ is busy executive directors; $BMOUTSIDE$ is board meetings attended by non-executive directors, and $BMINSIDE$ is board meetings attended by executive directors. $FSIZE$ is bank size, $FAGE$ is bank age, DG is yearly growth of deposits, and ETA is total equity to total assets ratio of the bank.

This study uses the panel data models with industry \times year fixed effects with the standard errors clustered at the industry level. As the unobservable heterogeneity and endogeneity of CEO characteristics cannot be captured through pooled regression estimation, we have used the panel data techniques to estimate the models. Fixed-effect and random-effect models are the most commonly used static panel data models (Adams & Mehran, 2008). Statistical tests, like the LM test and Hausman test, have been carried out to find out a suitable panel data technique for estimating the bank performance equation. All these tests ultimately preferred the use of the fixed-effect model over the random-effect model. The fixed-effect model allows control for unobserved heterogeneity, which describes individual-specific effects not captured by observed variables. The term "fixed effects" is attributed to the idea that although the intercept may differ across individuals (banks), each individual's intercept is time-invariant. The correctness of the models is specified by the F-statistics. Additionally, we conduct robustness tests to check the strengths of the models by dividing the sample based on

Contrary to the theoretical expectation of gender diversity, female directors are negatively associated with bank performance. This is surprising given the extensive literature implying that employing more female directors can improve a firm's value (Adams & Ferreira, 2009). However, more female directors are further likely to cause conflicts, as well as becoming emotionally involved in their occupation, which may provide adequate support for this negative pattern (Zhang, Wang, & Wang, 2012).

4.3. Models and estimation method

Assuming the linear relationship between bank-specific factors, board characteristics, and bank performance, a panel model is specified as follows:

different characteristics like ownership, bank size, and board size. As a robustness test, we further use the generalized method of moment (GMM), which presents alternative methods for performing regression.

5. DISCUSSION OF RESULTS

This section is divided into four sub-sections. The first sub-section discusses the results estimated from the whole sample, and other sub-sections deal with the results estimated for various sub-samples designed on the basis of ownership, size of the bank, and bank capitalization.

5.1. Whole sample results

The results reported in Table 5 reveal the panel data results of the impact of various board characteristics on bank performance for all banks considered for this study. The LM test and Hausman test results conclude that the fixed effect model estimation is suitable for this analysis. The p-value of F- statistics is significant at a 1 percent level and thus indicates the fitness of the model. Additionally, the adjusted R^2 provides the percentage of variation reported by the explanatory variables having an impact on the dependent variable.

We find that the larger board size leads to lower bank performance, which is consistent with the earlier studies of Yermack (1996), Adams and Mehran (2003), Pathan et al. (2007), Al-Manaseer et al. (2012), and Dogan and Ekşi (2020) does not support resource dependency theory which states that higher number of directors provides a larger pool of expertise and hence enhances performance. Large boards may be difficult to coordinate and communicate, which leads to ineffective monitoring and thus deteriorates performance (Pearce & Zahra, 1992; Coles, Daniel, & Naveen, 2008; Dalton et al., 1998). The overall effect of the frequency of board meetings is insufficient in explaining the performance of all banks, as well as public sector banks and private sector banks, and contradicts the resource dependency theory.

Our study indicates that the relationship of outside directors with performance is positive when measured with *ROE*, *NIM*, and negative on *NPLR* which suggest that the presence of outside directors improves the bank performance, which supports the earlier studies of Pathan et al. (2007) and Al-Manaseer et al. (2012). However, the significance disappears when *ROA* and pre-provision profit ratio are taken as performance variables. Such a situation may possibly arise due to a lack of business expertise and actual independence as majority shareholders are solely responsible for the appointment of outside directors. In the case of private sectors banks, the shareholders, and in the case of public sector banks, it is the central government that nominates directors without giving due consideration to CEO advice. The results suggest that a higher percentage of outside directors is ineffective in supervising managers or reducing the misappropriation of shareholders' funds in Indian banks. The percentage of outside directors

bears a strong negative and significant relationship with non-performing loan ratio as they do not have any direct or indirect interest with business supporting the earlier findings of Liang et al. (2013), which suggests that a higher number of outside directors are able to check the arbitrary decisions of management regarding loan disbursements and keeps an eye on backdoor activities of top management.

The impact of female directors is negative and significant on the *ROA* of all the banks. This may be possibly due to the lack of true independence, or they may not have a valuable say in the board since the female representation is low at the board of the Indian banks. Our findings support the study of Shrader et al. (1997) but contradict the results of Selvam, Raja, and Kumar (2006) who analyzed a sample of 13 Indian banks during 2012–2013 and revealed a direct impact on the performance of banks with significant government stake which may possibly be due to the short period taken for study.

Table 5. Board characteristics and bank performance (All banks)

Board characteristics	ROA	ROE	NIM	PPR	NPLR
BS	-0.577** (0.290)	-9.194* (5.456)	0.264 (0.265)	-0.047** (0.020)	1.156 (1.025)
BM	-0.253 (0.178)	-3.314 (3.354)	0.109 (0.163)	-0.005 (0.012)	0.837 (0.630)
OUT	0.004 (0.004)	0.141* (0.079)	0.008** (0.003)	0.00009 (0.0002)	-0.036** (0.015)
Female	-0.009** (0.005)	-0.088 (0.104)	0.005 (0.005)	-0.0002 (0.0003)	0.016 (0.019)
GOV	-0.035 (0.029)	-0.747 (0.556)	-0.017 (0.027)	-0.001 (0.002)	0.321** (0.104)
RBI	-0.057** (0.016)	-0.607* (0.318)	0.016 (0.015)	-0.002* (0.001)	0.032 (0.059)
BUSYOUT	-0.059* (0.031)	-1.205** (0.598)	-0.079** (0.029)	-0.004** (0.002)	0.136 (0.112)
BUSYINSIDE	0.020 (0.032)	0.512 (0.607)	0.017 (0.029)	-0.0009 (0.002)	-0.064 (0.114)
BMINSIDE	0.0008 (0.003)	-0.035 (0.061)	0.0007 (0.002)	0.0002 (0.0002)	0.020* (0.011)
BMOUTSIDE	-0.001 (0.002)	-0.038 (0.049)	-0.0007 (0.122)	-0.0003* (0.0001)	-0.008 (0.009)
FSIZE	-1.062*** (0.134)	-24.175*** (2.520)	-0.227* (0.122)	-0.057*** (0.009)	4.103*** (0.473)
FAGE	1.843** (0.587)	37.075** (11.054)	0.233 (0.538)	0.155*** (0.040)	-4.728** (2.078)
DG	0.011*** (0.002)	0.201*** (0.047)	0.0003 (0.002)	0.0005** (0.0001)	-0.031** (0.008)
ETA	-13.108*** (1.689)	-23.931*** (3.176)	-1.723 (1.545)	-0.325** (0.117)	45.488*** (5.970)
Constant	8.249*** (2.078)	18.499*** (3.073)	3.227* (1.901)	0.367** (0.144)	-3.322*** (1.345)
LM test	$\chi^2(1) = 30.91$ (0.0000)	$\chi^2(1) = 5.2$ (0.0107)	$\chi^2(1) = 99.89$ (0.0000)	$\chi^2(1) = 151.84$ (0.0000)	$\chi^2(1) = 10.24$ (0.0112)
Hausman test	$\chi^2(14) = 71.69$ (0.0000)	$\chi^2(14) = 102.01$ (0.0000)	$\chi^2(14) = 33.38$ (0.0025)	$\chi^2(14) = 310.75$ (0.0000)	$\chi^2(14) = 110.87$ (0.0000)
F-test	F (35,238) = 5.63 (0.0000)	F (35,238) = 4.91 (0.0000)	F (35,238) = 6.70 (0.0000)	F (35,238) = 14.22 (0.0000)	F (35,238) = 3.86 (0.0000)
N	288	288	288	288	288
Adj. R ²	0.0034	0.0079	0.0147	0.3351	0.0640

Notes: The table shows the regression results of all banks on different board variables. The table reports the regression coefficients, standard errors (in parentheses), number of observations (N), and adjusted R². The definition of variables is in Table 1.

* Statistical significance at 10% level. ** Statistical significance at 5% level. *** Statistical significance at 1% level.

Moving to government nominee directors, findings show that government official directors bear a positive and significant relationship with asset quality of banks measured by NPL ratio, giving the impression that the government nominee directors are able to influence board decisions regarding loan disbursement which contributes to

higher problem loans. A similar relationship is also found for RBI nominee directors who bear a negative relationship with *ROA*, *ROE*, and pre-provision profit ratio of the banks. This might be possible due to the apparent conflict of interest between a regulator nominee sitting on the bank board, it regulates. It supports our hypothesis, which expects that

the presence of central government official directors, as well as RBI nominee directors, contributes to declining in banks' performance. Our findings support the study of Kouaib and Jarboui (2016), who found that the directors representing state and public institutions have a negative and significant effect on bank performance confirming agency theory.

In terms of variable *BUSYOUT*, our findings contradict the expectations of our hypothesis, and it affects the performance negatively when measured by *ROA*, *ROE*, *NIM*, and pre-provision profit ratio. The overall findings do not maintain the resource dependency theory, which argues that outside directors holding multiple directorships have good networks and carry additional professional expertise and experience leading to enhanced performance. The variable *BUSYINSIDE* is insufficient in explaining the performance of all the banks. The resource dependency theory has been inconsistent in the Indian context, possibly due to the limited number of competent directors who hold multiple directorships and are too busy and overburdened to provide meaningful advice for effective decision-making.

In terms of board meeting attendance attended by inside directors, its impact is positive on *NPLR* of the banks. The board meetings attended by outside directors bear a negative relationship with the pre-provision profit ratio of all the banks. Our findings are contrary to those obtained by Francis, Hasan, and Wu (2012), who find that stock performance is positively related to the frequency with which directors attend board meetings, and with Adams and Ferreira (2009), who consider the attendance at board meetings being important which enables directors in obtaining firm-specific information and discharge their duties. Our findings may be due to the unique nature of Indian bank boards and highly regulated operating environments. The overall fixed effect regression results show that board characteristics play a significant and vital role in the performance of Indian banks.

Our results demonstrate that control variables are generally statistically significant and show the expected signs as per the earlier studies. We find that bank size bears a negative relationship with the performance of the banks indicating that large banks are not able to derive the benefits of economies of scale inconsistent with the findings of Smirlock (1985) from their operations possibly due to agency cost, bureaucratic process and extra cost incurred in managing large banks. The findings support the studies of Stiroh and Rumble (2006) and Pasiouras and Kosmidou (2007). Its impact on *NPLR* is positive, which indicates that the large size also contributes to the high *NPA* of the banks.

An appealing impact of age we find is that its impact is positive and significant on *ROA*, *ROE*, and pre-provision profit ratio of all the banks but negative with *NPLR* supporting the "learning by doing" hypothesis, as acknowledged by DeYoung and Hasan (1998), and Kraft and Tirtiroglu (1998). The deposit growth of banks in most cases is positively related to performance. This indicates that the banks are able to convert their higher deposits into remarkable quantity income-earning assets and

thus increase performance. Amazingly, we find that the equity to asset ratio impacts the performance negatively and significantly all the banks, which is contrary to the findings of recent researchers like Sufian and Chong (2008), Hassan, Bashir, and Abbas (2017), and Vong and Chan (2009). It affects the asset quality measured by *NPLR*, positively. The possible reason may be that the Indian banks are low capitalized and thus have to borrow funds at a higher cost, which reduces their *NIM* and hence declines the performance.

5.2. Ownership effect

The mode of selection of the directors in the public and private sector banks is different. More autonomy has been given to the private sector banks in appointing the board directors, which is reflected in their board structure and ultimately on their performance.

The directors on the public sector banks include the Government official nominee director and RBI nominee directors appointed under Sec. 9(3)(b) and Sec. 9(3)(c) of the Banking Companies (Acquisition and Transfer of Undertakings) Act, 1970, respectively. A part-time non-official Chartered Accountant director, under Sec. 9(3)(g) of the Banking Companies (Acquisition and Transfer of Undertakings) Act, 1970, is also appointed by the central government on the board of the public sector banks. Additionally, the directors on the boards of public sector banks are appointed according to the fit and proper criteria issued by the Reserve Bank of India. Fit and proper criteria prohibit the appointment of a board member of any bank, financial institution, insurance company, or bank holding company as the director of the public sector banks. Additionally, the director should not have served on the board of the bank, financial institution, and insurance company for at least six years. Therefore, we assume that the role of the board of directors varies across the types of banks classified on the basis of ownership.

Table A.1 (see Appendix) shows the results for the impact of various board characteristics on public and private sector banks. The larger board size lowers the public and private banks' performance. The non-executive directors (OUT) are beneficial for the banks and enhances their performance (Sarkar & Sarkar, 2018). The presence of the female directors is not contributing to the higher performance, which might be possible due to their low representation on the board. The impact of government official nominee directors and the RBI nominee director leads to the decline in the performance of the public sector banks and is also consistent with the findings of the whole sample results. The higher multiple directorships held by the non-executive directors (*BUSYOUT*) makes them undermine their responsibilities and thus lowers the performance of the Indian banks. The results related to other firm-specific control variables are consistent with the whole sample results.

5.3. Size effect

The responsibilities of the board of directors may be more extensive and challenging and may vary depending upon the size of the banks, its complexity, the scope of operations, and risk profile. Large banks may have a broad range of business models, structures, and practices. Boards are expected to carefully evaluate the compensation practices of the large banks to assure that they reinforce positive incentives and discourage unwanted risk-taking. Banks as financial institutions should be strong enough to support economic growth by lending through the economic cycle. To achieve that goal, we need strong and effective boards of directors at firms of all sizes.

Therefore, we expect that the effect of board characteristics would differ in banks with different magnitude. Besides, large banks may face stringent regulatory requirements and are under the scanner of regulatory bodies. Hence, based on the size in terms of total assets, we divide our sample into two groups, i.e., large and small. To explain the variation in performance, we define large banks as banks whose total assets are in the above tercile of the sample banks in that particular year and whose total assets are in the lower tercile as small banks.

Table A.2 shows the results for the impact of various board characteristics on large and small banks. The larger board size enhances the performance of the small banks. The holding of a higher number of board meetings in a financial year lowers the performance of the large banks. The presence of female directors, government official nominee directors, and the RBI nominee directors are detrimental to the performance of both small and large banks. The higher multiple directorships held by the non-executive directors (*BUSYOUT*) and executive directors (*BUSYINSIDE*) make them undermine their responsibilities and thus lowers the performance of the Indian banks, which is consistent with the findings of the whole sample results. They also contribute to the higher *NPA* in large banks. The results related to other firm-specific control variables are consistent with the whole sample results.

5.4. Capitalization effect

The capital adequacy ratio measures the stability of commercial banks. The performance of stable banks is always better than relatively unstable banks due to better risk management, and loss-absorbing capacity. Therefore, capitalization of the banks may have a link with the lending activities and also the profitability. It can also be hypothesized that the stability of the banks has different implications in determining bank performance as the probability of failure is less for stable banks. It is expected that the board of directors in the low-capitalized banks should be more vigilant. Therefore, we expect that the impact of different board characteristics may vary across the banks divided on the basis of capital adequacy ratio. For this, we have divided the banks

between the well-capitalized and low-capitalized banks on the basis of the tercile approach. To explain the variation in performance, we define well-capitalized banks as banks whose capital adequacy ratio is in the above tercile of the sample banks in that particular year and whose capital adequacy ratio is in the lower tercile as low-capitalized banks.

Table A.3 shows the results for the impact of various board characteristics on well and low-capitalized banks. The impact of board size is negative on the performance of well-capitalized banks, whereas its effect is positive on the performance of the low-capitalized banks. Convening a large number of board meetings lowers the performance of the well-capitalized banks. The presence of non-executive directors enhances the performance of well-capitalized banks. The presence of the women directors and the government nominee directors are hurting the performance of the well-capitalized banks. The appointment of the RBI nominee directors and the additional assignments undertaken by the non-executive directors contribute to the lower performance of the well-capitalized as well as the low-capitalized banks. The full-time director's busyness is not good for the health of low-capitalized banks. The results related to other firm-specific control variables are consistent with the whole sample results. Overall results show that the board is vital and significant to the performance of the Indian banks.

5.5. Robustness check

The endogeneity is common, as pointed out by Hermalin and Weisbach (1991), which may not be of significant concern in our study. The boards in Indian banks are generally established by the central government in consultation with RBI and are based on certain guidelines and regulatory norms. These external influences are deemed to be exogenous. Additionally, board turnover is low as board members are appointed on the basis of "fit and proper criteria" for a fixed term after which they retire but are eligible for reappointment. The appointment of new directors requires the approval of shareholders and regulatory bodies in private sector banks. Hence, the boards in India are expected to be exogenously determined. According to Tran and Le (2017), we estimate equation (1) using two-step system — GMM (with standard errors, which are reliable in the presence of heteroscedasticity and autocorrelation (Arellano & Bover, 1995; Blundell & Bond, 1998)). The panel data deals with heterogeneity by taking the first differences and hence eliminates the individual effect making the estimations unbiased. It also tackles the problem of endogeneity. Particularly, it includes the lagged independent variables as instruments, which allows for additional instruments by taking advantage of the conditions of orthogonality existing among the lags in explanatory variables (Arellano & Bond, 1991).

Table 6. Board characteristics and bank performance (All banks, GMM estimation)

Board characteristics	ROA	ROE	NIM	Pre-provision profit ratio	NPLR
L1	0.424*** (0.058)	0.163*** (0.044)	0.372*** (0.067)	0.164** (0.053)	0.871*** (0.871)
BS	-0.934*** (0.189)	-14.905*** (3.760)	0.095 (0.074)	-0.041** (0.015)	0.402 (0.402)
BM	-0.199** (0.068)	-3.509** (1.582)	0.0748 (0.045)	-0.009** (0.004)	0.073 (0.172)
OUT	0.003* (0.001)	0.044 (0.039)	0.005*** (0.002)	0.001 (0.001)	-0.005 (0.005)
Female	-0.003** (0.001)	-0.118** (0.058)	0.002 (0.002)	-0.003 (0.002)	0.003 (0.010)
GOV	-0.021* (0.011)	-0.004 (0.459)	-0.008 (0.013)	0.002 (0.003)	0.033 (0.062)
RBI	-0.082** (0.032)	-0.862 (0.589)	0.015 (0.013)	-0.001 (0.001)	-0.007 (0.034)
BUSYOUT	-0.056* (0.030)	-1.897*** (0.501)	0.001 (0.008)	-0.008*** (0.001)	-0.016 (0.075)
BUSYINSIDE	-0.039** (0.014)	-0.908** (0.348)	0.011* (0.005)	-0.004** (0.001)	-0.004 (0.043)
BMINSIDE	0.003** (0.001)	0.027 (0.022)	0.001** (0.0005)	0.006** (0.002)	0.008*** (0.002)
BMOUTSIDE	-0.003* (0.001)	-0.021 (0.036)	0.006 (0.001)	-0.005*** (0.001)	-0.009 (0.007)
FSIZE	-0.681 *** (0.141)	-24.462*** (2.048)	-0.908* ** (0.081)	-0.063*** (0.008)	2.234*** (0.226)
FAGE	1.161 (0.768)	37.967*** (8.279)	3.255*** (0.349)	0.298*** (0.023)	-3.246* (1.734)
DG	0.009*** (0.002)	0.265*** (0.028)	-0.001 (0.007)	0.007*** (0.002)	-0.027*** (0.006)
ETA	-4.158*** (1.154)	-243.934*** (25.355)	-3.095** (1.408)	-0.202* (0.118)	9.336** (3.984)
Constant	6.722** (1.992)	188.962*** (26.249)	-1.325 (1.167)	-0.197** (0.098)	-10.740** (5.333)
Number of observations	216	216	216	216	216
Number of banks	36	36	36	36	36
Wald-test	$\chi^2(15) = 1040.75$ (0.0000)	$\chi^2(15) = 8536.67$ (0.0000)	$\chi^2(15) = 7756.00$ (0.0000)	$\chi^2(15) = 8886.74$ (0.0000)	$\chi^2(15) = 13363.11$ (0.0000)
Sargan test (p-value)	0.1033	0.1555	0.2280	0.1524	0.1544
AB test AR(1) (p-value)	0.1024	0.1004	0.6968	0.1129	0.1011
AB test AR(2) (p-value)	0.3058	0.1201	0.5830	0.1382	0.7875

Notes: The table presents the results of the two-step GMM estimation of regression of all the banks on board variables. Wald test statistics is the test of the model statistical significance. The table reports the regression coefficients, standard errors (in parentheses), number of observations (N).

* Statistical significance at 10% level. ** Statistical significance at 5% level. *** Statistical significance at 1% level.

AR test AR(1) and AR(2) refer to the Arellano-Bond test that average auto covariance in residuals of order 1 respectively of order 2 is 0 (H_0 : No autocorrelation); p-values in brackets. The definition of variables is in Table 1.

We apply the Arellano-Bond test for autocorrelation of the disturbance term $\varepsilon_{i,t}$, Sargan tests for over-identifying restrictions and Wald test for the joint significance of the estimated coefficients for all the variables. We present GMM regression results in Table 6. The results reveal that board size, board meeting, busy outside directors, and RBI directors are negatively related while the board meetings attended by the full-time directors is positively related to bank performance. The overall results of the system estimator indicate that the analysis of board characteristics is relevant to the Indian banking sector and find more or less similar results confirming the results of fixed-effect regression discussed earlier.

6. DISCUSSION

We find that the larger board size leads to lower bank performance which supports our first hypothesis (H1) and does not support resource dependency theory which states that a higher number of directors provides a larger pool of expertise and

hence enhances performance. The overall effect of the frequency of board meetings is insufficient in explaining the performance of all banks, as well as public sector banks and private sector banks, and contradicts the resource dependency theory. The outside directors are beneficial for the banks' performance whereas the female directors are detrimental to the performance. This may be possibly due to low representation at the board of the Indian banks. The regression results show that the presence of the government official directors leads to lower asset quality. RBI nominee directors bear a negative relationship with ROA, ROE, and pre-provision profit ratio of the banks. It supports our hypothesis, which expects that the presence of central government official directors, as well as RBI nominee directors, contribute to a decline in banks' performance (Kouaib & Jarbou, 2016). The busy outside directors lead to the lower performance of the banks. In terms of board meeting attended by inside directors, its impact on NPLR of the banks is positive.

Table 7. Hypothesis verification of results for tested hypotheses

<i>Variables</i>	<i>Measures</i>	<i>Predicted sign</i>	<i>Findings status</i>
<i>BS</i>	Total number of directors on the board	+/-	-
<i>BM</i>	Total number of board meetings held in a financial year	+/-	-
<i>OUT (%)</i>	Percentage of non-executive directors	+	+
<i>Female (%)</i>	Percentage of female directors	+/-	-
<i>GOV (%)</i>	Percentage of government nominee directors	-	-
<i>RBI (%)</i>	Percentage of RBI nominee directors	-	-
<i>BUSYOUT</i>	Average number of directorships held by non-executive directors	+/-	-
<i>BUSYINSIDE</i>	Average number of directorships held by executive directors	+	+
<i>BMOUTSIDE (%)</i>	Percentage of board meetings attended by non-executive directors	+	+
<i>BMINSIDE (%)</i>	Percentage of board meetings attended by executive directors	+	-

7. CONCLUSION

In this study, we try to analyze the role of various board characteristics in thirty-six Indian commercial banks performance banks operating in the Indian banking industry during 2010-2017 using fixed effect panel regression. On investigating the significance level of board characteristics, we find that board size, female directors, RBI directors, and the average number of directorships held by outside directors are inversely related to performance. The central government official directors and RBI nominee directors inversely affect the performance of public sector banks.

The present study has some boundaries that offer prospects for future research. The study is not applicable to the foreign banks as they are operating as the branch office of their parent organization and are not listed in the Indian stock exchanges, hence their data is not available. The study analyses a sample period 2010-2017, hence the long-term effect of the board features can be studied for future researchers by analyzing it for a large time frame. Future researchers may also construct an index to measure the effect of the presence of potential substitutes and the complementary impact of various governance practices as advised by Larcker, Richardson, and Tuna (2007).

The exploratory results from this study add to the existing literature on corporate governance in emerging economies. The findings have significant implications for the board and policy regulators in India. The policy regulator should revisit their decision regarding the appointment of the central

government official nominee directors and the RBI nominee directors on the board of the public sector banks and further reduce the board size for their enhanced performance. The multiple directorships is a compulsion in the Indian banking sector due to the short supply in the executives' labor market, but it is affecting the banks' health adversely as they are not able to effectively supervise the banks because of over-commitment and reduced time for effective deliberations. Hence, keeping in mind the poor performance of the Indian banks, the regulatory bodies may reconsider the limit of the number of directorships to be held by the executive and non-executive directors. The pay packet of the executive directors in the public sector banks should be at par with the market standards, and the number of directorships should be kept at a minimum level or be completely terminated in the near future. The sitting fee, as well as the share in the profits of the banks, should be increased for the non-executive directors so that they may be more committed to the enhanced performance of the banks. The results indicate that the regulatory changes based on Western corporate governance practices are applicable to emerging economies. Some variations exist at least in the Indian banking sector, as evident from our study, as the multiple directorships and female directors are considered to be positively associated with the performance but fail in the context of the Indian banks which evidence that resource dependency theory enshrines some unique features in emerging economies. Overall results suggest that various board features affect the banks' performance.

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APPENDIX

Table A.1. Board characteristics and bank performance

Board characteristics	Public sector banks					Private sector banks				
	ROA	ROE	NIM	PPR	NPLR	ROA	ROE	NIM	PPR	NPLR
BS	-0.179 (0.068)**	-7.550 (7.516)	0.203 (0.334)	-0.053** (0.026)	1.944 (1.307)	-0.649** (0.336)	-9.666** (5.014)	0.605 (0.388)	-0.035 (0.032)	-0.087 (0.747)
BM	-0.109 (0.213)	-3.812 (4.361)	0.095 (0.193)	-0.014 (0.154)	0.599 (0.758)	-0.267 (0.215)	-4.594 (3.216)	0.215 (0.248)	0.005 (0.020)	0.594 (0.479)
OUT	0.007 (0.003)**	0.051 (0.019)**	0.007 (0.004)	0.0001 (0.0003)	-0.007 (0.017)	0.007 (0.003)**	0.004 (0.001)**	0.0005 (0.007)	-0.0005 (0.0005)	0.002 (0.013)
Female	-0.009* (0.005)	-0.152 (0.118)	-0.0004 (0.005)	-0.0004 (0.0004)	0.031** (0.020)	-0.008 (0.010)	-0.234 (0.149)	0.017 (0.011)	-0.002** (0.0009)	0.031 (0.022)
GOV	-0.082** (0.031)	-1.466** (0.635)	-0.038 (0.028)	-0.005** (0.002)	0.418 (0.110)	0.069 (0.082)	0.186 (1.234)	0.132 (0.095)	0.001 (0.007)	0.074 (0.184)
RBI	0.021 (0.020)	0.464 (0.424)	-0.033* (0.018)	0.0005 (0.001)	-0.071 (0.073)	-0.152 (0.120)	-0.020 (0.306)	-0.005 (0.023)	-0.005 (0.004)	0.084 (0.045)
BUSYOUT	-0.102** (0.047)	-1.528 (0.977)	0.023 (0.043)	-0.002 (0.003)	0.215 (0.170)	-0.005 (0.031)	-0.241 (0.465)	-0.100** (0.036)	-0.005* (0.002)	-0.064 (0.069)
BUSYINSIDE	0.038 (0.030)	0.736 (0.613)	0.009 (0.027)	-0.0007 (0.002)	-0.120 (0.106)	0.108 (0.083)	2.009 (1.241)	-0.169* (0.096)	-0.011 (0.007)	-0.167 (0.185)
BMINSIDE	-0.003 (0.005)	-0.083 (0.102)	-0.0006 (0.004)	-0.0002 (0.0003)	0.021 (0.017)	0.003 (0.003)	0.029 (0.048)	0.002 (0.003)	0.0004 (0.0003)	0.004 (0.007)
BMOUTSIDE	-0.002 (0.003)	-0.046 (0.062)	-0.001 (0.002)	-0.0009 (0.002)	-0.00009 (0.010)	-0.004 (0.003)	-0.086* (0.048)	0.00007 (0.003)	-0.0005* (0.0003)	-0.009 (0.007)
FSIZE	-0.114*** (0.0293)	-10.858* (5.979)	-0.368 (0.265)	-0.083*** (0.021)	0.224 (1.040)	-0.385* (0.203)	-5.358* (3.037)	0.311 (0.235)	-0.039** (0.019)	0.891* (0.453)
FAGE	-15.479** (3.176)	-2.629*** (0.739)	-1.476 (2.878)	0.247 (0.228)	67.322*** (11.263)	1.015* (0.561)	13.219 (8.369)	-1.386** (0.647)	0.085 (0.053)	-0.917 (1.248)
DG	0.009 (0.003)	0.155** (0.062)	0.007** (0.002)	0.0005** (0.0002)	-0.026** (0.010)	0.007** (0.002)	0.171*** (0.042)	-0.007** (0.003)	0.0005** (0.0002)	-0.010* (0.006)
ETA	-1.568*** (3.968)	-168.472** (80.881)	-0.020 (3.596)	-0.151 (0.285)	43.412** (14.071)	-7.934*** (1.863)	-79.941** (27.762)	1.314 (2.149)	-0.305* (0.178)	11.283** (4.140)
Constant	72.947 (10.935)	1328.252*** (222.85)	12.586 (9.909)	0.329 (0.787)	-31.661*** (3.772)	4.556** (1.958)	68.269** (29.176)	3.359 (2.258)	0.442** (0.187)	-6.256 (4.351)
LM Test	$\chi^2(1) = 5.90$ (0.0076)	$\chi^2(1) = 8.30$ (0.0021)	$\chi^2(1) = 48.92$ (0.0000)	$\chi^2(1) = 44.33$ (0.0000)	$\chi^2(1) = 8.67$ (0.0016)	$\chi^2(1) = 0.00$ (0.0031)	$\chi^2(1) = 0.00$ (0.0026)	$\chi^2(1) = 8.00$ (0.0000)	$\chi^2(1) = 0.00$ (0.0000)	$\chi^2(1) = 0.00$ (0.0000)
Hausman test	$\chi^2(14) = 241.95$ (0.0000)	$\chi^2(14) = 116.20$ (0.0000)	$\chi^2(14) = 22.41$ (0.0004)	$\chi^2(14) = 72.06$ (0.0000)	$\chi^2(14) = 211.77$ (0.0034)	$\chi^2(14) = 344.23$ (0.0002)	$\chi^2(14) = 23.05$ (0.0094)	$\chi^2(14) = 27.36$ (0.0005)	$\chi^2(14) = 28.63$ (0.0117)	$\chi^2(14) = 3.54$ (0.0076)
F-test	F (20,133) = 7.62 (0.0000)	F (20,133) = 7.88 (0.0000)	F (20,133) = 7.58 (0.0000)	F (20,33) = 12.62 (0.0000)	F (20,133) = 9.27 (0.0000)	F (14,91) = 11.58 (0.0000)	F (14,91) = 8.73 (0.0000)	F (14,91) = 8.30 (0.0000)	F (14,91) = 13.42 (0.0000)	F (14,91) = 3.39 (0.0002)
N	168	168	168	168	168	120	120	120	120	120
Adj. R ²	0.0059	0.0001	0.0044	0.0065	0.0009	0.0194	0.0004	0.1462	0.4134	0.0073

Notes: The table shows the regression results of public sector banks and private sector banks on different board variables. The table reports the regression coefficients, standard errors (in parentheses), number of observations (N), and adjusted R².

* Statistical significance at 10% level. ** Statistical significance at 5% level. *** Statistical significance at 1% level. The definition of variables is in Table 1.

Table A.2. Board characteristics and bank performance

Board characteristics	Large banks					Small banks				
	ROA	ROE	NIM	PPR	NPLR	ROA	ROE	NIM	PPR	NPLR
BS	-0.334 (0.306)	-0.619 (5.545)	-0.071 (0.352)	0.023 (0.029)	1.591 (1.176)	1.065** (0.387)	15.953** (5.256)	1.130** (0.353)	0.148*** (0.037)	-1.891** (0.739)
BM	-0.359* (0.201)	-4.683 (3.648)	-0.564** (0.231)	0.023 (0.019)	1.850** (0.773)	-0.070 (0.283)	-4.208 (3.846)	-0.003(0.258)	-0.014 (0.027)	0.756 (0.541)
OUT	0.009 (0.006)	0.070 (0.125)	0.003 (0.007)	0.001** (0.0006)	-0.024 (0.026)	0.002 (0.007)	0.176* (0.099)	0.005 (0.006)	0.0001 (0.0007)	0.022 (0.013)
Female	-0.005 (0.002)**	-0.033 (0.140)	-0.003 (0.008)	0.0007 (0.001)	0.017 (0.029)	-0.023 (0.019)	-0.305 (0.260)	-0.029* (0.017)	-0.001(0.001)	-0.018 (0.036)
GOV	-0.003 (0.018)	-0.165 (0.330)	-0.101*** (0.020)	-0.0002 (0.0009)	0.077 (0.700)	-0.030 (0.027)	-0.225 (0.368)	-0.074** (0.024)	0.0004 (0.002)	0.136** (0.051)
RBI	-0.018* (0.010)	-0.505** (0.182)	-0.031** (0.011)	-0.001 (0.003)	0.046 (0.038)	-0.048** (0.016)	-0.561** (0.219)	-0.046** (0.014)	-0.005** (0.001)	0.129*** (0.030)
BUSYOUT	-0.062* (0.036)	-1.206** (0.667)	0.025 (0.042)	-0.0008 (0.003)	0.334** (0.141)	0.028 (0.052)	-0.476 (0.718)	-0.041 (0.048)	0.0004 (0.005)	-0.150 (0.100)
BUSYINSIDE	0.030 (0.023)	-0.828* (0.419)	-0.066** (0.026)	-0.0007 (0.002)	0.251** (0.088)	0.027 (0.078)	-0.594 (1.066)	-0.185** (0.071)	-0.0007 (0.007)	0.021 (0.149)
BMINSIDE	-0.0001 (0.004)	-0.007 (0.086)	0.006 (0.005)	0.0009** (0.0004)	0.009 (0.018)	-0.0009 (0.005)	-0.041 (0.078)	-0.005 (0.005)	-0.0007 (0.0005)	0.013 (0.010)
BMOUTSIDE	-0.001 (0.003)	-0.004 (0.060)	0.001 (0.003)	-0.0001 (0.0003)	0.009 (0.012)	-0.007 (0.005)	-0.092 (0.075)	-0.001 (0.005)	-0.0009* (0.0005)	0.004 (0.010)
FSIZE	-0.324** (0.120)	-4.669** (2.171)	0.427** (0.137)	0.001 (0.011)	1.255** (0.460)	0.233 (0.207)	3.606 (2.818)	-0.101 (0.189)	-0.048** (0.020)	0.149 (0.396)
FAGE	0.426** (0.178)	0.726 (3.233)	-0.294 (0.205)	0.053** (0.017)	-0.607 (0.685)	-0.056 (0.211)	1.488 (2.874)	-0.462** (0.193)	-0.022 (0.020)	-0.177 (0.404)
DG	0.026*** (0.006)	0.425*** (0.109)	0.012* (0.006)	0.001** (0.0005)	-0.069** (0.023)	0.015** (0.006)	0.275** (0.082)	-0.013** (0.005)	0.0006 (0.0005)	-0.01 (6(0.011))
ETA	-20.945*** (3.745)	-320.875*** (67.671)	1.212 (4.296)	-1.420*** (0.359)	69.256*** (14.352)	-3.181 (1.927)	-44.575* (26.156)	0.111 (1.761)	-0.211 (0.185)	10.915** (3.678)
Constant	7.741*** (1.927)	88.358** (34.822)	-1.749 (2.210)	0.441** (0.185)	-26.306** (7.385)	-3.166 (3.225)	-62.646 (43.783)	5.289* (2.947)	-0.402 (0.310)	3.146 (6.158)
LM Test	$\chi^2(1) = 35.09$ (0.0000)	$\chi^2(1) = 7.29$ (0.0017)	$\chi^2(1) = 98.99$ (0.0000)	$\chi^2(1) = 47.67$ (0.0039)	$\chi^2(1) = 67.89$ (0.0172)	$\chi^2(1) = 34.54$ (0.0000)	$\chi^2(1) = 32.87$ (0.0000)	$\chi^2(1) = 35.71$ (0.0000)	$\chi^2(1) = 31.19$ (0.0000)	$\chi^2(1) = 43.23$ (0.0000)
Hausman test	$\chi^2(14) = 4.81$ (0.0012)	$\chi^2(14) = 36.39$ (0.0009)	$\chi^2(14) = -5.69$ (0.0346)	$\chi^2(14) = 9.16$ (0.0206)	$\chi^2(14) = 14.85$ (0.0312)	$\chi^2(14) = 1.49$ (0.0021)	$\chi^2(14) = 2.24$ (0.0099)	$\chi^2(14) = 14.22$ (0.0043)	$\chi^2(14) = 70.37$ (0.0000)	$\chi^2(14) = 5.55$ (0.0097)
F-test	F (7,74) = 5.31 (0.0001)	F (7,74) = 8.25 (0.0000)	F (7,74) = 2.67 (0.0159)	F (7,74) = 1.31 (0.0596)	F (7,74) = 4.94 (0.0001)	F (7,74) = 0.36 (0.0224)	F (7,74) = 1.28 (0.0701)	F (7,74) = 1.44 (0.0027)	F (7,74) = 2.16 (0.0479)	F (7,74) = 3.34 (0.0038)
N	96	96	96	96	96	96	96	96	96	96
Adj. R ²	0.7421	0.5420	0.6656	0.7889	0.6708	0.5626	0.5315	0.5154	0.5134	0.5806

Notes: The table shows the regression results of large banks and small banks on different board variables. We define large banks as banks whose total assets are in the above tercile of the sample banks in that particular year, and in the lower tercile as small banks. The table reports the regression coefficients, standard errors (in parentheses), number of observations (N), and adjusted R². The definition of variables is in Table 1.

* Statistical significance at the 10% level. ** Statistical significance at 5% level. *** Statistical significance at 1% level.

Table A.3. Board characteristics and bank performance

Board characteristics	Well capitalized banks					Low Capitalized banks				
	ROA	ROE	NIM	PPR	NPLR	ROA	ROE	NIM	PPR	NPLR
BS	-0.510** (0.261)	-5.707 (3.796)	0.112 (0.428)	-0.047* (0.025)	0.555 (0.595)	0.681* (0.396)	12.975* (6.929)	1.229** (0.347)	0.094** (0.033)	-0.964 (1.246)
BM	-0.018* (0.148)	-2.533 (2.153)	0.242 (0.242)	-0.0006 (0.014)	0.689** (0.337)	-0.282 (0.328)	-1.989 (5.741)	-0.282 (0.287)	-0.016 (0.027)	1.345 (1.032)
OUT	0.001 (0.004)	0.219*** (0.059)	0.023** (0.006)	0.0008** (0.0004)	-0.028** (0.009)	0.003 (0.006)	0.030 (0.109)	0.002 (0.005)	0.0002 (0.0005)	-0.012 (0.019)
Female	-0.021** (0.008)	-0.285** (0.117)	0.023* (0.0132)	-0.0004 (0.0008)	0.034* (0.018)	0.004 (0.009)	0.077 (0.171)	0.0003 (0.008)	0.0001 (0.0008)	-0.043 (0.030)
GOV	-0.005 (0.014)	-0.069 (0.213)	-0.142*** (0.024)	-0.0008 (0.001)	0.048 (0.033)	-0.012 (0.022)	-0.209 (0.392)	-0.029 (0.019)	-0.0007 (0.001)	0.099 (0.070)
RBI	-0.041** (0.016)	-0.407* (0.235)	0.004 (0.026)	-0.004** (0.001)	0.126** (0.036)	-0.002 (0.011)	-0.006 (0.199)	-0.0009 (0.010)	-0.0002** (0.0001)	0.013 (0.035)
BUSYOUT	-0.084** (0.032)	-0.435 (0.471)	-0.128** (0.053)	-0.008** (0.001)	0.037 (0.073)	-0.092* (0.051)	-2.326** (0.905)	-0.083* (0.045)	-0.011** (0.004)	0.018 (0.162)
BUSYINSIDE	0.020 (0.020)	0.338 (0.297)	0.001 (0.033)	-0.002 (0.003)	-0.070 (0.046)	-0.024 (0.058)	0.144 (1.029)	0.121** (0.051)	-0.010** (0.004)	0.066 (0.185)
BMINSIDE	-0.007* (0.003)	-0.134** (0.057)	-0.0007 (0.006)	-0.0005 (0.002)	0.001 (0.009)	-0.004 (0.005)	-0.091 (0.103)	-0.0008 (0.005)	-0.0001 (0.0005)	0.006 (0.018)
BMOUTSIDE	-0.0001 (0.002)	-0.001 (0.040)	-0.002 (0.004)	-0.00008 (0.0003)	-0.018 **(0.006)	-0.009 (0.006)	-0.125 (0.115)	-0.005 (0.005)	-0.0003 (0.0005)	-0.021 (0.020)
FSIZE	-0.141* (0.074)	-0.160 (1.076)	-0.043 (0.121)	-0.011 (0.0002)	0.324* (0.168)	-0.065 (0.118)	-1.168 (2.077)	-0.042 (0.104)	-0.024** (0.010)	0.276 (0.373)
FAGE	0.268** (0.091)	0.346 (1.326)	0.118 (0.149)	0.021** (0.007)	-0.179 (0.208)	0.258 (0.289)	3.789 (5.046)	0.236 (0.253)	0.037 (0.024)	-1.404 (0.907)
DG	0.008** (0.003)	0.159** (0.047)	0.005 (0.005)	0.0002 (0.009)	-0.019** (0.007)	0.019** (0.006)	0.295** (0.108)	0.011** (0.005)	0.0009* (0.0005)	-0.041** (0.019)
ETA	-5.755*** (1.113)	-68.434*** (16.165)	-1.382 (1.823)	-0.437*** (0.0003)	1.957 (2.535)	-1.795 (2.934)	-52.500 (51.244)	-3.417 (2.569)	-0.601** (0.248)	4.964 (9.214)
Constant	1.864 (1.164)	21.723 (16.898)	5.296** (1.905)	0.079 (0.111)	8.312** (2.650)	-1.603 (2.112)	-13.422 (36.881)	-0.358 (1.849)	-0.168 (0.178)	3.180 (6.632)
LM test	$\chi^2(1) = 12.43$ (0.0000)	$\chi^2(1) = 14.23$ (0.0000)	$\chi^2(1) = 18.34$ (0.0000)	$\chi^2(1) = 17.34$ (0.0000)	$\chi^2(1) = 25.43$ (0.0000)	$\chi^2(1) = 37.43$ (0.0000)	$\chi^2(1) = 29.83$ (0.0000)	$\chi^2(1) = 34.43$ (0.0000)	$\chi^2(1) = 42.21$ (0.0000)	$\chi^2(1) = 32.97$ (0.0000)
Hausman test	$\chi^2(14) = 60.83$ (0.0000)	$\chi^2(14) = 46.88$ (0.0000)	$\chi^2(14) = 10.92$ (0.0092)	$\chi^2(14) = 658.7$ (0.0000)	$\chi^2(14) = 31.01$ (0.0000)	$\chi^2(14) = 55.63$ (0.0000)	$\chi^2(14) = 36.89$ (0.0000)	$\chi^2(14) = 29.53$ (0.0000)	$\chi^2(14) = 57.04$ (0.0000)	$\chi^2(14) = 71.76$ (0.0000)
F-test	F (7,74) = 2.89 (0.0101)	F (7,74) = 6.12 (0.0000)	F (7,74) = 1.18 (0.0221)	F (7,74) = 4.85 (0.0002)	F (7,74) = 5.45 (0.0000)	F (7,74) = 7.97 (0.0000)	F (7,74) = 12.70 (0.0000)	F (7,74) = 4.88 (0.0001)	F (7,74) = 5.45 (0.0000)	F (7,74) = 13.00 (0.0000)
N	96	96	96	96	96	96	96	96	96	96
Adj. R ²	0.6602	0.4483	0.5673	0.6945	0.4771	0.2911	0.2599	0.1983	0.5041	0.3261

Notes: The table shows the regression results of well-capitalized banks and low capitalized banks on different board variables. We define well-capitalized banks as banks whose CAR are in the above tercile of the sample banks in that particular year and in the lower tercile as low capitalized banks. The table reports the regression coefficients, standard errors (in parentheses), number of observations (N), and adjusted R². The definition of variables is in Table 1.

* Statistical significance at the 10% level. ** Statistical significance at 5% level. *** Statistical significance at 1% level.