

## Article

# Bank Ownership, Board Characteristics and Performance: Evidence from Commercial Banks in India <sup>†</sup>

Jayati Sarkar and Subrata Sarkar \*

Indira Gandhi Institute of Development Research, A.K. Vaidya Marg, Goregaon (E), Mumbai 400 065, India; jayati@igidr.ac.in

\* Correspondence: ssarkar@igidr.ac.in

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**Abstract:** We study the effect of board governance in state-owned and private banks by undertaking a study of commercial banks in India that has both bank groups. Covering a ten-year period from 2003 to 2012 that witnessed a large number of governance reforms in India, the results of our empirical analysis provide evidence of strong ownership effects with board independence exhibiting a significant positive correlation with the performance of private banks and a significant but negative correlation with the performance of state-owned banks. The effect of CEO duality is negative in state-owned banks where incidence of CEO duality is high. We find that a longer CEO tenure has significant positive effects on bank outcomes with these effects strengthening in the later years of CEO tenure. Our results have governance implications for strengthening the composition of board of directors and CEO tenure especially in state-owned banks.

**Keywords:** banks; regulation; ownership; board of directors; CEO duality; CEO tenure

**JEL Classification:** G21; G28; G32; G34; L32; L33

## 1. Introduction

The role of the board of directors in the governance of financial institutions has come under increasing scrutiny from both policy makers and researchers in the aftermath of the global financial crisis of 2008. Among the multitude of factors that had worked in conjunction to precipitate the crisis was the weak governance of banking institutions, especially with respect to how the board of directors discharged their fiduciary duties (Kirkpatrick 2009; Laeven 2013). Following the financial crisis, the Basel Committee in October 2010 (Basel 2010) issued a set of principles for enhancing corporate governance in banking organizations and highlighted the importance of the board of directors, the qualifications and composition of the board, the importance of monitoring risks at the firm level, board oversight on executive compensation and the board's understanding of the bank's operational structure and risks. Other international efforts at promoting better governance of banks by the board of directors came through the OECD (OECD 2010) and the Walker Review (Walker 2009).

In light of this focus on bank boards, the burgeoning literature that existed on board governance for non-financial corporations<sup>1</sup> began to be extended to financial institutions and a number of studies

<sup>1</sup> For a recent survey of the literature, see Adams et al. (2010).

emerged that analysed the effectiveness of board governance on bank outcomes (see (Haan and Vlahu 2016) for a survey). Noting that financial institutions have peculiarities in terms of their high opaqueness and heavy regulation (Levine 2004; Macey and O'Hara 2003), these studies examined the effect of specific board attributes like board size, board composition, CEO duality, board activity and busyness of directors on bank performance and asset quality (Andres and Vallelado 2008; Adams and Mehran 2012; Liang et al. 2013) while other studies analysed the effect of these attributes on the risk taking and risk management behaviour of banks (Erkens et al. 2012; Aebi et al. 2012; Faleye and Krishnan 2017).

Most of the empirical evidence on board governance in these studies, however, pertain to privately owned banks in developed countries, particularly the US and much less is known on the effectiveness of the board of directors in the governance of banks in countries dominated by state-owned banks. As La Porta et al. (2002) observe, "government ownership of banks is large and pervasive around the world" and this includes both developed and developing countries. There is widespread empirical evidence that state-owned banks are endemically inefficient and a burden on the financial system, with much of the blame for poor performance attributed to the weak governance of state-owned banks (La Porta et al. 2002; Andrews 2005; Cornett et al. 2009). Evidence on board governance in state-owned banks is imperative in view of the well-documented fact that the regulatory and governance frameworks are typically different in state-owned banks by virtue of government ownership so that empirical regularities found in existing governance studies of private banks may not necessarily hold good for state-owned banks.

A comparative assessment of the effectiveness of board governance in state-owned and private banks is additionally important for finding out whether ownership matters in board governance. While a large literature exists on the effect of state ownership and private ownership with respect to non-financial corporations with the weight of evidence somewhat tilted in favour of private ownership (see survey by (Megginson and Netter 2001) and references therein), it is not *a priori* clear as to whether the differences in their performance stem from differences in board governance across types of ownership. To the best of our knowledge, there is not much systematic empirical evidence on this question. Limited research with respect to privately owned non-financial firms does suggest that the monitoring function of the board is contingent on the ownership structure of a firm and may not be equally effective across all types of ownership (Desender et al. 2013). For instance, in firms with concentrated ownership and control where incentives to monitor management are high, the need for independent directors to monitor is likely to be lower as compared to firms with diffused ownership. As Desender et al. (2013) argue with supporting empirical evidence, in firms with concentrated ownership and control, monitoring by owners and that by external board members are substitute governance mechanisms whereas monitoring by dispersed owners of diffusely owned firms and that by external directors on their boards are complements.

Applying this line of argument to state-owned and private sector banks whereby the ownership structure in the former is likely to be more concentrated by virtue of being predominantly in the hands of a single owner namely, the government, the monitoring requirements by board members are likely to be lower as compared to their counterparts in private banks. This can make directors in state-owned banks relatively free to concentrate more on their advising activities compared to directors in private banks. As recent literature show, while increased monitoring increases firm value, these benefits can be outweighed at the margin by lesser time devoted to advising activities on strategic issues (Faleye et al. 2011)<sup>2</sup>. It is in this respect that state-owned banks can reap higher benefits from

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<sup>2</sup> The theoretical underpinnings of this finding stem from the argument that independent directors have competing demands on their time to be devoted to monitoring and advising functions. If greater time is devoted by independent directors to intense monitoring then it adversely impacts their ability to create firm value due to a variety of reasons including cutting down on time for advising activities, weakening the trust between CEOs and independent directors and discouraging the former from sharing strategic information with the latter for their advisory activities (Holmstrom 2005; Adams and Ferreira 2007).

better governance as compared to their private sector counterparts as more time can be devoted by independent directors of the former to advising activities. On the other hand, one can argue that the benefits at the margin that can be reaped from advising is likely to be less in state-owned entities as compared to their private sector counterparts owing to lower clarity in the strategic objectives of the former as compared to the latter. State-owned enterprises typically have multiple goals and policy ambiguity, apart from the fact that there are multiple decision makers at the level of the government with conflicting political and economic agenda as well as multiple constituents that they serve (Ring and Perry 1985; Shleifer and Vishny 1994). As La Porta et al. (2002) observe in the context of government owned banks, bank ownership enables it to pursue both developmental and political goals. This is in contrast with the single economic goal of shareholder value maximization pursued by private sector banks. Thus, independent directors in state-owned banks are likely to have much less clarity and scope in their advisory role as compared to private banks so that for every unit decrease in monitoring effort, the marginal returns from advising may be higher in the case of private banks. On the balance therefore, even if we assume that the regulatory environment for state-owned and private banks is the same, the value creating ability of board members can be expected to differ by ownership groups, although it is not *a priori* evident whether the benefits of less monitoring by the board in state-owned banks with more time to advising activities would outweigh the benefits reaped from more effective advising in private banks or *vice-versa*.

In view of the above, the objective of this paper is to study the role of board governance in state-owned and private banks and examine if this role varies across ownership groups. We do so by undertaking a study of the commercial banks in India, the country with the second largest number of commercial banks in the world after the US. However, unlike the US, which comprises of only private banks, the Indian banking system comprises of both state-owned and private banks. Thus India provides a natural setting to analyse not only the governance of state-owned banks but also to compare if the role of boards varies across different ownership groups. The Indian experience could be instructive for the many emerging economies whose banking systems contain a mix of state-owned and private banks.

In examining the role of the board of directors, we focus on five specific aspects of board governance namely, board size, board independence, CEO duality, nominee directors and CEO tenure. The rationale for focusing on the first three board characteristics comes from the findings of a large literature on board governance that have found these three attributes to be important determinants of bank outcomes (see the studies by (Andres and Vallelado 2008; Adams and Mehran 2012; Erkens et al. 2012; Aebi et al. 2012; Liang et al. 2013; Faleye and Krishnan 2017) cited earlier) while the rationale for focusing on nominee directors and CEO tenure comes the specific institutional characteristics of Indian banking (Sarkar 2004; Nachane et al. 2005; Nayak 2014).

As mentioned earlier and discussed in detail in the next section, the regulatory and legislative provisions for board governance are substantially different between the state-owned and private banks in India. While all banks irrespective of ownership status are regulated by the country's central bank, the Reserve Bank of India (RBI 1949), the state-owned banks are *additionally* regulated by the Government of India (GOI) and are subjected to further restrictions with respect to the constitution and functioning of their boards. Specifically, as compared to private banks, state-owned banks are less empowered both in terms of selecting their board members and appointing their CEOs. In particular, state-owned banks have far less flexibility in choosing their outside directors with the GOI nominating most of them. Similarly, the GOI exercises far greater control on the tenure of CEOs in state-owned banks and have typically subscribed to the advantages of CEO duality by combining the position of chairman and the managing director. In contrast, most private banks have separated the two positions and have full flexibility for deciding the composition of their board and appointing its CEO and chairman.

Going by the vast empirical and theoretical literature on board governance, it is expected that these differences in board governance structures across these two ownership groups are likely to have

different implications for how effectively a bank board performs its monitoring and advisory function. It is also not *a priori* evident that the extensive regulations that state-owned banks are subjected to are necessarily in-optimal. Given the nature and complexity of state-owned banks in terms of their scope and size as compared to private banks, it is theoretically possible that the standard prescriptions that apply to non-financial corporations, or more specifically to private banks, may not be valid in the case of state-owned banks. It is possible that a more independent board may impinge on state-owned bank performance relative to that of private banks or that a CEO with dual position could reap the economies of scope in dealing with state-owned banks.

We carry out our empirical analysis using a sample consisting of all the 25 state-owned banks and the 21 private banks operating in the Indian banking sector covering a period of ten years from 2003 to 2012. The novelty of our study sample is such that it allows for comparison of our findings with those that pertain to state-owned banks such as those in China, as well as with those with respect to private banks such as in the US or Europe. The results of our empirical analysis suggest that while board size plays an insignificant role in determining bank outcomes, board independence and CEO duality play a significant role. Specifically, there is evidence of strong ownership effects with board independence having a significant positive correlation with performance of private banks and a significant but negative correlation with performance of state-owned banks. The effect of CEO duality is negative and is a potential factor for the lower performance of state-owned banks where incidence of CEO duality is high. The analysis with respect to nominee directors shows that presence of these directors has a negative effect on bank outcomes, especially with respect to market valuation, perhaps because the market anticipates them to take conservative decisions. Finally, our analysis with respect to the CEO tenure suggests that longer tenure has significant effects in improving bank outcomes with the marginal effect being stronger for private banks and the positive effects strengthening in the later years of CEO tenure.

The key contribution of our empirical findings, apart from providing insight into the under-researched issue of corporate governance and performance in state-owned banks, is that ownership matters in how different internal governance mechanisms impact bank outcomes. Our results tie in with a growing literature on corporate governance and performance that demonstrate that in the presence of ambiguous empirical results, contextual factors and contingencies, such as ownership, competition and institutional factors could matter in determining the effectiveness of any governance mechanism (Desender et al. 2013; Yang and Zhao 2014; Peng et al. 2007). With regard to bank ownership that provides us with the specific context in this paper, our findings of differential effects of board independence, CEO duality and CEO tenure across ownership groups suggest that the results pertaining to the performance impact of such governance mechanisms on private sector banks cannot be necessarily applied to state-owned banks. The largely negative governance impacts that we find with respect to state-owned banks vis-à-vis their private sector counterparts, provide some indirect evidence that fuzziness of goals, political interference and absence of managerial autonomy—intrinsic characteristics of state-owned banks—can impinge on the effectiveness of independent directors in their advisory role, or the stewardship benefits that can be realized through CEOs in dual positions.

The rest of the paper is organized as follows. Section 2 discusses the institutional structure and governance environment of commercial banks in India. Section 3 discusses the data and methods and presents the descriptive statistics of our sample. The empirical analysis and the results are presented in Sections 4 and 5 concludes the paper.

## 2. Regulatory Structure and Governance Setup of Indian Banks

India has the second largest number of banks among all countries in the world after the US<sup>3</sup>. The banking system in India is dominated by scheduled commercial banks<sup>4</sup> which account for about 95% of total banking operations in the country. As on 31 March 2012, there were 86 scheduled banks in India consisting of 25 state-owned banks<sup>5</sup>, 21 domestic private banks and 40 foreign banks. All the 40 foreign banks operate only as branches of banks that are incorporated outside of India. State-owned banks dominate the Indian banking system accounting for 75% of share of deposits as on 31 March 2012. Notwithstanding this, the importance of the private banks has grown rapidly in the last two decades with their share in deposit increasing from 10% in 1991 to 25% in 2012.

The private banks in India have been, as per convention, classified for reporting purposes and analysis, into old private banks and new private banks. The old private banks are community based banks that have existed over half a century and did not come under the government's nationalization drive of 1970s and 1980. The new private banks on the other hand, were all incorporated in the early 1990's as part of India's banking sector reforms<sup>6</sup>. The old and the new private banks have been *de facto* considered as separate categories primarily because of their structural dissimilarity. While the former are typically small in size, have concentrated family ownership and control and are regionally concentrated, the new private banks are much larger in scale and scope, have dispersed ownership, are professionally managed and are geographically diversified. As the Committee to Review Governance of Boards of Banks in India (Nayak 2014) observed, the corporate governance structures and practices of old private sector banks are distinctly different from those of the new private banks in terms of the control of the concerned community in board constitution and decisions and its influence in strategic matters.

All commercial banks in India are regulated by the RBI under the Banking Regulation Act of 1949. Additionally, all state-owned banks are regulated by the banking division in the Ministry of Finance of the Government of India (GOI) under the Banking Companies (Acquisition and Transfer of Undertakings) Act, 1970; the Bank Nationalization Act, 1980; and the State Bank of India Act, 1955.

The Banking Regulation Act, 1949 contains several provisions that enable the RBI to exercise control over all banks in their composition of the Board of Directors and their appointment of the Chief Executive Officer, referred to as the Chairman and the Managing Director (CMD)<sup>7</sup>. In addition, the RBI exercises direct control through having its own nominee on the board of all state-owned and private banks. Detail examination of the provisions of the Banking Regulation Act shows that apart from having a vital say on the composition of the Board of Directors such as appointing no less than fifty per cent of the total number of directors, requiring directors to pass the 'fit and proper' test and putting term limits of no more than eight years for the CMD or a Whole time director, the RBI has the powers to appoint, reconstitute and remove directors in the "interest of depositors" under the said Act. The RBI has insisted that private banks exercise 'due diligence' in the selection of directors

<sup>3</sup> [https://en.wikipedia.org/wiki/Category:Lists\\_of\\_banks\\_by\\_country](https://en.wikipedia.org/wiki/Category:Lists_of_banks_by_country).

<sup>4</sup> The Indian banking comprises of commercial banks and co-operative banks with commercial banks dominating the quantum of the banking business with a market share of more than 95% at the end of March 2012. Commercial banks in turn comprise of scheduled banks and non-scheduled banks with the former being subject to certain statutory requirements such as minimum paid-up capital. The number of non-scheduled banks has dwindled over the years and stands at four at present with scheduled commercial banks accounting for more than 97% of total commercial banking operations.

<sup>5</sup> At the end of March 2012, the regional rural banks accounted for less than four per cent of total banking business of state-owned banks.

<sup>6</sup> The new private banks were set up post 1991 at the time of liberalization of the Indian economy. These banks have since then grown rapidly compared to the old private banks. As on 31 March 2012, the deposit share of new private banks was 14 percent compared to the combined share of 11 percent of old private banks and foreign banks.

<sup>7</sup> These relate to the Board of Directors, namely the inclusion of persons with professional and other experiences (10-A), the provision to have a whole-time chairman (10-B), the power of the RBI to appoint chairman of a Banking Company (10-BB), the chairman and managing director not to be required to hold qualification shares (10-C), the election of new directors (12-A), the power of RBI to remove managerial and other persons from office (36-AA) and the power of the RBI to appoint additional directors.



based on the 'fit and proper criteria' and has set limits on having family members on bank boards. Notwithstanding these regulatory guidelines, the RBI has given both state-owned and private banks the freedom to design their boards according to their particular operational needs.

In addition to the regulatory control by RBI, state-owned banks are also subjected to additional regulatory controls by the GOI under the Banking Companies (Acquisition and Transfer of Undertakings) Act, 1970; the Bank Nationalization Act, 1980; and the State Bank of India Act, 1955 that substantially influences the way they can design their boards compared to private banks. A close scrutiny of the provisions of these Acts shows that the GOI, being controlling owner, has the exclusive power to appoint the CMD of all state-owned banks, put a Central Government nominee on the board, nominate two directors—one representing the workmen employee and the other an officer employee of a state-owned bank, nominate a director who is a chartered accountant and nominate up to six directors from the general category. In all, there are eight broad categories of directors for which the GOI can appoint a director on the board of a state-owned bank. In addition, the GOI has the power to set the term limit for all whole-time directors including that of the CMD, which it has currently fixed at five years but the appointments are contractual and can be terminated by Government either on reaching retirement age or before five years for other specified reasons<sup>8</sup>. The provisions of the Acts also specify that the position of the CMD will be held by the same person giving rise to CEO duality in all state-owned banks. Finally, there is a critical difference between state-owned and private banks in terms of incentivizing CEOs and directors through market based remuneration packages. While private banks are free to set the remuneration of the directors and can link it with performance subject to being cleared by RBI on a case by case basis, top management salaries including that of the CEO in state-owned banks are set by the government and are not performance linked.

Given the extensive say of the GOI in the constitution and functioning of the boards of state-owned banks, the boards of these banks are much less empowered in decision making compared to private banks and have much less flexibility in constituting as well as incentivizing a board that would fit well with a bank's operational strategy. Additionally, boards of state-owned banks are much larger in size compared to that of private banks due to the appointment of a large number of directors by the GOI from different categories. The tenure of these directors, including that of the CMD is much shorter compared to private banks where many chairmen and managing directors have had and continue to have, tenures well beyond five years. Finally, unlike private banks which have chosen to separate the position of chairman and the position of the managing director, state-owned banks are required to combine these two positions.

The foregoing discussion on the institutional set up and governance structure of commercial banks in India highlights two critical points namely, (i) the extent of regulatory intervention in the design and operation of bank boards is extensive in India supporting the general observation that financial and non-financial companies are different in terms of their governance and (ii) the presence of substantial differences in the design and operational flexibility of boards between state-owned and private banks. Taking note of these two critical observations, in the remainder of the paper we analyse if bank performance depends on bank governance structures as it generally does in non-financial corporations and examine if this relation varies between state-owned and private banks. In light of our discussion on the nature of regulatory interventions, we consider five key board characteristics, namely board size, board independence, CEO duality, presence of nominee directors and CEO tenure to empirically analyse the relation between these governance characteristics and bank performance.

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<sup>8</sup> As the Nayak Committee (Nayak 2014) notes, the chairman and managing director of state-owned banks typically get appointed very close to their retirement age of 60, the tenure of most of the top executives do not exceed two years.

### 3. Data and Methods

#### 3.1. Data

The sample for our analysis consists of all the 46 scheduled commercial banks operating in the Indian banking system<sup>9</sup> and covers the ten-year period from 2003 to 2012. We do not include foreign banks in our analysis as these banks operate only as branches of banks that are incorporated in foreign countries. Our sample banks together accounted for over 90% of the total deposits and total advances of the Indian banking system in 2012. With respect to the sample period, 2003 represents the year when Clause 49 of Listing Agreement that included several corporate governance regulations applicable to listed companies came into effect, while 2012 represents the latest year till which complete data are available on each of the banks at the time of initiation of this study.

Of the 46 banks in our sample, 25 are state-owned banks and 21 are private banks. The private banks in turn consist of 14 old private banks and 7 new private banks. The distinction between old and new private banks is important because of their historical evolution. While the old private banks have existed over the last 50 years and were the smallest banks which escaped the nationalization drive of 1970 and 1980, the new private banks were all incorporated in the early 1990's as part of India's banking sector reforms. These banks are much larger in size, have larger capital base, operate primarily in metropolitan areas and are technologically superior. The new private banks are also more widely held compared to the old private banks that have relatively concentrated ownership structure of. These differences in characteristics and ownership structure can have potentially different effects on bank outcomes, a possibility which we want to investigate in our empirical analysis.

The data for our analysis comes from two sources namely, the Prowess and the Sansco databases. The Prowess database, created by the Centre for Monitoring Indian Economy (CMIE), is a well-recognized data source for many empirical studies on India in the finance and governance literature (Bertrand et al. 2002; Sarkar et al. 2008). We extract from this database information on all financial and stock market variables for the banks in our sample. In particular, we extract information on profitability, productivity, interest income and expenses, asset quality, prudential norms and stock market performance. The Sansco database contains the Annual Reports of all listed companies over a long period of time. The Annual Report of each company in turn contains its Corporate Governance Report (CGR) that is to be filed as per the requirement of the Clause 49 regulations. The CGRs provide detailed information on various corporate governance parameters of a listed company. We use the CGRs to hand collect information on the Board of Director (BOD) of each bank namely, board size, board composition in terms of number of executive and non-executive directors and within the later independent directors, the total number of directorships held by each director, CEO duality, total number of board meetings held and the attendance record of each director in the board meetings and the Annual General Meeting (AGM).

#### 3.2. Empirical Methodology

We examine the question of whether ownership status of banks affects the relationship between board characteristics and bank outcomes by using the following empirical specification namely,

$$\text{bank outcomes}_{(it)} = \alpha + \beta' * \text{board characteristics}_{(it)} + \gamma' * \text{board characteristics}_{(it)} \times \text{ownership dummies}_{(it)} + \delta' * \text{control variables}_{(it)} + \varepsilon_{(it)}$$

where  $i$  represents banks ( $i = 1$  to 46) and  $t$  represents years ( $t = 2003$  to 2012). The coefficients  $\gamma$  on the interaction dummies then capture the differential effect of ownership status on the relation

<sup>9</sup> These banks together accounted for over 90% of the total deposits and total advances of the banking system in 2012.

between board characteristics and bank outcomes. We now describe the variables that we use in our empirical analysis.

### 3.2.1. Dependent Variable: Bank Outcomes

Profitability and asset quality are widely used measures of bank performance as they provide an aggregative view of the borrowing and lending activities of a bank. Following extant literature (Andres and Vallelado 2008; Lin and Zhang 2009; Berger et al. 2010; Liang et al. 2013) we use two measures of bank performance and four measures of asset quality to represent bank outcomes. We use (i) rate of return on assets (*Roa*) and (ii) market to book value ratio (*Mbvr*) to measure bank performance. While *Roa* is an accounting measure that is well suited to capture short run effects of governance structures on bank performance, *Mbvr*, being a market measure, is forward looking and well suited to capture long run effects particularly in cases where the impact of corporate governance structures on bank performance is slow to materialize (Andres and Vallelado 2008; Adams and Mehran 2012).

In addition to these two performance measures we use four measures of asset quality to proxy bank outcomes. Asset quality is the fundamental driver of long run financial stability of banks and is useful for continuous monitoring of banking operation. The link between bank governance and asset quality particularly came into focus following the financial crisis of 2008 as non-performing loans were considered as one of the major factors that precipitated the financial crisis (Reinhart and Rogoff 2010). Accordingly, several studies around that time focused on estimating the effect of corporate governance on asset quality (Grove et al. 2011; Liang et al. 2013; O'Sullivan et al. 2016). In keeping with extant literature (García-Herrero et al. 2009; Liang et al. 2013), we use (i) net non-performing assets to total loans and advances (*Nnpa\_ttladv*); (ii) gross non-performing assets to total loans and advances (*Gnpa\_ttladv*); (iii) addition of net non-performing assets to total loans and advances (*Nnpa\_additn\_ttladv*) and (iv) addition of gross non-performing assets to total loans and advances (*Gnpa\_additn\_ttladv*) as our measures of asset quality. While the first two of these measures capture the quality of the stock of bank assets and proxy for bank's cumulative lending behaviour, the next two are essentially flow measures that capture the quality of its current lending practices.

### 3.2.2. Variables of Interest: Board Characteristics and Ownership Dummies

Our variables of interest consist of four measures of board characteristics namely, board size, board independence, CEO duality and presence of nominee directors, two measures of board quality namely busyness of independent directors and diligence of independent directors and two ownership dummies representing old private banks and new private banks. We examine the effect of CEO tenure separately due to its special importance in India.

With respect to board characteristics, prior literature has demonstrated that board size can be a significant determinant of firm value although the relationship between the two is ambiguous. Theoretically, it is argued that while an increase in board size by bringing in more directors can increase the capacity of boards to monitor, this would also entail higher coordination, communication and decision-making costs that can be avoided with smaller boards (Yermack 1996). Empirical results for non-financial firms are conflicting; at one end, some studies (Yermack 1996; Eisenberg et al. 1998) find a negative association between board size and firm performance, while at the other end, Bhagat and Black (2002) find that the association is sensitive to the performance measure used. In the context of banks too, evidence, though sparse, is ambiguous with Liang et al. (2013) confirming the negative association between board size and performance for Chinese banks using rate of return on assets and rate of return on equity, while Belkhir (2009) finds in the case of US banking companies that larger boards in banks are associated with higher performance. We seek to add to this sparse evidence by considering bank board size as a governance variable of interest, denoted by *Boardsize* and measured as the total number of directors present on the bank's board.

Our second measure of board characteristics is board independence which is one of the most extensively studied board characteristics in the governance literature (Weisbach 1988; Adams 2009).



The need to have independent boards arises from the agency-theoretic premise that if boards exist to monitor shirking or self-dealing by inside management, then outside directors in general and independent directors in particular, should be more effective monitors than are insiders whose interests may be at odds with that of outside shareholders (Weisbach 1988). Independent directors have incentives to promote the interests of shareholders and to be effective monitors in order to protect their reputational capital and to avoid being sued by shareholders (Bhagat et al. 1987; Fama 1980). Further, from a resource dependency perspective, outside directors apart from providing their expertise, can through their interlocks with other companies, generate benefits by helping to bring in needed resources, suppliers and customers to a company (Pfeffer 1972). An alternative view questions the efficacy of independent directors in mitigating managerial opportunism and serving shareholder interests. This viewpoint, rooted in social psychology and behavioural finance argues that independent directors are unlikely to be truly independent of management (for a review, see for example, (Morck 2004; Fink 2006)). Mirroring the theoretical debate, empirical evidence on board independence and firm performance is inconclusive both with respect to non-financial firms (Agrawal and Knoeber 1996; Bhagat and Black 2002; Hermalin and Weisbach 1991), as well as with respect to banks, with some studies finding no effect (e.g., Pi and Timme 1993; Adams and Mehran 2012) and some studies finding a positive effect (Staikouras et al. 2007; Liang et al. 2013). In line with existing literature, we estimate the effect of board independence on bank performance by incorporating a variable *Board Independence* which is measured as the percentage of independent directors present on the bank's board, where an independent director is one who apart from receiving director's remuneration, does not have any material pecuniary relationships or transactions with the company and satisfies all the other conditions listed under Clause 49 of the Listing Agreement.

Our third measure of board characteristics is CEO duality, a situation where the same person occupies the position of CEO and chairman of the board. While the 'stewardship theory' (Donaldson and Davis 1991) suggests that when complete power and authority over a corporation is concentrated in one person as can happen in the presence of CEO duality, this can positively impact corporate performance through clear-cut leadership and facilitation of strategy formulation and implementation. This is opposed to the agency theoretic view (Weisbach 1988) that CEO duality may lead to entrenchment of CEO power that will lead to reduced oversight and create incentives for self-serving actions at the expense of shareholder value. Empirical evidence on CEO duality has been decidedly mixed with respect to non-financial companies, with some studies finding a positive relation (Brickley et al. 1997; Peng et al. 2007) while other studies documenting an insignificant or negative relationship (Larcker et al. 2011; Rechner and Dalton 1991). The evidence with regard to banks is also reportedly mixed; while some studies (Pi and Timme 1993; Pathan 2009) finding a positive relationship between CEO duality and bank performance, while others such as Mishra and Nielsen (2000) and Liang et al. (2013), finding a negative or insignificant relationship between the two. We capture CEO duality by incorporating the dummy variable *Ceo Duality* which equals 1 if the position of CEO and chairman is combined and 0 otherwise.

The fourth measure of board characteristics is the presence of nominee directors on the bank's board, a situation typical of India and many emerging economies. Nominee director are directors nominated by insurance companies, financial institutions and other regulatory bodies in supervisory capacity to serve on bank boards<sup>10</sup>. Our earlier discussion on the trade-offs between monitoring and advising role of directors (Adams and Ferreira 2007; Faleye et al. 2011) suggests that the presence of nominee directors can have significant effects on bank outcomes. In particular, these directors may be more concerned with maintaining asset quality and hence prefer less riskier lending than emphasizing financial performance. Being a specific institutional feature of India, empirical evidence

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<sup>10</sup> Nominee directors are in addition to the independent directors that are appointed by the government by virtue of its equity ownership.

on the effect of nominee directors on bank performance is absent except for some evidence on the specific characteristics that increase the likelihood of banks to appoint nominee directors on their boards (Nachane et al. 2005) and some policy discussions on the desirability of having nominees on bank boards (Nayak 2014). We measure the presence of nominee directors by a dummy variable *Nominee Director* which equals 1 if the board has a nominee director and 0 otherwise.

In addition to these four measures, in consonance with earlier studies, we use two measures to proxy board quality that can impact bank performance, namely (i) busyness of independent directors (*Busy Director*), measured by a dummy variable which equals 1 if board has at least one director holding three or more directorships<sup>11</sup>, capturing the commitment of outside directors (Ferris et al. 2003; Sarkar and Sarkar 2009) and (ii) diligence of independent directors (*Director Attendance*), measured by the percentage of independent directors who attended the annual general meetings, capturing the extent of director participation in the activities of the firm (Carcello et al. 2002; Sarkar et al. 2008).

As discussed in the introduction, while there have been several empirical studies across countries examining the impact of different board characteristics on bank performance, the value addition of our study to this literature lies in the interaction effects of several board characteristics with the ownership characteristics of banks. The two main ownership variables that we use in our analysis for this purpose pertain to our earlier classification of Indian banks into state-owned banks, old private banks and new private banks. In line with this classification we define two dummy variables *Oprivate* which equals 1 for old private banks and 0 otherwise and *Nprivate* which equals 1 for new private banks and 0 otherwise. We then interact these two variables with the board characteristics variables to measure the differential effect of ownership on board governance.

### 3.2.3. Control Variables

Apart from board characteristics and ownership status, other factors can also influence bank outcomes. In the empirical literature it is customary to control for these factors to avoid any spurious relation between the dependent variable and the variables of interest. Following existing literature (Berger et al. 2010; Liang et al. 2013; Faleye and Krishnan 2017) and the unique regulatory requirements of bank lending in India (Sarkar et al. 1998; Bhaumik and Dimova 2004; Yang and Zhao 2014), we use a number of conditioning variables in our regression. These variables include (i) *Log Assets*, measured by the logarithm of total assets, to proxy for bank's market power and other lending characteristics; (ii) *Loans to Assets*, measured by the percentage of loans and advances to total assets, to account for possible differences in business models across banks and (ii) *Priority Sector Lending*, measured by the percentage of priority sector lending to total loans and advances, to proxy for the extent of government intervention in bank lending with potential effects on bank outcomes. In addition to these control variables, we include year specific dummy variables in our regression to account for unobserved time effects that are likely to be present in a changing governance environment. Table 1 gives the list and description of the variables that use in our empirical analysis.

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<sup>11</sup> In using three as the cut-off for busy directors we apply the most conservative definition of busyness that has been used in several US studies. This rule of thumb largely follows the recommendation of the Council of Institutional Investors in the US.

**Table 1.** Variable Names and Description.

Variable Name	Description
<i>Roa</i>	Rate of return on assets: PBDIT to total assets (%)
<i>Mbvr</i>	Market to book value ratio: price to book value of equity (ratio)
<i>Nnpa_ttladv</i>	Net non-performing assets to total loans and advances (%)
<i>Gnpa_ttladv</i>	Gross non-performing assets to total loans and advances (%)
<i>Nnpa_additn_ttladv</i>	Addition of net non-performing assets to total loans and advances (%)
<i>Gnpa_additn_ttladv</i>	Addition of gross non-performing assets to total loans and advances (%)
<i>Boardsize</i>	Board size: number of directors on the board
<i>Board Independence</i>	Board independence: percentage of independent directors on the board
<i>Busy Director</i>	Dummy variable, equals 1 if board has at least one director with three or more directorships
<i>Director Attendance</i>	Percentage of independent directors who attended the AGM
<i>Ceo Duality</i>	Dummy variable, equals 1 if the same person holds the position of CEO and chairman
<i>Nominee Director</i>	Dummy variable, equals 1 if the board has a nominee director
<i>Oprivate</i>	Dummy variable, equals 1 for old private banks
<i>Nprivate</i>	Dummy variable, equals 1 for new private banks
<i>Loans to Assets</i>	Percentage of loans and advances to total assets
<i>Log Assets</i>	Log of total assets
<i>Priority Sector Lending</i>	Percentage of priority sector lending to total loans and advances
<i>Ceo Tenure</i>	Tenure of the chief executive office in years
<i>Trend</i>	Trend variable takes the value 1 for the first year of the sample, 2 for the second year and so on
<i>Nnpa_wrtoffs_ttladv</i>	Write offs of net non-performing assets to total loans and advances (%)
<i>Gnpa_wrtoffs_ttladv</i>	Write offs of gross non-performing assets to total loans and advances (%)
<i>Npa_provsn_ttladv</i>	Provisions for non-performing assets to total loans and advances (%)

The Table presents the names and description of variables used in the empirical analysis.

### 3.3. Descriptive Statistics

Table 2 provides the descriptive statistics of our sample<sup>12</sup>. For better exposition, the descriptive statistics are divided into two parts. Panel A presents the descriptive statistics with respect to the various performance measures and bank characteristics, while Panel B presents the descriptive statistics related to board characteristics.

Panel A of Table 2 shows that both accounting performance (*Roa*) and market performance (*Mbvr*) of the new private banks are much better compared to that of either the state-owned banks or the old private banks, with the mean market to book value ratio (*Mbvr*) of the new private banks being about 2.5 times of that of both the state-owned and old private banks. Between state-owned and old private banks, the latter has higher profitability and market to book value but the difference is much less compared to that for new private sector banks. Statistical tests on the difference of means (*t*-test) and medians (*Wilcoxon rank sum test*) return a significant value for both *Roa* and *Mbvr* between new private banks vis-à-vis state-owned banks and old private banks but only for *Roa* for old private banks vis-à-vis state-owned banks. Similar results hold both in terms of raw comparison and statistical tests in terms of asset quality. The percentage of net and gross non-performing assets to total loans and advances is much lower for the new private banks compared to those of the state-owned and old private banks. In terms of flow variables, addition to both net and gross non-performing assets to total loans and advances is also much smaller for new private banks compared to the other two

<sup>12</sup> While information on financial and stock market variables is relatively complete, data on board characteristics are missing due to non-filing of corporate governance reports by some banks especially in the early years of our sample. Accordingly, although we have potentially 460 bank year observations (46 banks  $\times$  10 years), our sample is an unbalanced panel of 267 bank-year observations.

ownership groups. Between state-owned and old private banks, though the measures of asset quality of old private banks are, on average, better compared to that of state-owned banks, these differences are not statistically significant except for addition to gross non-performing assets to total advances. Finally, Panel A of Table 2 shows that the state-owned banks, on an average, have higher loans to assets compared to both old and new private banks, are the biggest in size, followed by the new private banks and the old private banks and lend a much higher proportion to the priority sector compare to the new private banks and a marginally higher proportion compared to the old private banks.

**Table 2.** Summary Statistics of Bank Performance Measures and Bank Characteristics.

		Ownership Groups			
		State-Owned	Old Private	New Private	All
<u>Panel A: Bank Outcomes and Bank Characteristics</u>					
<i>Roa</i>	Mean	1.00	1.11	1.29	1.09
	Median	1.01	1.15	1.45	1.10
<i>Mbvr</i>	Mean	1.13	1.24	3.06	1.58
	Median	1.09	1.28	2.87	1.26
<i>Nnpa_ttladv</i>	Mean	1.28	1.19	0.91	1.18
	Median	1.07	1.07	0.61	0.96
<i>Gnpa_ttladv</i>	Mean	3.30	3.34	2.30	3.09
	Median	2.50	2.54	1.57	2.36
<i>Nnpa_additn_ttladv</i>	Mean	1.06	1.12	0.67	0.98
	Median	0.98	1.10	0.47	0.86
<i>Gnpa_additn_ttladv</i>	Mean	1.94	1.63	1.78	1.84
	Median	1.75	1.54	1.27	1.62
<i>Loans to Assets</i>	Mean	58.28	56.99	54.27	57.12
	Median	59.92	58.09	55.97	58.32
<i>Log Assets</i>	Mean	13.84	12.35	13.20	13.39
	Median	13.79	12.34	13.15	13.38
<i>Priority Sector Lending</i>	Mean	37.27	36.50	34.77	36.56
	Median	37.01	37.99	34.88	36.69
<u>Panel B: Board Characteristics</u>					
<i>Boardsize</i>	Mean	8.08	9.95	11.14	9.14
	Median	8.00	10.00	11.00	9.00
<i>Board Independence</i>	Mean	54.79	68.29	64.70	59.76
	Median	58.33	75.00	66.67	62.50
<i>Busy Director</i>	Mean	0.55	0.71	1.00	0.68
	Median	1.00	1.00	1.00	1.00
<i>Director Attendance</i>	Mean	43.04	81.97	63.34	57.53
	Median	50.00	84.52	60.00	60.00
<i>Ceo Duality</i>	Mean	0.90	0.51	0.12	0.64
	Median	1.00	1.00	0.00	1.00
<i>Nominee Director</i>	Mean	0.98	0.11	0.27	0.64
	Median	1.00	0.00	0.00	1.00
<i>Sample Size *</i>	N	153	55	59	267

The Table gives the means and medians of variables used in the empirical analysis. Variable names and descriptions are given in Table 1. Statistical tests for difference of means and medians for each variable using the *t*-test and the Wilcoxon rank sum test, respectively, for (i) new private banks vis-à-vis state-owned banks; (ii) new private banks vis-à-vis old private banks and (iii) old private banks vis-à-vis state-owned banks, show the differences are significant for all variables for (i) and (ii) and for *Roa*, *Gnpa\_additn\_ttladv*, *Loans to Assets*, *Log Assets* and all board characteristic variables for (iii). \* Except for the variable *Director Attendance* which has 42 missing values.

Panel B of Table 2 shows that there is considerable variation in board size as well as board composition among the three ownership groups. The board size for the new private banks (11 members) is higher compared to the old private banks (10 members) and even higher compared to that of state-owned banks (8 members). Board independence is also much higher for the new private banks (64%) compared to that for the state-owned banks (55%), though board independence is the highest for the old private banks (68%). Again, these differences are all statistically significant in terms of both the *t*-test and *Wilcoxon rank sum test*. In contrast, the Table shows that CEO duality is the highest in state-owned banks, with 90% of these banks combining the posts of CEO and chairman compared to 51% in old private banks and only 12% in new private banks. In terms of presence of nominee directors which is typical of India and many other emerging economies, again the descriptive statistics show that almost all the state-owned banks (98%) had a nominee director on board while such directors were present in only about one thirds (27%) of the bank boards in new private banks and about one tenths (11%) of old private sector banks. Finally, the last two rows of Table 2 show that the incidence of busy boards (i.e. boards with at least one a director with three or more directorships) was the highest for new private sector banks with all these banks having at least one busy director, compared to about three-fourths (71%) in old private banks and about half for state-owned banks (55%). In terms of diligence, only about two-fifths of the directors in state-owned banks attended the annual general meeting (43%) compared to three-fifths (63%) in new private banks and four-fifths (82%) in old private banks.

#### 4. Regression Results

The descriptive statistics presented in Table 2 suggest that bank outcomes differ significantly across ownership groups. At the same time the descriptive statistics also suggest that bank governance structures like board size, board composition, CEO duality, presence of nominee directors, busyness and diligence of independent directors also vary significantly across ownership groups. The question, therefore, is, does bank governance structures correlate statistically with bank outcomes? While the descriptive statistics suggest so, these provide only a univariate analysis of the importance of the various governance structures. A regression analysis within a multivariate setup can throw important light on the marginal contribution of each governance mechanism especially in the presence of other complementary or substitute governance mechanisms. In this section we explore the main questions of our analysis within the regression framework.

##### 4.1. Baseline Regression

To begin with we first verify if the differences in bank outcomes across ownership groups reported in Table 2 are statistically significant. For this we run a regression of bank outcomes on the two ownership dummy variables *Oprivate* (dummy for old private banks) and *Nprivate* (dummy for new private banks), with the state-owned banks acting as the control group. Accordingly, the coefficients on these two dummy variables measure the difference in outcome for each of these groups from that of state-owned banks. We use bank size (*Log Assets*) and priority sector lending (*Priority Sector Lending*) and year fixed effects as control variables.

The results of this regression are reported in Table 3. The results show that the coefficients on the two dummy variables are positive and highly significant in both the financial performance regressions and negative and significant in most of the asset quality regressions. The rate of return on assets is higher by 31 basis points for old private sector banks and 41 basis points for new private sector banks, while market to book value is higher by about 40 basis points for old private banks and 215 basis points for new private banks (given the mean values in Table 2). In terms of asset quality, while the differences between state-owned and old private banks is significant only for addition to gross



non-performing assets, all measures of asset quality are higher<sup>13</sup> for new private banks compared to that of state-owned banks varying between 30 and 80 basis points. Apart from their statistical significance, these differences are economically large given the level of these variables as reported in Table 2. The baseline regressions confirm our earlier univariate findings that in general, the new private banks fare much better than both the state-owned and old private banks. However, the relatively weak dominance of old private banks over state-owned banks that we found in the univariate results in Table 2 becomes somewhat stronger when we use a multivariate framework and control for other factors. The results of these regressions thus suggest that bank outcomes indeed differ statistically among ownership groups leading us to explore if bank specific governance structures can explain these differences.

**Table 3.** Bank Ownership and Performance.

	Dependent Variable					
	Financial Performance		Asset Quality			
	<i>Roa</i>	<i>Mbvr</i>	<i>Nnpa_ttladv</i>	<i>Gnpa_ttladv</i>	<i>Nnpa_additn_ttladv</i>	<i>Gnpa_additn_ttladv</i>
<i>Intercept</i>	−1.586 ** (0.018)	−2.813 ** (0.011)	1.712 (0.213)	−0.615 (0.832)	0.600 (0.575)	3.780 ** (0.017)
<i>Oprivate</i>	0.310 *** (0.001)	0.401 *** (0.006)	−0.187 (0.304)	−0.037 (0.923)	0.094 (0.506)	−0.501 ** (0.017)
<i>Nprivate</i>	0.410 *** (0.001)	2.157 *** (0.001)	−0.432 *** (0.005)	−0.773 ** (0.016)	−0.381 *** (0.001)	−0.298 * (0.088)
<i>Log Assets</i>	0.141 *** (0.001)	0.182 *** (0.004)	0.002 (0.981)	0.081 (0.622)	0.042 (0.491)	−0.098 (0.278)
<i>Loans to Assets</i>	0.012 * (0.100)	0.025 ** (0.047)	−0.002 (0.889)	−0.124 *** (0.000)	0.005 (0.671)	0.003 (0.857)
<i>Priority Sector Lending</i>	0.017 *** (0.002)	0.031 *** (0.001)	0.007 (0.547)	0.055 ** (0.023)	0.003 (0.776)	−0.005 (0.699)
<i>Year Effects</i>	Yes	Yes	Yes	Yes	Yes	Yes
No. of Obs.	267	267	267	267	267	267
Adj. R <sup>2</sup>	0.13	0.60	0.25	0.44	0.13	0.10
Pr. > F	0.001	0.001	0.001	0.001	0.001	0.001

This Table reports the regression results of alternative financial performance and asset quality measures on ownership dummy variables representing old private banks (*Oprivate*) and new private banks (*Nprivate*) with state-owned banks as the control group and other control variables. Variable names and descriptions are given in Table 1. *p*-values of coefficients are in parenthesis. \*\*\* indicates the coefficient is significant at 1% level, \*\* at 5% level and \* at 10% level.

## 4.2. Board Characteristics and Bank Outcomes

### 4.2.1. Board Characteristics and Bank Profitability

Table 4 reports the results of five regression models capturing the relation between different components of board characteristics and bank outcome as reflected in the accounting indicator, return on assets (*Roa*). The results presented in Column (i) show that board size does not significantly correlate with bank profitability nor does board independence in state-owned banks. However, the interaction terms of board independence with the dummy variable for old private banks (*Oprivate*) and the dummy variable for new private banks (*Nprivate*) are both positive and highly significant

<sup>13</sup> Since the standard measures of assets quality all look at the proportion of non-performing assets rather than performing assets, a negative sign indicates better quality of assets.

suggesting that board independence has a differentially positive effect on these two bank groups<sup>14</sup>. The total effect is positive for both ownership groups indicating that board independence correlates positively with bank accounting outcome in new and old private banks. This could be due to at least two potential reasons. First, new and old private banks have much greater flexibility in appointing independent directors including having access to bigger pools as these banks face much less regulatory specifications regarding the type of directors that can be appointed on bank boards. Second, the tenure of independent directors in new and old private banks is generally much longer and flexible compared to the short and often fixed tenure in state-owned banks which gives independent directors in new and old private banks much more time to understand the business environment in general and the specific characteristics of the banks, in particular. Given the mean values of board independence in Table 2, the magnitudes of these coefficients suggest an increase of about 34 basis points in return on assets for old private banks and about 39 basis points for new private banks from board independence. Admittedly, these magnitudes are smaller than what we found in our baseline regressions but we note that the baseline regressions provide the aggregative effect of all board characteristics that vary across the three ownership groups and not just with respect to board independence.

In Columns (ii) and (iii) we augment the basic model to include the two quality variables of busyness and diligence of independent directors to explore if these also act as significant determinants of a bank's accounting outcome. However, none of these two variables turn out to be significant in either of the regressions. One reason behind this result could be that busyness of directors has potentially both positive and negative effects. Busy directors may find less time to devote to each individual bank but they may also be more competent directors (that is why they are busy). Accordingly, the negative effects may be compensated by the positive effects.

In Column (iv) of Table 4, we incorporate an additional feature of board characteristics namely that of the presence of CEO duality. The regression results show that CEO duality has a significant negative effect in state-owned banks. The magnitude of the coefficient suggest that CEO duality leads to about a 30 basis points decline in rate of return on assets of state-owned banks. The differential effect is positive and large for both old and new private banks, with the coefficient of the interaction terms being higher for old private banks. Additionally, the magnitude of the interaction coefficients suggests that the total effect of CEO duality is positive for both old and new private banks. Our evidence on the opposite effects of CEO duality with respect to state-owned and private sector banks suggests that the positive stewardship effect of CEO duality is weak enough in state-owned banks so as to be outweighed by agency cost, which is not the case with regard private banks. As [Donaldson and Davis \(1991\)](#) argue, the benefits from stewardship stem from "facilitative, empowering structures" rather than from the inherent motivation of the CEO, which ensure that higher returns will be associated with merging the roles of the chairman and CEO. If one considers state-owned and private banks, the decision-making structure of state-owned banks is likely to be less empowering given that the government by virtue of being the owner is at least partly in command of the decision-making process. This is not the case for private banks, where the CEO is at the top of the decision-making hierarchy.

Finally, in Column (v) we incorporate the fourth board characteristic namely, the presence of nominee directors. Since nominee directors are present mostly in state-owned banks, we do not interact the associated variable with bank ownership dummy variables. The coefficient on the nominee director variable is negative and highly significant suggesting the presence of these directors correlate negatively with bank profitability. The magnitude of this coefficient is economically large suggesting a drop of about 37 basis points from the presence of nominee directors. Nominee directors from insurance companies and financial institutions may be more concerned with protecting the interest of their parent organizations which may not necessarily coincide with the interest of the bank's

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<sup>14</sup> We also interacted *Boardsize* with the two ownership dummy variables but none of the interaction coefficients were significant while the coefficient on *Boardsize* continued to remain insignificant. We do not report these results separately to conserve space.

shareholders. The presence of these directors on corporate boards has been hotly debated in India especially in the context of whether these directors should be counted as independent directors from the equity holders' perspective (Nachane et al. 2005; Nayak 2014). The new Companies Act of 2013 stipulates that nominee directors are not to be counted as independent directors for meeting the requirements of proportion of independent directors on boards of listed companies. Our empirical results seem to be consistent both with the theoretical arguments and the legal statutes regarding nominee directors.

**Table 4.** Board Characteristics and Profitability: (Dependent Variable—Return on Assets).

	Column (i)	Column (ii)	Column (iii)	Column (iv)	Column (v)
<i>Intercept</i>	−1.300 ** (0.054)	−1.268 * (0.060)	−0.571 (0.427)	−0.440 (0.542)	−0.918 (0.201)
<i>Boardsize</i>	−0.010 (0.352)	−0.006 (0.580)	−0.015 (0.195)	−0.022 * (0.062)	−0.018 (0.122)
<i>Board Independence</i>	−0.001 (0.370)	−0.001 (0.474)	−0.002 (0.297)	−0.001 (0.910)	0.001 (0.426)
<i>Board Independence x Oprivate</i>	0.005 *** (0.001)	0.005 *** (0.001)	0.005 *** (0.001)	0.004 ** (0.003)	0.004 ** (0.003)
<i>Board Independence x Nprivate</i>	0.006 *** (0.001)	0.006 *** (0.001)	0.007 *** (0.001)	0.004 ** (0.025)	0.006 *** (0.001)
<i>Busy Director</i>		−0.102 (0.120)	−0.069 (0.318)	−0.097 (0.164)	−0.122 * (0.075)
<i>Director Attendance</i>			−0.001 (0.479)	−0.001 (0.287)	−0.002 (0.163)
<i>Ceo Duality</i>				−0.298 ** (0.013)	−0.236 ** (0.045)
<i>Ceo Duality x Oprivate</i>				0.451 *** (0.007)	0.393 *** (0.014)
<i>Ceo Duality x Nprivate</i>				0.288 ** (0.041)	0.440 ** (0.035)
<i>Nominee Director</i>					−0.367 *** (0.001)
<i>Loans to Assets</i>	0.011 (0.147)	0.011 (0.147)	0.015 * (0.083)	0.015 * (0.077)	0.014 * (0.086)
<i>Log Assets</i>	0.133 *** (0.001)	0.134 *** (0.001)	0.094 ** (0.020)	0.106 *** (0.001)	0.155 *** (0.001)
<i>Priority Sector Lending</i>	0.017 *** (0.001)	0.016 *** (0.006)	0.016 *** (0.010)	0.015 ** (0.013)	0.014 ** (0.020)
<i>Year Effects</i>	Yes	Yes	Yes	Yes	Yes
No. of Obs.	267	267	225	225	225
Adj. R <sup>2</sup>	0.11	0.11	0.16	0.18	0.22
Pr. > F	0.001	0.001	0.001	0.001	0.001

This Table reports the regression results of rate of return on assets (*Roa*)—an accounting indicator of bank's performance—on board characteristics namely board size (*Boardsize*), board independence (*Board Independence*), presence of busy independent directors on the bank's board (*Busy Director*), attendance of independent directors in annual general meeting (*Director Attendance*), CEO duality (*Ceo Duality*), presence of nominee directors on the bank's board (*Nominee Director*) and interaction terms (*x*) with dummy variables representing old private banks (*Oprivate*) and new private banks (*Nprivate*) with state-owned banks as the control group and other control variables. Variable names and descriptions are given in Table 1. *p*-values of coefficients are in parenthesis. \*\*\* indicates the coefficient is significant at 1% level, \*\* at 5% level and \* at 10% level.

#### 4.2.2. Board Characteristics and Bank Valuation

In Table 5 we re-estimate the five alternative models relating board characteristics to bank performance using the market indicator *Mbvr*. The results reported in Columns (i) to (v) of this Table confirm many of the findings in Table 4 but there are some important differences too. While board size continues to be insignificant in all the five models thereby re-confirming our finding with respect to *Roa*, the effect of board independence is now negative and highly significant for state-owned banks in all the five regressions unlike what we found with respect to *Roa*. The magnitude of the coefficients suggests a large 0.64 to 0.71 points reduction in market to book ratio from board independence in state-owned banks. The results suggest that the market's assessment of the value of a state-owned bank is lower, higher the percentage of independent directors. As pointed out earlier, this could be because the short and fixed tenure of independent directors in state-owned banks is viewed negatively by the market. While the negative effect does not show up in the short-term accounting indicator (*Roa*), the lower and significantly negative coefficient using *Mbvr* could reflect the market's assessment of loss in long term bank value when independent directors do not get sufficient time either to accustom themselves with the workings of the bank and/or to translate their experience and expertise into real changes in a bank's operation.

**Table 5.** Board Characteristics and Bank Value: Dependent Variable—Market to Book Value Ratio.

	Column (i)	Column (ii)	Column (iii)	Column (iv)	Column (v)
<i>Intercept</i>	0.007 (0.995)	−0.070 (0.954)	−0.326 (0.813)	0.115 (0.933)	−0.570 (0.677)
<i>Boardsize</i>	0.009 (0.652)	−0.001 (0.978)	−0.013 (0.565)	−0.035 (0.111)	−0.029 (0.181)
<i>Board Independence</i>	−0.013 *** (0.001)	−0.014 *** (0.001)	−0.016 *** (0.001)	−0.013 *** (0.001)	−0.011 *** (0.002)
<i>Board Independence x Oprivate</i>	0.005 * (0.058)	0.004 * (0.058)	0.003 (0.296)	−0.003 (0.398)	−0.007 * (0.076)
<i>Board Independence x Nprivate</i>	0.030 *** (0.001)	0.029 *** (0.001)	0.030 *** (0.001)	0.021 *** (0.001)	0.016 *** (0.001)
<i>Busy Director</i>		0.242 ** (0.040)	0.181 (0.172)	0.085 (0.518)	0.049 (0.707)
<i>Director Attendance</i>			0.005 ** (0.044)	0.003 (0.116)	0.003 (0.175)
<i>Ceo Duality</i>				−0.801 *** (0.001)	−0.712 *** (0.002)
<i>Ceo Duality x Oprivate</i>				0.478 (0.124)	0.396 (0.199)
<i>Ceo Duality x Nprivate</i>				0.594 ** (0.038)	0.811 ** (0.042)
<i>Nominee Director</i>					−0.525 ** (0.012)
<i>Loans to Assets</i>	0.005 (0.707)	0.005 (0.704)	−0.016 (0.324)	−0.019 (0.240)	−0.020 (0.207)
<i>Log Assets</i>	0.051 (0.457)	0.049 (0.476)	0.054 (0.490)	0.085 (0.268)	0.155 * (0.055)
<i>Priority Sector Lending</i>	0.025 ** (0.014)	0.028 *** (0.007)	0.038 *** (0.002)	0.033 *** (0.004)	0.031 *** (0.006)

Table 5. Cont.

	Column	Column	Column	Column	Column
	(i)	(ii)	(iii)	(iv)	(v)
<i>Year Effects</i>	Yes	Yes	Yes	Yes	Yes
No. of Obs.	267	267	225	225	225
Adj. R <sup>2</sup>	0.51	0.51	0.56	0.58	0.59
Pr. > F	0.001	0.001	0.001	0.001	0.001

This Table reports the regression results of market to book value ratio (*Mbvr*)—a market indicator of bank's performance—on board characteristics namely board size (*Boardsize*), board independence (*Board Independence*), presence of busy independent directors on the bank's board (*Busy Director*), attendance of independent directors in annual general meeting (*Director Attendance*), CEO duality (*Ceo Duality*), presence of nominee directors on the bank's board (*Nominee Director*) and interaction terms (*x*) with dummy variables representing old private banks (*Oprivate*) and new private banks (*Nprivate*) with state-owned banks as the control group and other control variables. Variable names and descriptions are given in Table 1. *p*-values of coefficients are in parenthesis. \*\*\* indicates the coefficient is significant at 1% level, \*\* at 5% level and \* at 10% level. \*\*\* significant at 1%, \*\* significant at 5%, \* significant at 10%.

If we consider old private banks, the coefficient on the interaction term with respect to board independence that was positive and significant in the *Roa* regression, is now insignificant in the *Mbvr* regression. This suggests that the total effect of board independence is also negative in old private banks. Coming to the effect of board independence for new private banks, the coefficient on the interaction term is positive and significant and greater in magnitude than the coefficient on the board independence variable itself, confirming our earlier result that board independence has a positive (total) effect on bank value in new private banks. As mentioned earlier, the tenure of independent directors in new private banks is much higher compared to that in state-owned banks thereby providing these directors sufficient time to make their experience and expertise count in the performance of the banks. Additionally, independent directors in new private banks come from a potentially larger pool compared to that for state-owned banks raising the possibility that the quality of these directors could be potentially higher which in turn results in better bank outcomes.

Turning to other board characteristics, the coefficients on busyness and diligence of independent directors continue to remain insignificant as earlier and the coefficient on CEO duality continues to remain negative and significant for state-owned banks. However, unlike the *Roa* regression, the coefficient on the interaction terms with respect to CEO duality is now insignificant for old private banks, while for new private banks, though the coefficient is positive and significant, the total effect is only weakly positive. These results suggest that the market negatively values CEO duality in state-owned organizations possibly because of the well-documented lack of autonomy and the presence of political interference in decision making that is endemic in state-owned entities. For new private banks, our results suggest that the market values the positive stewardship effects more relative to the agency costs associated with CEO duality. However, the absence of such effects in old private banks provides evidence of the market perceiving that the merging of the roles of CEO and chairman in these banks could lead to entrenchment rather than generate benefits from consolidation of decision making in one person. This seems to be consistent with the assessment of governance in old private banks in India. The Nayak Committee on Corporate Governance in Banks (Nayak 2014) observed in the context of comparative board governance of the old and new private banks that unlike the new private banks that have professionalized management, most of the old private banks are community banks with ownership and management “tightly controlled” by a “promoter director” who derives authority by virtue of being a member of the founding family and who with the support of shareholders close to the family, controls voting as well as board decisions. Our results show that such a governance structure while adding to a bank's bottom line, is discounted by the market.

Overall, our empirical findings on the effect of board governance on bank outcomes as measured by return on assets and market to book value can be summarized as follows. At the core, our results



suggest that ownership does matter in board governance of banks. This is particularly with respect to our findings on board independence and CEO duality.

Our findings with respect to board size show that it has no effect on outcomes of state-owned banks irrespective of how performance is measured. This finding is in contrast with the negative effect that [Liang et al. \(2013\)](#) finds with respect to predominantly state-owned Chinese banks and the positive effects on market value that [Adams and Mehran \(2012\)](#) find with respect to private US bank holding companies. Our findings are, however, consistent with the findings of [Busta \(2007\)](#) who finds for a sample of European banks that board size has insignificant effect on bank performance.

Turning to the effect of board independence on bank performance, we find that independent directors have no effect on state-owned banks which is in contrast to the findings by [Liang et al. \(2013\)](#) for Chinese banks. With regard to the differential impact of ownership on the effect of independent directors on private banks, we do find that irrespective of the performance measure, these banks, especially the new private banks which are comparable in scope and size to private banks in other countries, experience a positive effect of board independence on performance as compared to their state-owned counterparts. Also, the total effect of board independence in these banks on performance is positive. These results are in contrast to the largely insignificant effect that other studies find either with respect to market value ([Adams and Mehran 2012](#)) or profitability ([Staikouras et al. 2007](#)).

Finally, considering the effect of CEO duality on bank performance, our findings detect a significantly negative effect on performance of state-owned banks with respect to both profitability and market value. This is different from the insignificant effect that [Liang et al. \(2013\)](#) find with respect to Chinese banks. Our results with respect to the differential impact of private banks on the effect of CEO duality on performance, unambiguously points out that consolidating the roles of the CEO and chairman into one, adds to the banks' bottom line and has a positive impact on new private banks. The positive incremental impact of private ownership on the relationship between CEO duality and performance is consistent with some of the findings with respect to private banks ([Pi and Timme 1993](#); [Pathan 2009](#)).

#### 4.2.3. Endogeneity

One potential concern about our results and indeed that of most studies on board governance is endogeneity caused by the possibility that board characteristics may themselves evolve in response to bank performance leading to bias in the estimated coefficients. For example, the strong negative effect of board independence on performance that we find for state-owned banks could be driven by the possibility that more number of independent directors are brought in to turn around ailing state-owned banks leading to reverse causality. Likewise, private banks may decide to separate the position of CEO and chairman in response to superior performance giving rise to feedback in the estimated regressions. We attempt to address the issue of endogeneity in several ways.

First, to address the concern that reverse causality could be a potential explanation for the strong negative effect of board independence in state-owned banks, we divide these banks into under-performing and over-performing based on the median value of the market to book ratio in 2006<sup>15</sup> and examine if the *change* in the percentage of independent directors, our measure of board independence, over the period 2007 to 2012 is higher for the under-performing banks. Both the *t*-test for means and the *Wilcoxon* test for medians fail to detect any significant differences in one-sided tests. We repeat this exercise using the rate of return on assets and obtain similar results. Anecdotal evidence also suggests that board independence, at least in state-owned banks, is driven largely by regulatory constraints tightly imposed by the government by virtue of its ownership.

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<sup>15</sup> We get the most number of observations for state-owned banks for this year during the period of (2003 to 2006). Also, new corporate governance reforms, especially with respect to board governance, came into effect from 1 January 2006 (SEBI Circular, (SEBI/CFD/DIL/CG/1/2005/29/3), 29 March 2005).

Second, to address the issue of endogeneity in a more encompassing way, we lag all our board variables by one year and re-estimate all our regression models. Board characteristics are now pre-determined relative to bank outcomes which can potentially ease endogeneity concerns. We obtain very similar results. In the rate of return regression, board size never attains significance as earlier while the coefficients on the differential effect of board independence in old and new private banks remain positive and significant in each of the five regressions. In fact, the magnitude of the coefficients increases marginally. The coefficients on CEO duality and presence of nominee directors continue to remain robust. The only significant change we observe is the reduction in the  $p$ -value of the interaction term of CEO duality for old private banks in one regression. In the market to book regression, all results continue to hold with almost similar magnitude for the re-estimated coefficients.

Third, noting that changes in board structure in response to performance may take some time to evolve and hence taking one lag of the board attributes may not be enough, we repeat the above exercise by lagging our board variables for five years. We lose about half of our observations in doing so but the number of observations left (144) is still large enough to carry out a meaningful econometric exercise. Comfortingly, we find that all our results survive except for minor changes in significance levels of variables from one percent to five percent. The coefficients on the differential effect of board independence variables remain significant at the one percent for old and new private banks. The effect of CEO duality remains negative and significant for state-owned banks in all regressions.

Finally, we try to examine if prior board structure can help determine subsequent bank performance by regressing all our measures of bank performance for the period 2007 to 2012 on the board characteristic variables fixed at their 2006 values. We observe that our results with respect to board independence and CEO duality survive, except that the differential effect of these variables are now significant only for the new private banks and not the old private banks. We observe, given our discussion in the institutional set up of the Indian banking system, that the new private banks may be better equipped to respond to the changing economic environment in India following deregulation and banking sector reforms.

We realize that the above attempts to test for endogeneity are imperfect. We also realize that endogeneity can be caused by omitted variables that could potentially determine bank outcomes and are correlated with the board variables. However, given that our regressions incorporate conditioning variables related to market dominance, business model and directed lending that have been found in prior literature to influence bank outcomes, as well as year dummy variables to account for unobserved effects of changing regulation in India, we feel the possibility that board structure is related to bank performance in a causal way is somewhat strong.

#### 4.2.4. Board Characteristics and Bank Asset Quality

Table 6 presents the regression results on the relation between board characteristics and various measures of asset quality. The strong results that we found with respect to the accounting indicator ( $Roa$ ) and the market indicator ( $Mbvr$ ) are in most cases absent in all the four asset quality regressions reported in Table 6. The effect of board size and other board characteristics are at best very weak irrespective of the ownership category of the bank. While our results with respect to board size and CEO duality are largely in line with the findings of Liang et al. (2013), our results of no significant relation between board independence and asset quality are in contrast with the positive effect found in some other studies (Liang et al. 2013; O'Sullivan et al. 2016).

One possible explanation for the contrasting results that we find with respect to profitability and market value on the one hand and different measures of asset quality on the other, could be that the board and especially independent directors, are more likely to monitor aggregate bank outcome measures than analyse micro indicators like asset quality which are left for the internal management to focus on. This seems to be consistent with insights from a survey of notes and minutes of board deliberations for selected Indian state-owned and private banks (Nayak 2014) which reveals that notwithstanding the importance of business strategy and risk mitigation in bank governance, bank

boards, irrespective of the ownership, place much less focus on these issues as compared to issues connected with financial reporting and compliance. Having said this, focus on asset quality and risk is of particular importance for bank performance since short term performance indicators like *Roa* may not be able to fully capture the building stress on financial assets, while market indicators like *Mbvr* may fail to account fully for the risk of bank assets due to lack of granular information to the market. Therefore, in the next section we focus directly on the CEO and examine if his or her tenure has any impact on bank's asset quality.

**Table 6.** Board Characteristics and Bank Asset Quality: Dependent Variable—Asset Quality Measures.

	Dependent Variable			
	<i>Nnpa_ttladv</i>	<i>Gnpa_ttladv</i>	<i>Nnpa_additn_ttladv</i>	<i>Gnpa_additin_Ttladv</i>
<i>Intercept</i>	−0.483 (0.730)	−6.788 (0.013)	0.715 (0.571)	2.145 (0.242)
<i>Boardsize</i>	0.015 (0.488)	−0.008 (0.848)	0.015 (0.472)	−0.007 (0.810)
<i>Board Independence</i>	0.003 (0.424)	0.020 (0.003)	−0.006 * (0.060)	0.001 (0.977)
<i>Board Independence x Oprivate</i>	0.003 (0.472)	0.012 (0.162)	0.008 ** (0.043)	0.004 (0.485)
<i>Board Independence x Nprivate</i>	0.001 (0.908)	−0.001 (0.934)	0.001 (0.748)	0.007 (0.197)
<i>Busy Director</i>	0.133 (0.314)	0.181 (0.483)	0.183 (0.127)	0.210 (0.228)
<i>Director Attendance</i>	0.001 (0.898)	−0.001 (0.817)	0.003 (0.200)	0.004 (0.212)
<i>Ceo Duality</i>	0.126 (0.581)	0.650 (0.144)	0.173 (0.402)	0.165 (0.581)
<i>Ceo Duality x Oprivate</i>	0.124 (0.692)	−0.208 (0.733)	−0.221 (0.436)	−0.177 (0.667)
<i>Ceo Duality x Nprivate</i>	−0.718 * (0.076)	−2.168 *** (0.006)	−0.596 (0.104)	−1.087 ** (0.041)
<i>Nominee Director</i>	0.358 * (0.089)	−0.217 (0.597)	0.470 ** (0.014)	0.815 *** (0.004)
<i>Loans to Assets</i>	0.011 (0.485)	−0.062 ** (0.048)	−0.012 (0.402)	0.010 (0.624)
<i>Log Assets</i>	0.064 (0.431)	−0.437 *** (0.007)	−0.017 (0.824)	−0.087 (0.419)
<i>Priority Sector Lending</i>	0.004 (0.707)	0.037 * (0.099)	0.005 (0.660)	0.003 (0.835)
<i>Year Effects</i>	Yes	Yes	Yes	Yes
No. of Obs.	225	225	225	225
Adj. R <sup>2</sup>	0.20	0.46	0.12	0.08
Pr. > F	0.001	0.001	0.001	0.001

This Table reports the regression results of different asset quality measures on board characteristics namely board size (*Boardsize*), board independence (*Board Independence*), presence of busy independent directors on the bank's board (*Busy Director*), attendance of independent directors in annual general meeting (*Director Attendance*), CEO duality (*Ceo Duality*), presence of nominee directors on the bank's board (*Nominee Director*) and interaction terms (*x*) with dummy variables representing old private banks (*Oprivate*) and new private banks (*Nprivate*), with state-owned banks as the control group and other control variables. Variable names and descriptions are given in Table 1. *p*-values of coefficients are in parenthesis. \*\*\* indicates the coefficient is significant at 1% level, \*\* at 5% level and \* at 10% level. \*\*\* significant at 1%, \*\* significant at 5%, \* significant at 10%.

### 4.3. Tenure of Chief Executive Officer and Bank Outcomes

In this section we examine the effect of tenure of the Chief Executive Officer (CEO) on bank outcomes. In India CEOs of state-owned banks retire at the age of 62 as per government regulations. However, in quite a few cases, the CEOs are appointed very near to their retirement age giving these CEOs very short tenure. There are instances where CEOs of some state-owned banks have served on the post well below one year. In contrast, CEOs of old private banks and especially of new private banks are appointed much earlier in their career and often have much longer tenure. Does the short tenure of CEOs have any negative effect on bank outcomes? Intuitively this should be the case as an entrant CEO is likely to need some time to get his or her vision of running the bank reflected in actual outcomes. If the tenure of the CEO is short, he/she is likely to have less incentive to put in the optimal effort. There could be also cases where the incumbent CEO might need to “clean up the books” since the retiring CEO may not have the incentive to do so at the end of his term as it could reflect poorly on the latter’s tenure. The effect of such “cleaning” is likely to take time. In case the tenure of the incumbent CEO is short, he or she might have low incentive to take up the “cleaning” job. If all incumbent CEOs know this, then the decline in a bank’s performance might persist for a long period of time.

In our analysis we explore this important question by relating bank outcomes to episodes of CEO changes and the length of CEO tenure in banks belonging to the three ownership groups. For the CEO tenure analysis, we increase our sample by three years to cover the period from 2000 to 2012 (compared to 2003 to 2012 earlier) as there were a significant number of CEO changes in the years 2000, 2001 and 2002. Using this extended period, we look for all episodes of CEO changes in each of the 46 banks in our sample. For each CEO in each bank, we then trace the length of CEO tenure and try to relate it to important bank outcomes.

Table 7 gives the number of CEO changes in the sample banks in the sample period and the distribution of these newly appointed CEOs by their tenure measured in years. In total there are 144 episodes of CEO changes of which as many as 93 are in state-owned banks, 40 are in old private banks and the remaining 11 are in new private banks. Controlling for the fact that the number of banks in each bank group is different, the average number of CEO changes per bank is about 4 in state-owned banks, 2 in old private banks and only 1 in new private banks. The distribution of the CEOs by their year of tenure in Table 7 shows that, on an average, the tenure of CEOs is much shorter in state-owned banks compared to that in either old private or new private banks. While only 6 percent of the CEOs in state-owned banks had a tenure beyond five, 15 percent of the CEOs in old private banks and over fifty percent of the CEOs in new private banks had tenure that are above five years. On the other side of the distribution, while the tenure of over half of the CEOs in state-owned banks ended within two years, only 10 percent of the CEOs in new private banks had tenure which ended within two years. The average length of CEO tenure is 2.65 years in state-owned banks, 2.90 years in old private banks and 6.25 years in new private banks.

Unlike independent directors, the CEO of a bank is the highest executive officer who is in charge of overseeing the day-to-day operation of a bank and hence asset quality indicators are likely to be very important measures that are to be monitored by the CEO apart from the bank’s overall financial performance. Accordingly, we augment our four asset quality indicators earlier with three additional indicators namely (a) write offs of net non-performing assets (*Nnpa\_wrtoffs\_ttladv*), (b) write offs of gross non-performing assets (*Gnpa\_wrtoffs\_ttladv*) and (c) provisions for non-performing assets (*Npa\_provs\_n\_ttladv*). These additional variables are in consonance with our earlier discussion that an incumbent CEO may make adjustments in bank operations in his/her earlier years of tenure.

**Table 7.** Number of CEO Changes and Distribution of CEOs by Years of Tenure.

Ownership Group	No. of CEO Changes	Distribution of CEOs by Tenure (in Years)						Average Tenure
		1	2	3	4	5	>5	
State-owned Banks	93	28 (30.11)	20 (21.51)	21 (22.58)	13 (13.98)	5 (5.38)	6 (6.46)	2.65
Old Private Banks	40	14 (35.00)	6 (15.00)	9 (22.50)	4 (10.00)	1 (2.50)	6 (15.00)	2.90
New Private Banks	11	0 (0.00)	1 (9.09)	3 (27.27)	1 (9.09)	0 (0.00)	6 (54.55)	6.25
Total	144	32 (22.22)	27 (18.75)	33 (22.92)	18 (12.50)	6 (4.17)	18 (4.86)	2.99

The Table gives the number of CEO changes in state-owned banks, old private banks and new private banks during the period 2000 to 2012 and the distribution of these newly appointed CEOs by their tenure measured in years. For example, there were 93 CEO changes in State-owned banks. Of these 93 newly appointed CEOs, 28 had tenure of one year, 20 had tenure of 2 years, 21 had tenure of 3 years and so on. Figures in parenthesis are row percentages and show the distribution of the newly appointed CEOs in terms of their tenure.

Table 8 reports the regression results relating CEO tenure to the two financial indicators, *Roa* and *Mbvr* and the seven asset quality indicators. In each of these regressions we control for the effect of other time varying factor by including a time trend variable (*Trend*), bank size (*Log Assets*), asset structure of bank (*Loans to Assets*) and extent of priority sector lending (*Priority Sector Lending*). We omit the year specific fixed effects as the trend variable is likely to pick the effect of time varying factors. The results reported in Table 8 show that the CEO tenure has a strong relation with bank outcomes. In particular, the coefficient of *Ceo Tenure* is positive and highly significant in both the *Roa* and *Mbvr* regressions. At the same time, the coefficient on *Ceo Tenure* is significant in six of the seven asset quality regressions. These results show that an increase in CEO tenure is associated with significant improvement in asset quality with an accompanying increase in the overall performance of the bank both in terms accounting indicator as well as market valuation. The fact that the coefficients on the *Ceo Tenure* variable turn out to be significant even after controlling for trend effect suggest that CEOs are able to influence bank outcomes due to their association with the bank.

Does the effectiveness of CEOs in influencing bank outcomes increase with the length of their tenure? If so, extending the term of the CEOs can bring increasing benefits for the bank. To explore this question, we replace the *Ceo Tenure* variable by five dummy variables with each dummy variable representing a particular year of tenure of the CEO. Tenure years of five and more are collapsed into a single dummy variable. The results of this regression are reported in Table 9. The results provide strong evidence that the effect of CEO tenure increases rapidly with the year of CEO tenure. While in the *Roa* regression, only the coefficient on the fifth dummy variable (tenure of five years or more) is significant suggesting the efforts of the CEO may take a long time to show up in accounting indicators, the coefficients on each of the five dummy variables is positive and significant in the *Mbvr* regressions suggesting that the market gives a positive valuation whenever a new CEO is appointed for a bank. Strikingly, the magnitude of the five dummy variables increases monotonically over the years signalling a progressively favourable evaluation of higher CEO tenure over the years. A new CEO who is able to meet the initial expectation of the investors may be able to send strong signals of further improvement in bank performance and accordingly get his/her bank valued even further in the coming years. With respect to asset quality, the coefficient on the five dummy variables though negative, is mostly significant only in the later years of CEO tenure suggesting that improvements in overall asset quality (a stock measure) may take some time. However, in the last regression on provisions for non-performing assets where the coefficients are negative and significant for all the five dummy variables, the absolute value of the coefficient increases monotonically over the year of CEO tenure suggesting that the later years of CEO tenure are more effective than the initial years in affecting bank outcomes.



Does CEO tenure have different effects in the three bank groups? To examine this question and to preserve parsimony, we re-estimate the regression models reported in Table 8 by incorporating interaction effects of CEO tenure with ownership groups. These results are presented in Table 10. The results show that the strong tenure effects that we have found earlier regressions is driven by private banks, both old and new and CEO tenure has little effect in state-owned banks. This seems very consistent with our earlier observation that CEO tenure is often very short in state-owned banks and the effect of long tenure cannot be estimated precisely using within group variation in CEO tenure of state-owned banks. Taken together, the results presented in Tables 8–10 suggest that longer CEO tenure has a significant positive effect on improving bank outcomes and is positively valued by the market.

**Table 8.** CEO Tenure and Bank Performance.

	Performance Measures		Asset Quality Measures						
	<i>Roa</i>	<i>Mbvr</i>	<i>Nnpa_ ttladv</i>	<i>Gnpa_ ttladv</i>	<i>Nnpa_ wrtoffs_ ttladv</i>	<i>Gnpa_ wrtoffs_ ttladv</i>	<i>Nnpa_ additn_ ttladv</i>	<i>Gnpa_ additn_ ttladv</i>	<i>Npa_ provsn_ ttladv</i>
<i>Intercept</i>	−0.175 (0.576)	−0.634 (0.210)	8.980 *** (0.001)	28.887 *** (0.001)	3.535 *** (0.001)	9.012 *** (0.001)	3.284 *** (0.001)	5.080 *** (0.001)	14.279 *** (0.001)
<i>Ceo Tenure</i>	0.050 *** (0.001)	0.205 *** (0.001)	−0.137 *** (0.001)	−0.273 *** (0.001)	−0.102 *** (0.001)	−0.102 *** (0.001)	−0.086 *** (0.001)	−0.077 *** (0.003)	−0.069 (0.154)
<i>Trend</i>	−0.008 (0.369)	−0.011 (0.475)	−0.187 *** (0.001)	−0.631 *** (0.001)	−0.131 *** (0.001)	−0.141 *** (0.001)	−0.031 * (0.054)	−0.072 *** (0.001)	−0.290 *** (0.001)
<i>Loans to Assets</i>	0.001 (0.792)	0.004 (0.667)	−0.083 *** (0.001)	−0.328 *** (0.001)	−0.080 *** (0.001)	−0.074 *** (0.001)	−0.033 *** (0.001)	−0.040 ** (0.002)	−0.170 *** (0.001)
<i>Log Assets</i>	0.057 (0.007)	0.081 ** (0.018)	−0.245 *** (0.001)	−1.021 *** (0.001)	−0.089 ** 0.065	−0.304 *** (0.001)	−0.076 *** (0.037)	−0.075 0.122	−0.488 *** (0.001)
<i>Priority Sector Lending</i>	0.010 ** (0.011)	0.010 (0.104)	−0.062 *** (0.001)	−0.149 *** (0.001)	0.009 0.305	−0.046 *** (0.001)	−0.007 ** (0.012)	−0.035 *** (0.001)	−0.085 *** (0.001)
Number of Observations	438	438	438	438	438	438	438	438	438
Adj. R <sup>2</sup>	0.06	0.24	0.28	0.35	0.17	0.20	0.08	0.08	0.24
Pr. > F	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001

The Table reports the regression results of alternative measures of bank performance and asset quality on tenure of the chief executive officer (*Ceo Tenure*), a trend variable (*Trend*) and other control variables. Variable names and descriptions are given in Table 1. *p*-values of coefficients are in parenthesis. \*\*\* indicates the coefficient is significant at 1% level, \*\* at 5% level and \* at 10% level.

**Table 9.** CEO Tenure and Bank Performance: Year-wise Effect.

	Performance Measures				Asset Quality Measures				
	<i>Roa</i>	<i>Mbvr</i>	<i>Nnpa_ Ttladv</i>	<i>Gnpa_ ttladv</i>	<i>Nnpa_ wrtoffs_ ttladv</i>	<i>Gnpa_ wrtoffs_ ttladv</i>	<i>Nnpa_ additn_ ttladv</i>	<i>Gnpa_ additn_ ttladv</i>	<i>Npa_ provsn_ ttladv</i>
<i>Intercept</i>	−0.178 (0.569)	−0.643 (0.230)	9.069 *** (0.001)	29.161 *** (0.001)	3.587 *** (0.001)	9.147 *** (0.001)	3.309 *** (0.001)	5.153 *** (0.001)	14.382 *** (0.001)
<i>Ceo Tenure—Year 2</i>	−0.056 (0.436)	0.116 (0.344)	−0.394 ** (0.034)	−1.039 ** (0.046)	−0.118 (0.480)	−0.380 * (0.055)	−0.031 (0.804)	−0.086 (0.605)	−0.235 (0.449)
<i>Ceo Tenure—Year 3</i>	−0.116 (0.142)	0.237 (0.080)	−0.546 *** (0.008)	−1.477 *** (0.010)	−0.236 (0.197)	−0.519 ** (0.017)	−0.119 (0.386)	−0.118 (0.519)	−0.278 (0.416)
<i>Ceo Tenure—Year 4</i>	0.002 (0.980)	0.388 ** (0.020)	−0.777 *** (0.002)	−1.701 ** (0.017)	−0.327 (0.147)	−0.626 ** (0.020)	−0.179 (0.290)	−0.189 (0.400)	−0.147 (0.727)
<i>Ceo Tenure—Years ≥ 5</i>	0.304 *** (0.001)	1.136 *** (0.001)	−1.061 *** (0.001)	−2.337 *** (0.001)	−0.737 *** (0.001)	−0.982 *** (0.001)	−0.562 *** (0.001)	−0.648 *** (0.001)	−0.607 * (0.081)
<i>Trend</i>	−0.008 (0.393)	−0.006 (0.726)	−0.187 *** (0.001)	−0.627 *** (0.001)	−0.131 *** (0.001)	−0.137 *** (0.001)	−0.031 * (0.052)	−0.070 *** (0.001)	−0.289 *** (0.001)
<i>Loans to Assets</i>	0.001 (0.862)	−0.004 (0.711)	−0.078 *** (0.001)	−0.317 *** (0.001)	−0.077 *** (0.001)	−0.071 *** (0.001)	−0.030 *** (0.002)	−0.039 *** (0.002)	−0.169 *** (0.001)
<i>Log Assets</i>	0.063 *** (0.003)	0.098 *** (0.006)	−0.252 *** (0.001)	−1.033 *** (0.001)	−0.097 ** (0.045)	−0.309 *** (0.001)	−0.083 ** (0.022)	−0.082 * (0.090)	−0.493 *** (0.001)
<i>Priority Sector Lending</i>	0.011 *** (0.004)	0.011 * (0.093)	−0.061 *** (0.001)	−0.146 *** (0.001)	0.008 (0.342)	−0.045 *** (0.001)	−0.017 *** (0.010)	−0.036 *** (0.001)	−0.085 *** (0.001)
Number of Observations	438	438	438	438	438	438	438	438	438
Adj. R <sup>2</sup>	0.07	0.15	0.29	0.36	0.17	0.22	0.07	0.08	0.24
Pr. > F	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001

The Table reports the regression results of alternative measures of bank performance and asset quality on dummy variables representing different years of tenure of the chief executive officer (*Ceo Tenure*), a trend variable (*Trend*) and other control variables. *Ceo Tenure—Year 2*, *Ceo Tenure—Year 3*, *Ceo Tenure—Year 4*, *Ceo Tenure—Years ≥ 5* are dummy variables representing the second, third, fourth and fifth or more, year of the tenure of the chief executive officer. The control year is the first year of tenure of the chief executive officer. Variable names and descriptions are given in Table 1. *p*-values of coefficients are in parenthesis. \*\*\* indicates the coefficient is significant at 1% level, \*\* at 5% level and \* at 10% level.

**Table 10.** CEO Tenure and Bank Performance: Ownership Variations.

	Performance Measures				Asset Quality Measures				
	<i>Roa</i>	<i>Mbvr</i>	<i>Nnpa_ ttladv</i>	<i>Gnpa_ ttladv</i>	<i>Nnpa wrtoffs_ ttladv</i>	<i>Gnpa_ wrtoffs_ ttladv</i>	<i>Nnpa_ additn_ ttladv</i>	<i>Gnpa_ additn_ ttladv</i>	<i>Npa_ provsn_ ttladv</i>
<i>Intercept</i>	−0.930 ** (0.011)	−0.729 (0.161)	9.909 *** (0.001)	32.940 *** (0.001)	3.732 *** (0.001)	10.647 *** (0.001)	3.937 *** (0.001)	6.540 *** (0.001)	17.198 (0.001)
<i>Ceo Tenure</i>	−0.029 (0.211)	−0.034 (0.307)	−0.078 (0.197)	0.120 (0.476)	−0.036 (0.500)	−0.006 (0.931)	0.006 (0.876)	0.008 (0.878)	0.256 *** (0.010)
<i>Ceo Tenure x Oprivate</i>	0.102 *** (0.001)	0.041 (0.260)	−0.121 (0.069)	−0.546 *** (0.004)	−0.032 (0.586)	−0.213 *** (0.003)	−0.092 ** (0.039)	−0.190 *** (0.001)	−0.400 *** (0.001)
<i>Ceo Tenure x Nprivate</i>	0.075 *** (0.001)	0.291 *** (0.001)	−0.045 (0.409)	−0.362 ** (0.019)	−0.075 (0.125)	−0.070 (0.232)	−0.094 *** (0.010)	−0.060 (0.212)	−0.312 *** (0.001)
<i>Trend</i>	−0.018 * (0.070)	0.013 (0.371)	−0.172 *** (0.001)	−0.578 *** (0.001)	−0.134 *** (0.001)	−0.112 *** (0.001)	−0.026 (0.132)	−0.046 ** (0.042)	−0.256 *** (0.001)
<i>Loans to Assets</i>	0.005 (0.343)	0.024 *** (0.001)	−0.090 *** (0.001)	−0.362 *** (0.001)	−0.088 *** (0.001)	−0.079 *** (0.001)	−0.040 *** (0.001)	−0.043 *** (0.001)	−0.721 *** (0.001)
<i>Log Assets</i>	0.118 *** (0.001)	0.072 * (0.053)	−0.322 *** (0.001)	−1.350 *** (0.001)	−0.102 (0.094)	−0.441 *** (0.001)	−0.127 *** (0.005)	−0.197 *** (0.001)	−0.194 *** (0.001)
<i>Priority Sector Lending</i>	0.013 *** (0.001)	0.021 *** (0.001)	−0.064 *** (0.001)	−0.166 *** (0.001)	0.006 (0.508)	−0.050 *** (0.001)	−0.021 *** (0.002)	−0.038 *** (0.001)	−0.099 *** (0.001)
Number of Observations	438	438	438	438	438	438	438	438	438
Adj. R <sup>2</sup>	0.10	0.42	0.29	0.36	0.18	0.22	0.09	0.10	0.26
Pr. > F	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)

The Table reports the regression results of alternative measures of bank performance and asset quality on tenure of the chief executive officer (*Ceo Tenure*), its interaction (*x*) with dummy variables representing old private banks (*Oprivate*) and new private banks (*Nprivate*) with state-owned banks as the control group, a trend variable (*Trend*) and other control variables. Variable names and descriptions are given in Table 1. *p*-values of coefficients are in parenthesis. \*\*\* indicates the coefficient is significant at 1% level, \*\* at 5% level and \* at 10% level.

## 5. Conclusions

This paper examined the effect of board governance in state-owned and private banks by undertaking a study of commercial banks in India that has both bank groups. Covering a ten-year period from 2003–2012 that witnessed a large number of governance reforms in India and focusing on board characteristics that have been found in prior literature to be important determinants of bank outcomes, the results of our empirical analysis suggest that while board size plays an insignificant role in bank outcomes, board independence plays a significant role. However, there are strong ownership effects with board independence exhibiting a significant positive correlation with the performance of private banks and a significant but negative correlation with the performance of state-owned banks. The effect of CEO duality is negative in state-owned banks where incidence of CEO duality is high while it is positive for private banks. We find that a longer CEO tenure has significant positive effects on bank outcomes with these effects strengthening in the later years of CEO tenure.

Our results suggest that internal governance mechanisms such as board independence and dual roles of CEO that could be effective for private banks may negatively impact the performance of state-owned banks. This in turn could be on account of the fact that the organizational goals and management structure of state-owned banks are intrinsically different from their private sector counterparts. An implication of this is that board governance mechanisms in state-owned banks in India and possibly in other emerging economies, should not be transplanted from those in private banks and instead should be adapted in consonance with the aims and objectives of state-owned banks.

**Author Contributions:** Jayati Sarkar and Subrata Sarkar jointly conceived the research idea. Jayati Sarkar did the literature review and Subrata Sarkar put together the dataset. Both authors contributed equally in carrying out the analysis as well as in writing the paper.

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