Board Conduct in Banks*

Samanvaya Agarwal Saipriya Kamath
Krishnamurthy Subramanian Prasanna Tantri

July 2016

Prior academic research on bank governance has concentrated on the role of board *structure*. However, board *conduct* and its relationship to bank governance has not received attention. In this paper, we fill this gap by analyzing the minutes of board and risk management committee meetings of 29 banks in India. We manually classify the issues into different categories, and code whether each issue has been deliberated at length. Risk accounts for only 10% of the board's attention with regulation and compliance accounting for the most (41%) followed by business strategy (31%). Only 20% of the issues are deliberated at length. The risk management committee meets infrequently and deliberates only 28% of the issues. Only 25% of the issues tabled in the risk management committee are forward-looking in nature. Using a simple framework to discipline our analysis and to enable the interpretation of our results, we infer that bank boards are under-investing in matters relating to risk and over-investing in matters pertaining to compliance.

Key Words: Banks, Bank Failure, Board of directors, Board minutes, Corporate governance, Risk, Risk-taking

JEL Classification: G30, L20

Please address correspondence to:
Krishnamurthy Subramanian, Indian School of Business, Gachibowli, Hyderabad, 500032, India. Email: Krishnamurthy_Subramanian@isb.edu

*All the authors are from Indian School of Business, Hyderabad, India. This research is supported by the National Stock Exchange (NSE) - Indira Gandhi Development Institute for Economic Research (IGIDR). The usual disclaimer applies.

I Introduction

The global financial crisis called into question the role played by board oversight in ensuring effective governance of banks and financial institutions. For instance, the UNCTAD report on "Corporate governance in the wake of the financial crisis" mentions as the *first* of its five key messages: "...reform efforts (in financial institutions) should focus on: a) strengthening board oversight of management; b) positioning risk management as a key board responsibility." Several multilateral and national reports have highlighted failure of bank boards in effectively assessing risks as well as in excessively conforming with laid down procedures.[1]

Prior academic research has concentrated on how board *structure* affects governance in banks (see Mehran, Morrison, and Shapiro (2011) for a comprehensive review). However, board *conduct* and its relationship to governance in banks has not received attention. In this paper, we attempt to fill this gap. We assemble a unique dataset comprised of minutes of board meetings and board-level committee meetings of 29 Indian banks. We discipline our analysis of this data using a simple theoretical framework to interpret our empirical findings.

Compared to American firms, where the minutes are subject to scrutiny by legal experts (Schwartz-Ziv and Weisbach (2013)), these minutes are significantly more detailed. Moreover, the minutes clearly identify the statements/arguments made by individual directors. We transform the minutes into a quantitative database, which enables us to draw inferences about the quality and quantity of discussions relating to the various functions in a bank. We classify the issues that are tabled in these meetings into five categories: risk, business strategy, financial reporting, regulation and compliance, and human resources. For each issue, we record the category to which the issue belongs and whether the board deliberated at length on the issue or not. We record an issue as having been deliberated if the board (i) asked for more information, (ii) elaborately discussed the issue, and/or (iii) the board rejected a proposal or modified it. We also use text analysis methodology suggested by Muslu, Radhakrishnan, Subramanyam, and Lim (2014) to analyze whether an issue is forward looking or not.

Methodologically, an analysis of board and board-level committee meeting minutes provides several advantages. First, while board structure captures *de jure* aspects of the board, board minutes capture the *de facto* working of the board. Second, board minutes enables us to understand the complexity and nuanced details of the topics brought up in the board and board-level committee meetings. Third, because banks are highly regulated

[1]For a select few, see Senior Supervisors Group (2014); Walker (2009); UNCTAD (2010); Sheifer (2011); Group (2012). Specifically, Walker (2009) mentions about the perils of board "groupthink," which "is a type of thought exhibited by group members who try to minimize conflict and reach consensus without critically testing, analysing and evaluating ideas." The report also recommends that "board-level engagement in risk oversight should be materially increased, with particular attention to the monitoring of risk and discussion leading to decisions on the entity's risk appetite and tolerance."

entities, bank boards may devote excessive effort to comply with laws and regulations. Such a concern is , in fact, voiced in the report of the G-30 on the financial crisis: "Boards that permit their time and attention to be diverted disproportionately into compliance and advisory activities at the expense of strategy, risk, and talent issues are making a critical mistake." (page 13) Examining the minutes enables us to draw these distinctions. Finally, and most importantly, analysis of the minutes allows us to assess the quality of discussions in the board and board-level committees.

To discipline our analysis of this data and to enable the interpretation of our results, we develop a simple model of multitasking in effort by the board. Walker (2009) mentions that "the overriding strategic objective of a bank/financial institution is the successful management of financial risk." The supervision manual of the Federal Reserve states that "The board of directors is responsible to the bank's depositors, other creditors, and shareholders for safeguarding their interests" (see section 5000.1). Therefore, we model efforts by the board in strategy creation, risk mitigation and in complying with laws and regulations. We model these efforts as substitutes at the margin. Shareholder value increases primarily with the efforts by the board in strategy creation, which is consistent with the convex payoff faced by shareholders. Shareholder value also increases to a lesser extent with the efforts by the board in complying with laws and regulations. Debtholder value increases primarily with the efforts by the board in risk mitigation, which is consistent with the concave payoff faced by debtholders. Debtholder value also increases to a lesser extent with the efforts by the board in complying with laws and regulations. Firm value, which equals the sum of equityholder and debtholder value, increases with efforts in each of the three dimensions. Finally, the regulator cares more about the efforts by the board in complying with laws and regulations than about the efforts in strategy creation or risk mitigation.

We make two important assumptions. First, the board can *ex post* costlessly violate the constraint that the debtholders have to break even. This assumption is motivated by several reasons. First, debtholders in a bank primarily comprise of depositors who are quite dispersed. As a result, monitoring by the debtholders suffers from the free-rider problem, where the marginal benefit of monitoring by any individual debt holder is significantly dominated by the marginal cost incurred in doing the same. Second, deposit insurance–implicit or explicit–reduces the incentives of depositors to monitor banks. Third, deposit insurance induces banks to rely less on uninsured creditors with incentives to monitor and more on insured depositors with no incentives to monitor. Finally, unlike debtholders in industrial firms that can impose a check on the firm's shareholders and managers by exercising their covenants, debtholders in a bank do not contract on any covenants ex-ante that they can exercise ex-post. The second assumption we make is that the board has to keep the regulator happy.

Given this setup, we obtain the following predictions. First, irrespective of the reg-

ulatory pressure faced by a bank board, the board would invest the least effort in risk mitigation. Specifically, the effort in strategy creation and that in regulation and compliance would be strictly greater than the effort by the board in risk mitigation. Second, if regulatory pressure faced by bank boards is high, the board would invest more in compliance than in strategy creation. Conversely, if regulatory pressure faced by bank boards is moderate or low, the board would invest less in compliance than in strategy creation. Thus, the model provides predictions for how the ordinal ranking of the efforts in strategy creation, risk mitigation and compliance varies with the intensity of regulatory pressure. The model also provides predictions about how over- or under-investment (compared to the optimal level) in each of these categories of board effort varies with the intensity of regulatory pressure. We use these two sets of predictions to observe the ordinal ranking that we obtain in the data and thereby make inferences about over- or under-investment (compared to the optimal level) in each of the various categories of board effort.

We report the following findings. We find that the average number of issues brought forth before a bank board is 50 as compared to the 8.5 in boards of industrial firms as shown in Schwartz-Ziv and Weisbach (2013). Regulatory and compliance related issues account for the most (41%) of the issues tabled followed by issues relating to business strategy (31%). Issues relating to risk only account for 10% of the total issues. Statistical tests of means as well as that of first-order stochastic dominance among the various distributions confirm this ordinal ranking. Using this finding and our theoretical arguments and predictions, we infer that bank boards are under-investing in matters relating to risk and over-investing in matters pertaining to compliance.

To test if the boards just resort to "box ticking" or deliberate on the issues at length, we examine the proportion of issues deliberated. On average, only 20% of the issues that are tabled are deliberated at length. A natural question to ask would be whether boards are discussing risk in the board-level committees. We examine the minutes of risk management committee (RMC) meetings to understand the quality of risk discussions. On average, RMC meets only a third of the times the board meets and deliberates at length only on 28% of the issues tabled. The RMC spends a larger portion of its time receiving updates and reports than ratifying decisions. Finally, only 25% of the issues tabled in the RMC are forward-looking in nature.

Collectively, these findings provide important insights into the conduct of bank boards. First, our findings support the concern voiced in the report of the G-30 on the financial crisis that "boards that permit their time and attention to be diverted disproportionately into compliance and advisory activities at the expense of strategy, risk, and talent issues are making a critical mistake." (page 13) To be precise, we only show evidence supporting the concern that boards may be permitting their attention to be diverted disproportionately into compliance at the expense of strategy and risk issues.

Second, our evidence suggests that merely mandating a RMC is insufficient to ensure

adequate risk oversight by the board. The Dodd Frank Act (2010) requires large financial institutions to establish a separate RMC comprised of at least one risk management expert. In India, the Reserve Bank of India (RBI) has mandated RMC since 2002. Yet, the unflattering evidence about the conduct of RMC highlights the oft repeated notion that "form does not lead to substance!"

Finally, we find only five cases of recorded dissent among the board of directors, which suggests high degree of conformism and lack of adequate challenge in bank boards. The Walker Report (2009), which reviews corporate governance in UK banks, mentions that the sequence in board discussion should start with an idea being presented, followed by the idea being challenged. Our evidence of lack of challenge in bank boards is thus consistent with the anecdotal evidence mentioned in this report.

To our knowledge, ours is the first study to examine the conduct of bank boards. Our study thus complements research that focuses on how the structure of bank boards — board size, board independence, and characteristics of the board members including their financial expertise — affects bank governance (see Mehran et al., 2011 and the studies cited therein). Our work also relates to the literature examining the structure of risk-management in banks (Ellul and Yerramilli (2013), Aebi, Sabato, and Schmid (2012a), Mongiardino and Plath (2010a)). Our study closely resembles Schwartz-Ziv and Weisbach (2013), who examine board conduct in non-financial firms and relate their evidence to various theories by carefully analyzing board minutes of Israeli government-controlled companies. In contrast to these studies, we focus on board conduct in banks and financial institutions.

II Fiduciary Responsibilities of Bank Boards

Corporate governance deals with the ways in which suppliers of finance to corporations assure themselves of getting a return on their investment (Shleifer and Vishny (1997)). In the corporate governance setting, board of directors provide a mechanism to mitigate conflict of interest between managers and shareholders. In non-financial firms, it is generally accepted that board of directors owe fiduciary duties towards shareholders while bondholders have other mechanisms such as covenants to protect their interests. However, corporate governance in banks is much more complex due to the relevance of banks in the economic system and the nature of banking business (Adams (2010)).

Three key differences distinguish the governance of banks from that of industrial firms ((e.g., Ciancanelli and Reyes, 2001; Levine, 2004; Macey and O'Hara, 2003; Prowse, 1997). First, the capital structure of banks differs substantially from that of industrial firms. Second, partly because of the unique capital structure of banks, but also for other reasons, banks have many more stakeholders than industrial firms (Macey and O'hara (2003), Adams and Mehran (2003)). Finally, banks' business is opaque and complex.

Moreover, risks in a bank can change rapidly (Levine (2004)).

II.A High leverage

Banks consist of almost 90 % debt (as opposed to an average of 40% for industrial firms). As well, banks' liabilities are largely in the form of deposits, which are available to their creditors/depositors on demand. In contrast, their assets consist primarily of loans that have longer maturities. Despite efforts by banks to undertake loan sales and/or securitization, this mismatch in maturities between the assets and liabilities remains a special attribute of banks. In fact, by holding illiquid assets and issuing liquid liabilities, banks create liquidity in an economy (Macey and O'hara (2003)).

II.B Wider variety of stakeholders

Because of the substantial debt in their capital structure, beyond the shareholders, the stakeholders in a bank include debtholders, the majority of which are the depositors, and the holders of subordinated debt. Apart from the effect of capital structure, there are other important reasons why banks need to care about stakeholders other than the shareholders. In many situations, actions by the shareholders (or the management on behalf of the shareholders) can create spillover effects for other stakeholders (Macey and O'hara (2003)). For example, a failure of a bank can lead to contagion in the banking system and thereby threaten not only the banking system but the macro-economy as well. Because a bank's insolvency has negative consequences for the financial system as a whole and these spillovers need to be regulated and/or particular banks need to be bailed out, both at a sizable cost to taxpayers, the government as the regulator becomes a key stakeholder in the bank even when it does not have any ownership in the bank. Of course, when the government is an owner of banks, as it is in the case of government-owned banks, then the government becomes a key stakeholder both as an owner as well as a protector of last resort. The deposit insurance authority also has an interest in the bank's health, as its insurance will be called upon in the case of insolvency. The implementation of deposit insurance poses a regulatory cost of its own — it gives the shareholders and the managers of the insured banks incentives to engage in excessive risk-taking. Such moral hazard—as well as the moral hazard induced by implicit guarantees provided by the government—get exacerbated in situations where a bank is at or near insolvency (Macey and O'hara (2003)). Furthermore, as depositors are generally small and subject to free-rider issues in monitoring, the importance of other non-equity stakeholders increases (Macey and O'hara (2003)).

Shareholders' interests may diverge substantially from those of other stakeholders, especially on risk, where shareholders prefer volatility and may have short-term perspectives. Clearly, debtholders and regulators prefer low volatility and take longer-term views.

Because of the safety net provided by deposit insurance, bank depositors are likely to be less sensitive to bank risk when compared to debtholders in industrial firms. As a result, bank depositors do not demand adequate compensation for risk taking when compared to debtholders in industrial firms. Ceteris paribus, this tendency renders debt a cheap source of funds and biases banks toward it. Regulators could attempt to correct for this bias by charging banks an economic price for their deposit insurance protection as well as any implicit guarantees enjoyed by banks. However, because of the structural opacity of banking assets, reasons for which we describe below, regulators find it very hard to charge banks a fair price for deposit insurance and/or any implicit guarantees.

II.C Opaque nature of operations

Banks have the ability to alter risks very quickly and in a way that is not immediately visible to directors or outside investors (Levine (2004)). The risk assumed by banks is quite opaque to directors and outside investors for at least two reasons. First, banks undertake maturity transformation, i.e. invest in risky, illiquid projects using very liquid, short-term demand deposits and wholesale funds. As part of this fundamental function that banks perform, banks act as a delegated monitor on behalf of their depositors in selecting and monitoring the projects to which they lend (Diamond and Dybvig (1983)). The literature on banking has emphasized that banks rely significantly on "soft information" for their lending decisions (Berger, Miller, Petersen, Rajan, and Stein (2005), Petersen (2004)). Soft information refers to information that is acquired over time by a loan officer through his/her relationship with the borrower and is therefore hard to communicate to other third parties. Moreover, such information is hard for other third parties to verify as well. As a result, the risks assumed by banks as part of their normal lending business are usually quite difficult for third parties to understand.

Second, banks indulge in technically complex trading activities. The risks assumed by the banks' trading divisions are therefore quite difficult for lay investors to comprehend. As Levine (2004) notes, "Banks can alter the risk composition of their assets more quickly than most industrial firms, and banks can readily hide problems by extending loans to clients that cannot service previous debt obligations." Because the risks assumed by banks are not easy for outside investors to assess *a posteriori*, management has the incentive to invest in riskier assets than they promise *a priori* to investors. Because of outside investors inability to assess and monitor the risks assumed by management, oversight over management is delegated to the board as well as regulators.

II.D Duty of care for bank boards

All the three features—a capital structure dominated by debt, multitude of stakeholders, and opacity and complexity of operations—play a role in governance of banks. These

affect the both the interaction between the board and management and the relationship between the bank and its regulators. In fact, because of the special nature of banking and the spillover effects that banks create on other parts of the economy, *the duty of care owed by the board of a bank is substantially more expansive when compared to the duty of care owed by the board of an industrial firm.* In other words, a clear case can be made for bank directors being held to a broader, if not a higher, standard of care than directors in industrial firms. In particular, bank boards owe fiduciary duties to fixed claimants, i.e. the depositors and other debtholders, the regulator as well as to equity claimants.

II.E Role of regulation

Regulation presents several challenges in corporate governance. Even though regulation can be considered an additional mechanism of corporate governance, in most situations, it reduces the effectiveness of other mechanisms in coping with corporate governance problems. The main aim of the regulator, which is to reduce systemic risk, might come into conflict with the main goal of shareholders, which is to increase equity value. The conflicting goals could introduce a new agency problem. For example, while the regulator's objectives are survival, 'appropriate' behaviour and acceptable performance, the shareholders objectives could arguably be to make a lot of money. At some point after survival, regulators may be more risk-averse than shareholders (Kim and Prescott (2005)). As well, regulators might discourage competition and discipline banks by imposing restrictions on ownership structures (Prowse (1997); Macey and O'hara (2003)). Or regulators might limit the power of markets to discipline the banks (Ciancanelli and Reyes-Gonzalez (2001)). They may even pursue their own interests as a regulator (Boot and Thakor (1993); Santomero (1997)).

Regulation also plays a special role for financial entities, since both the credit and payment systems as well as macroeconomic development depends on the banking sector's financial health. In the banking industry, regulators are one of the main stakeholders, yet their objectives may clash with those of the other stakeholders (Diamond (1984)). Although monitoring by regulators may represent an additional governance mechanism, their presence can also worsen governance problems.

Regulation might also be considered as an additional external governance force that acts macroeconomically, at the banking industry level as a whole, and microeconomically, at the level of the individual banks (Ciancanelli and Reyes, 2001). As part of their efforts to supervise banks, regulators monitor the functioning of bank boards. Regulators may also subsidise the monitoring and disciplining of the management of regulated firms (Demsetz and Lehn (1985)).

III Theoretical motivation

In this section, we provide a highly stylised model of multi-tasking in efforts made by bank boards. The objective of this section is to guide the interpretation of and intuition for our empirical results.

Bank boards exert effort along three dimensions: (i) regulation and compliance; (ii) strategy creation; and (iii) risk management. Efforts in regulation and compliance includes complying with all the regulations and legal requirements faced by banks. Because regulators would be concerned about systemic risk in the banking sector, regulations would focus on limiting risk as well. However, by modelling efforts in regulation and compliance, on the one hand, and risk mitigation, on the other hand, we distinguish between risk mitigation in letter done by the board to satisfy the regulator, i.e. efforts that primarily focus on "box ticking," and risk mitigation in spirit.

III.A Setting

Consider a single period principal-agent setting where there are two principals and one agent. The collection of shareholders of the bank represent the first principal. The regulator represents the second principal. The board of directors of the bank represent the agent. This modelling approach is different from the traditional ones where the board represents the principal and the management represents the agent. As Hermalin and Weisbach (2003) aver, "although such principal-agent modeling provides many insights, it is not particularly useful for explaining board-specific phenomena." In fact, focusing on the agency problems within the institution of Board of Directors can be motivated by appealing to Smith (1937):

"The directors of [joint stock] companies, however, being the managers rather of other people's money than of their own, it cannot well be expected, that they should watch over it with the same anxious vigilance [as owners] ... Negligence and profusion, therefore, must always prevail, more of less, in the management of the affairs of such a company" (p. 700).

The board provides unobservable effort e_i on three tasks indexed by $i = C, S, R$, where e_C, e_S and e_R represent efforts in regulation and compliance, strategy creation, and risk management respectively.

The equityholders payoff, denoted by E, represents a call option on firm value, denoted by V. Therefore, the equityholders payoff is convex and increases with greater risk assumed by the bank. To capture this notion, we assume that the equityholders payoff increases with greater efforts by the board (i) in strategy creation, and (ii) in complying with the regulations and other legal requirements. However, with respect to their relative importance, the equityholders payoff increases more with efforts by the board in strategy creation than with efforts in compliance. We capture this dependence by specifying the

equityholders payoff as follows:

$$\begin{aligned} E &= e_S + \alpha \cdot e_C, \\ 0 &< \alpha < 1 \end{aligned} \tag{1}$$

Of course, equityholders payoffs are also affected by efforts in risk mitigation. However, to keep the model is simple and to emphasise the focus of equityholders on the upside, we ignore the effect of efforts in risk mitigation on the equityholders payoff.

In contrast to the equityholders payoff, debtholders payoff represents a short position on a put option on firm value. Therefore, the debtholders payoff is concave and increases with lower risk assumed by the bank. To capture this idea, we assume that the debtholders payoff is a function of the efforts by the board (i) in risk mitigation, and (ii) in compliance. As in the case of the payoff to equity holders, debtholders payoff responds relatively more to efforts in risk mitigation than to efforts in compliance. We captured this by specifying the debtholders payoff as follows:

$$\begin{aligned} D &= e_R + (1 - \alpha) \cdot e_C, \\ 0 &< \alpha < 1 \end{aligned} \tag{2}$$

As in the case of the equityholders payoffs, we focus the debtholders payoffs on the effort in risk mitigation.

Firm value, which equals the sum of the payoffs to the equityholders and the debt holders, is therefore given by:

$$V = E + D = e_S + e_R + e_C \tag{3}$$

Efforts exerted by the board in strategy creation and in risk mitigation incur a cost $0.5e_S^2$ and $0.5e_R^2$ respectively. In comparison, efforts exerted by the board in compliance incurs a cost $0.5\mu e_C^2, \mu \geq 1$. This captures the idea that compared to strategy creation and risk mitigation, compliance adds less marginal value to the firm. Regulation attempts to avoid some of the effects of market failures due to which banks may create externalities for the entire economy. Thus, regulation may only serve to emphasise aspects that bank boards would have focused on in the absence of market failures. Therefore, it is reasonable to argue that the net effect of regulation on firm value is less then that of strategy creation and risk mitigation. This assumption that the marginal cost of effort on compliance is higher than the marginal costs of effort in strategy creation and risk mitigation is innocuous because all the results are obtained even if $\mu = 1$.

We assume that boards have finite time and resources. Therefore, the type and resources spent on the efforts in strategy creation, risk mitigation, and compliance are

bounded:

$$e_S + e_R + e_C \leq a, \tag{4}$$
$$a > 0$$

III.B Prudential supervision by the regulator

Because all governments provide some form of a safety net for the banking system, whether it is explicit or implicit, they need to take steps to limit the moral hazard and adverse selection that the safety net creates. Otherwise, banks will have such a strong incentive to take on excessive risks that the safety net may do more harm than good and promote banking crises rather than prevent them. Prudential supervision, in which the regulator establishes regulations to reduce risk taking and then supervisors monitor banks to see that they are complying with these regulations and not taking on excessive risk, is thus needed to ensure the safety and soundness of the banking system.

Given the prudential supervision undertaken by the regulator, she of course cares about compliance with the regulations. At the same time, the regulator also cares about risk mitigation, because it can affect systemic risk in the banking sector, and strategy creation. As an example of the focus on strategy of the bank, during its supervisory activities, the regulator may care about the emphasis on retail lending versus corporate lending. However, the regulator over-emphasizes compliance in comparison to strategy creation or risk mitigation. To capture these ideas, we model the value the regulator cares about in the bank through its prudential supervision activities C as:

$$\begin{aligned} C &= \beta e_C + e_R + e_S, \\ \beta &> 1 \end{aligned} \tag{5}$$

III.C Nature Of Contracts

We assume that the Board of Directors represents an organisational solution to the agency problems faced by firms. This is in this spirit of Hermalin and Weisbach (2003), who state that "boards are a market solution to an organizational design problem, an endogenously determined institution that helps to ameliorate the agency problems that plague any large organization... boards of directors are part of the market solution to the contracting problems inside most organizations."

Also, the literature on the theory of the firm (Coase (1937); Grossman and Hart (1986); Hart and Moore (1990, 1994)) argues that organisational solutions evolved to address agency problems when contracts are incomplete. Specifically, first, we assume that the efforts are *observable but not verifiable*. Second, the payoffs are assumed to be

non-contractible.[2]

III.D First-best

We specify the first-best benchmark level of efforts, e_S^{FB}, e_R^{FB} and e_C^{FB} as one where the bank board maximises firm value.

Proposition 1 (First-best level of efforts) *Under the first-best benchmark, where the bank board chooses to maximise firm value V, the bank board exerts equal efforts in strategy creation and in risk mitigation. However, these efforts are greater than the effort in compliance.*

$$e_S^{FB} = e_R^{FB} = \frac{\mu a}{1+2\mu} \tag{6}$$

$$e_C^{FB} = \frac{a}{1+2\mu} \tag{7}$$

See appendix for the proof. Because the effort in compliance is costlier with respect to creation of firm value than efforts in strategy creation and in risk mitigation, the optimal level of effort in compliance is lower than that in strategy creation and in risk mitigation.

III.E Analysis of the second-best

Ideally, the board would maximise shareholder value subject to keeping the regulator happy and ensuring that the debtholders breakeven.

However, debtholders in a bank primarily comprise of depositors who are quite dispersed. As a result, monitoring by the debtholders suffers from the free-rider problem, where the marginal benefit of monitoring by any individual debt holder is significantly dominated by the marginal cost incurred in doing the same. Moreover, deposit insurance – implicit or explicit – reduces the incentives of depositors to monitor banks. As well, deposit insurance induces banks to rely less on uninsured creditors with incentives to monitor and more on insured depositors with no incentives to monitor. Finally, unlike debtholders in industrial firms that can impose a check on the firm's shareholders and managers by exercising their covenants, debtholders in a bank do not contract on any covenants ex-ante that they can exercise ex-post.

Therefore, under the second-best, we assume:

[2]The premise that some information that is observable to the contracting parties cannot be verified by a court is questioned by Maskin and Tirole (1999a, 1999b). These authors suggest that observable information can be made verifiable by the use of cleverly designed revelation mechanisms. However, as Aghion and Holden (2011) note, these mechanisms are never observed in practice. In addition, Aghion et al. (2010) show that if any mechanism can achieve truthful revelation as an equilibrium under common knowledge, then under approximate common knowledge, there must also exist an equilibrium with non-truthful revelation. Therefore, such mechanisms are fragile because they depend crucially on delicate assumptions about higher-order beliefs.

ASSUMPTION 1: The board can costlessly violate the constraint that the debtholders have to break even.

However, the board has to keep the regulator happy. Therefore, under the second-best scenario, we assume:

ASSUMPTION 2: The board cannot violate the constraint that the regulator's value C is kept above a threshold ψ that keeps the regulator happy.

Given these assumptions, under the second-best, the objective function of the bank board can be stated as:

$$\max_{(e_C, e_S, e_R)} E \quad \text{such that} \tag{8}$$

$$C \geq \psi \tag{9}$$

$$e_S + e_R + e_C \leq a \tag{10}$$

To solve this optimisation problem, we set up the Lagrangian as follows:

$$\pounds = E + \lambda_C \cdot (C - \psi) + \lambda_e \cdot (a - e_S - e_R - e_C)\,, \tag{11}$$

where λ_C and λ_e denote respectively the shadow prices associated with violating the regulators' constraint and the effort boundary.

For simplicity, we define $\Lambda = \lambda_C \cdot (\beta - 1)$ as a measure of regulatory pressure. Regulatory pressure thus increases with an increase in the cost of violating the regulators' constraint λ_C and with the increase in the emphasis laid by the regulator on compliance during its prudential supervisory activities β. Note that $\Lambda > 0$ because $\lambda_C > 0$ (using assumption 2) and $\beta > 1$.

Proposition 2 (Second-best level of efforts) *The bank board's efforts in strategy creation, risk mitigation and compliance are given by:*

$$e_S^* = e_S^{FB} - \frac{\Lambda}{1+2\mu} + \frac{1+\mu-\alpha}{1+2\mu} \tag{12}$$

$$e_R^* = e_R^{FB} - \frac{\Lambda}{1+2\mu} - \frac{\mu+\alpha}{1+2\mu} \tag{13}$$

$$e_C^* = e_C^{FB} + \frac{2\Lambda}{1+2\mu} + \frac{2\alpha-1}{1+2\mu} \tag{14}$$

See appendix for the proof. The next three propositions characterize under- and over-investments by the board, when compared to the economically optimal levels, in strategy creation, risk mitigation and compliance.

III.F Results from the model

Proposition 3 (Under-investment in risk-mitigation) *A bank board always under-invests in risk mitigation when compared to the efficient level. Formally:*

$$e_R^* < e_R^{FB} \tag{15}$$

Intuitively, first, shareholders care more about the upside, which is created by efforts in strategy creation, than about the downside, which is created by efforts in risk mitigation in its spirit. Second, the cost of violating the debtholders constraint is low in banks. Third, the regulator emphasises compliance with regulatory aspects over strategy creation and risk mitigation in its spirit. Even with those aspects of regulation that deal with risk, we have distinguished between risk mitigation in its spirit and compliance with regulatory aspects of risk. In fact, these corresponds to "box ticking" in our model. As a result, the benefits of investing in risk mitigation significantly dominate costs. Therefore, effort in risk mitigation in its spirit gets under-supplied when compared to the optimal.

Proposition 4 (Under- or over-investment in strategy creation) *(i) The board over-invests in strategy creation when compared to the efficient level if regulatory pressure is high, i.e.* $\Lambda \geq 1 + \mu - \alpha$. *However, the board under-invests in strategy creation when compared to the efficient level if regulatory pressure is quite low, i.e.* $\Lambda < 1 + \mu - \alpha$.

$$\Lambda \geq (1 + \mu - \alpha) \Leftrightarrow e_S^* > e_S^{FB} \tag{16}$$

$$\Lambda < (1 + \mu - \alpha) \Leftrightarrow e_S^* < e_S^{FB} \tag{17}$$

As regulatory pressure increases, i.e. the focus of the regulator on compliance during prudential supervision increases or the cost/penalty of displeasing the regulator increases, the effort in compliance increases. Because the efforts are substitutes at the margin, an increase in the effort in compliance reduces the marginal benefit of effort in strategy creation. This indirect effect of substitutability in efforts is proportional to the regulatory pressure. The marginal benefit of an increase in the creation also stems directly from the increase in the equity holder value. Therefore, for high regulatory pressure, the indirect effect due to substitutability dominates the direct effect from the increase in shareholder value. So, compared to the efficient level, the marginal benefit of investing in strategy creation are lower. Therefore, the board under-supplies effort in strategy creation. Conversely, for low regulatory pressure, the marginal benefits of effort in strategy creation are high. As a result, the board over-supplies effort in strategy creation.

Proposition 5 (Over-investment in compliance) *(i) Consider the case where shareholders care less about regulatory compliance than debtholders* ($\alpha < 0.5$). *In this case, the board under-invests in compliance when compared to the efficient level if regulatory pressure is quite low, i.e.* $\Lambda < (0.5 - \alpha)$. *However, in this case the board over-invests in*

compliance when compared to the efficient level if regulatory pressure is even moderately high, i.e. $\Lambda \geq (0.5 - \alpha)$. *Formally:*

$$\alpha < 0.5 \text{ and } \Lambda < (0.5 - \alpha) \Leftrightarrow e_C^* < e_C^{FB} \tag{18}$$

$$\alpha < 0.5 \text{ and } \Lambda \geq (0.5 - \alpha) \Leftrightarrow e_C^* \geq e_C^{FB} \tag{19}$$

(ii) Now consider the case where shareholders care more about regulatory compliance than debtholders ($\alpha \geq 0.5$). *In this case, the board always over-invests in compliance when compared to the efficient level. Formally:*

$$\alpha \geq 0.5 \Leftrightarrow e_C^* \geq e_C^{FB} \tag{20}$$

The marginal benefit of an increase in effort in compliance is proportional to $\Lambda - (0.5 - \alpha)$, where the second term arises from efforts being substitutes. The second term itself stems from the marginal benefit of an increase in effort in compliance due to (i) a decrease in effort in strategy creation, which equals $1-\alpha$, and (ii) decrease in effort in risk mitigation, which equals $-\alpha$. If shareholders care more about regulatory compliance than debtholders ($\alpha \geq 0.5$), then the decrease in effort in strategy creation is more than offset by the decrease in effort in risk mitigation. As a result, effort in compliance increases irrespective of the intensity of the regulatory pressure. Therefore, irrespective of the intensity of the regulatory pressure, the board over-invests in effort in compliance (part (ii)). However, if shareholders care less about regulatory compliance than debt holders, then the effect of substitutability in efforts is to impose a cost because the decrease in effort in strategy creation is more than the decrease in effort in risk mitigation. In this case, regulatory pressure needs to be quite low for the board to under-invest. Conversely, even if regulatory pressure is moderately high, the direct effect of regulatory pressure is dominated by the indirect effect of substitutability of efforts. In this case, again the board over invests in compliance.

Proposition 6 (Effect of regulatory pressure) *As regulatory pressure increases* ($\Lambda \uparrow$), *under-investments in strategy creation and risk mitigation and over-investment in compliance get exacerbated. Formally:*

$$\frac{d\left(e_S^* - e_S^{FB}\right)}{d\Lambda} < 0 \tag{21}$$

$$\frac{d\left(e_R^* - e_R^{FB}\right)}{d\Lambda} < 0 \tag{22}$$

$$\frac{d\left(e_C^* - e_C^{FB}\right)}{d\Lambda} > 0 \tag{23}$$

As regulatory pressure increases, the marginal benefit of effort in compliance increases while the marginal costs of efforts in strategy creation and risk mitigation increase because of the indirect effect of substitutability. Therefore, as regulatory pressure increases

($\Lambda \uparrow$), under-investments in strategy creation and risk mitigation and over-investment in compliance get exacerbated.

Corollary 1 (Effect of high regulatory pressure). (i) *If the regulatory pressure is high,* $\Lambda \geq (1+\mu-\alpha)$, *then bank boards under-invest in strategy creation and in risk mitigation while they over-invest in compliance. Formally:*

$$\Lambda \geq (1+\mu-\alpha) \Rightarrow (i)\, e_R^* < e_R^{FB};\ \ (ii)\, e_S^* < e_S^{FB};\ \ (iii)\, e_C^* > e_C^{FB} \tag{24}$$

(ii) *If the regulatory pressure is moderately high but not very high,* $0.5-\alpha \leq \Lambda < (1+\mu-\alpha)$, *then bank boards under-invest in risk mitigation while they over-invest in strategy creation and in compliance. Formally:*

$$0.5-\alpha < \Lambda < (1+\mu-\alpha) \Rightarrow (i)\, e_R^* < e_R^{FB};\ \ (ii)\, e_S^* > e_S^{FB};\ \ (iii)\, e_C^* > e_C^{FB} \tag{25}$$

(iii) *If the regulatory pressure is low,* $\Lambda < 0.5-\alpha$, *then bank boards under-invest in risk mitigation and compliance while they over-invest in , strategy creation. Formally:*

$$\Lambda < 0.5-\alpha \Rightarrow (i)\, e_R^* < e_R^{FB};\ \ (ii)\, e_S^* > e_S^{FB};\ \ (iii)\, e_C^* < e_C^{FB} \tag{26}$$

The corollary follows intuitively using propositions 3-5.

Proposition 7 (Strategy creation always dominates risk mitigation) *Irrespective of the level of regulatory pressure, bank boards always exert greater effort in strategy creation than on risk mitigation. Similarly, bank boards always exert greater effort in compliance than on risk mitigation. Formally:*

$$e_S^* > e_R^*\ \forall \Lambda, \mu, \alpha \tag{27}$$

$$e_C^* > e_R^*\ \forall \Lambda, \mu, \alpha \tag{28}$$

The proof is easily obtained by using equations (12) to (14) and using $\mu > 1, \alpha > 0, \Lambda > 0$. This result is quite intuitive given the assumption that bank boards can costlessly violate the debtholders constraints while maximising shareholder value (subject to the constraint that the regulator is kept happy).

Proposition 8 (Regulation and compliance dominate strategy creation if regulatory press
If the regulatory pressure is high, then bank boards exert greater effort in regulation and compliance than on strategy creation. Formally:

$$\Lambda \geq \left(\frac{2+\mu}{3}-\alpha\right) \Rightarrow e_C^* \geq e_S^* \tag{29}$$

$$\Lambda < \left(\frac{2+\mu}{3}-3\alpha\right) \Rightarrow e_C^* < e_S^* \tag{30}$$

The proof is easily obtained by using equations (12) to (14) . Because bank boards maximise shareholder value subject to the constraint that the regulator is kept happy, bank boards exert greater effort in regulation and compliance than on strategy creationonly if the regulatory pressure is quite high.

III.G Empirical implications

Because the (first-best) optimal level of effort cannot be observed empirically, inferences about under- or over-investment by bank boards in the various categories (strategy creation, risk mitigation and regulation and compliance) can only be inferred by appealing to the theoretical arguments above. Regulatory changes are often endogenous and are likely to be driven by the behaviour of banks preceding these changes. So, it is difficult to directly test corollary 1 because instruments for exogenous changes in regulatory pressure may be difficult to find. As well, to directly test corollary 1, we need data on board minutes from multiple jurisdictions: some where the regulatory pressure exogenously high and some where the regulatory pressure exogenously low. Such data/instruments are not available in our setting. Therefore, we use propositions 7 and 8 together with corollary 1 to obtain an empirical prediction that can be tested and used to infer support for the predictions in corollary 1.

The figure 1 puts together propositions 7 and 8 together with corollary 1 to generate the empirical prediction that can be taken to the data and thereby make inferences from the same. For instance, if regulatory pressure is very high, i.e. $\Lambda > (1 + \mu - \alpha)$, then bank boards will devote maximum attention to issues pertaining to regulation and compliance. Strategy creation would receive the next level of attention. Risk mitigation would receive the minimum level of attention among these three categories. If we find support for this ordinal ranking, then the prediction in corollary 1 can enable us to interpret that this ordinal ranking is also consistent with bank boards under-investing in strategy creation and risk mitigation and over-investing in regulation and compliance. Therefore, the key hypothesis that we take to the data is the following:

Key Hypothesis: Bank boards devote maximum attention to issues pertaining to regulation and compliance. Strategy creation receives the next level of attention. Risk mitigation receives the minimum level of attention among these three categories.

IV Banks in India

As institutional background, we briefly describe the banking system in India and the work of the committee set up by the RBI to review governance of boards of banks in India, on which the present study is based.

IV.A Indian Banking System

Banks in India dominate the financial landscape. Flow of funds accounts for the Indian economy show that banking flows account for more than 50% of the total financial flows in the economy.[3] The Indian banking system is divided into following categories: (i) public sector banks, (ii) new private-sector banks, (iii) old private-sector banks, and (iv) foreign banks. Government-owned banks are further divided into the State Bank of India (SBI) and its associates and other government-owned banks. SBI was formed by a separate Act of Parliament soon after India's independence. All other government-owned banks were created by nationalizing large private-sector banks in the 1970s and the 1980s. All government-owned banks are listed and hence have significant minority stake. Government stake in government-owned banks varies between 55% and 85%.[4] Smaller private-sector banks, which were not nationalized during the nationalization spree, continue to operate as old private-sector banks. New private-sector banks were created after India adopted economic liberalization policy in the year 1991. Finally, foreign banks are fully owned subsidiaries of non-Indian banks, which are registered as foreign banks in India. The entire banking system is regulated by the banking regulator—RBI.

Corporate Governance in government-owned banks and privately owned banks differ significantly. The Ministry of Finance, Government of India effectively exercise the powers of a majority shareholder in government-owned banks. Laws that govern government-owned banks lay down rules regarding corporate governance—the SBI Act of 1955 for the State Bank of India and the Nationalization Acts of 1967 and 1980 for the other government-owned banks. The respective acts applicable to government-owned banks specify the types of directors to be chosen and the way such directors are to be chosen. These different category of directors include representatives of the Government and the RBI, qualified finance professionals, employee representatives. After listing, the respective acts have been amended to include shareholder elected directors on the board. The position of the Chairman of the board and CEO are held by a single individual. As a majority shareholder, the Government gets to appoint the CEO and the same is done through a bureaucratic process.

Private-sector banks, on the other hand, follow the general corporate law with respect to corporate governance. Private bank boards comprise of both executive as well as independent directors in accordance with general corporate law. Private-sector banks follow international best practices in matters pertaining to appointment of the CEO. The process starts with appointment of a search committee comprising of experts in banking and related areas and culminates with shareholder nod for such proposed appointment.

[3]Source: http://www.rbi.org.in/scripts/PublicationsView.aspx?id=15440
[4]Source: http://financialservices.gov.in/banking/Shareholding

IV.B Representativeness

At this stage, it is pertinent to examine how representative are Indian when compared to banks internationally. This question is critical from the point of view of generalizability of our findings. Here, we compare Indian banks with their global peers in terms of some key banking parameters.

IV.B.1 Size

It is well accepted that size has implications for the way the bank operates (Berger, Miller, Petersen, Rajan, and Stein (2005). Thus it is important to compare Indian banks with their global peers in terms of size. The total market capitalization of Indian listed banks is in excess of $205 billion.[5] This is more than 10% of India's GDP and more than 15% of market value of all listed companies in India. As seen in column 2 of table 1, which reports the market capitalization of Indian banks. Some of the large banks compare well with their global peers in terms of size. HDFC Bank, the largest Indian bank by market capitalization is ranked 52nd in the world in terms of market capitalization with a market capitalization in excess of $32 billion.[6] This compares well with market capitalization of some of the well known banks in the world such as Deutsche Bank AG of Germany ($45.69 billion), Society Generale of France ($47.62 billion), Credit Suisse group of Switzerland ($51.51 billion) and Standard Chartered Bank of U.K ($51.58 billion). ICICI Bank, the second largest private-sector bank by market capitalization and largest private sector bank by book value of assets, having a market capitalization in excess of $25 billion, is ranked 66th in the world. The largest public sector bank-State Bank of India is ranked 66th. It is also important to note that three Indian banks are a part of top 100 in the world in terms of market capitalization. This is comparable to industrial economies such as U.K (5), Canada (5), Japan (4), Australia (4), France (3), Germany (2), and Brazil and South Korea (1 each).

IV.B.2 Operational and Financial Performance

Indian banks compare well with their global peers with respect to operational and financial performance. Summary statistics regarding performance of Indian banks is presented in Table 1. Indian banks maintain a capital adequacy ratio of 13.2, which is 65% higher than the Basel II norms. These numbers compare well with the average capital adequacy ratio of 15.46 maintained by American Banks.[7] In terms of operational parameters such as return on assets (ROA), proportion of non-performing assets (NPA), net interest margin (NIM), Indian banks' performance is comparable to global standards.

[5]The market cap is calculated as on December 11, 2014 at the prevailing exchange rate
[6]http://www.relbanks.com/worlds-top-banks/market-cap
[7]http://www.newyorkfed.org/research/banking_research/QuarterlyTrends2013Q2.pdf"

However consistent with the political economy literature (Cole (2009)), private banks outperform government-owned banks in almost all parameters. Panel B of Table 1 shows that for private-sector banks average ROA is 1.33%, Gross NPA to assets ratio is 1% and NIM is 2.75%. The same numbers for public sector banks turn equal 0.72%, 2.2% and 2.30% respectively.

IV.B.3 Regulation

Indian banks are governed by an independent regulator—the RBI. Although the Governor of RBI and his four deputies are appointed by the Government, RBI has developed a reputation as a professional and independent regulator. Successive Governors have resisted pressure from the Ministry of finance with regards to monetary and regulatory policy and used their professional judgments instead (Subbarao (2011)). Especially in the post-liberalization era there is not even a single instance of either government issuing directions to the Central Bank or abruptly removing a RBI Governor for failing to toe the Government's line.[8] It is also important to note that India is a vibrant democracy and any move seen as arbitrary and politically motivated can invite voter's backlash.

Because government ownership of banks is pervasive across the world (La Porta, Lopez-de Silanes, and Shleifer (2002)), the Indian setting provides an apt laboratory to examine the concerns of board conduct in banks worldwide. This is because, unlike banks in the U.S. and U.K., the Indian banking sector includes both private-sector banks and government-owned banks. In contrast to our sample, analyses of board conduct using U.S. or U.K. banks cannot generalize internationally because the comparison between private-sector banks and government-owned banks cannot be made within the same jurisdiction.

IV.C RBI Committee on Governance of Bank Boards

In order to review the governance practices in the boards of Indian banks, the RBI constituted an expert committee in January 2014. The committee was headed by Dr. P. J. Nayak, the former managing director and chairman of Axis bank—India's third largest private-sector bank—for over 10 years between 2002 and 2012. The committee consisted of experts from diverse fields such as law, consulting, academia and government. The corresponding author of this paper was a member of and director of research for the committee. The other three authors assisted the committee in its research work.

The terms of reference given to the committee were comprehensive. Among other things, the RBI specifically asked the committee to (i) examine the working of bank boards including whether adequate attention is devoted to issues of strategy, growth, governance and risk management; (ii) analyze the representation on bank boards to see

[8]Source:http://www.livemint.com/Home-Page/hVTYJEt0JJpLqbSZSCg1uK/How-independent-is-RBI.html

whether the boards have the appropriate mix of capabilities and the necessary independence to govern the institution; and (iii) investigate possible conflicts of interest in board representation, including among owner representatives and regulators. The committee submitted its report to the RBI on 5th of May 2014.

IV.D Comparison with Comparable Countries

To test the representativeness of Indian banks, we compare five largest banks of Brazil, Russia and China with five largest banks in India. We use Net Interest Margin (NIM), Non Performing Assets (NPAs) to Total Assets Ratio, Total NPAs, Capital Adequacy Ratio (CAR), Market Capitalization, Net Profit, Deposits and Loans. We report the results in Table A.1 in the appendix. We make the following broad observations:

- In terms of NIMs, Indian banks are comparable to their Russian and Brazilian counterparts but lag slightly behind the Chinese
- In terms of reported NPAs Indian banks are close to the Chinese banks. They outperform Brazilian and Russian banks significantly
- With a 15.9% CAR, Indian banks are as well capitalized as their Russian (15.2%) and Brazilian (16.9%) counterparts and significantly more than their Chinese counterparts (11.01%)
- In terms of market capitalization, net profits, loans and deposits, Indian banks are significantly smaller than the Chinese but comparable to their Russian and Brazilian counterparts

Overall, large Indian banks are comparable to large banks in other emerging markets in terms of critical operational parameters. However, in terms of size they are systematically smaller when compared to their Chinese counterparts.

V Data and Methodology

Our data is based on the minutes of bank board meetings from the RBI committee on governance of bank boards. To fulfill its mandate, the committee requested all major banks in India to provide detailed minutes of their latest board meeting. The request was sent to 24 government-owned banks and 17 privately owned banks. The request was sent during the second week of February 2014. Due to time constraints, the committee collected the minutes pertaining to only one board meeting per bank. Not all banks had completed by then the board meeting for the third quarter. Hence, the committee

requested banks to share the minutes for their second quarter meeting. 12 government-owned banks and 9 private banks provided the required data. The banks that provided data account of 70% of market capitalization and 65% of revenues all banks in India.

Representative data from the minutes of a board and board-level committee meeting contain the following information: name of the bank, date and venue of the meeting, names of the directors who attended the meeting, names of the bank executives (other than directors) who were invited to the meeting, agenda for the meeting and the way the agenda items were deliberated and resolved. The document further provides information about each item on the agenda. A brief explanation is provided about the agenda item. The document then records the views expressed by the members of the board on that agenda item. Finally, the document records the resolution that was passed by the board and the dissent (if any) recorded by any individual board member(s). If the board gives any instructions to the management with regards to any kind of follow up actions to be taken, then the same is recorded as a part of the resolution.

The data pertaining to real outcomes such as proportion of non performing assets, return on assets, net interest income etc were obtained from Prowess database maintained by the Center For Monitoring Indian Economy (CMIE). CMIE is a leading Indian policy research organization, which specializes in collection and dissemination of Indian corporate data. A number of prominent studies have used Prowess database provided by CMIE (see Bertrand, Mehta, and Mullainathan (2000), Khanna and Palepu (2000) and Gopalan, Nanda, and Seru (2007)).

V.A Archival Data vs. Board and Committee Minutes

Since our study is based on the analysis of minutes from the board and committee meetings, we examine the pros and cons of this approach vis-a-vis analysis based on archival data.

First, board composition captures *de jure* aspects of the board. The *de facto* workings of the board can, however, differ substantially because of the interpersonal interactions and the interpersonal relationships between the board members. Such *de facto* workings are more likely to be captured by examining detailed board minutes, which record participation in the deliberations by each member.

Second, variables pertaining to board composition cannot capture qualitative, yet nuanced, aspects of risk-taking. For instance, because any analysis of risk has to be forward-looking, analysis of minutes of the board as well as the RMC can reveal the extent to which forward-looking discussions were undertaken by the board or its committees. Such aspects cannot be captured in archival research based on variables relating to board composition.

Third, because banks are highly regulated entities, boards may resort to "box ticking"

to comply with regulations and not emphasize analysis of risk in spirit. Again, such aspects cannot be captured using archival research based on variables relating to board composition.

V.B Methodology

We now describe our empirical methodology. Since the data is qualitative in nature, it is important to describe the methods used to convert the qualitative database into a quantitative one. We use content-analysis methodology as mentioned in Krippendorff (2012) and Lieblich, Tuval-Mashiach, and Zilber (1998), which specifies the procedures to reduce words of text into fewer content categories. This methodology involves constructing a quantitative database by categorizing or coding different aspects of a qualitative data set. Using this methodology, we manually classified each of the issues brought up in the minutes into five categories. The coding was undertaken in two steps. First, because the coding guidelines required a comprehensive understanding of the content of the meetings, for a small sample of banks that included government-owned and private-sector banks, all the board meeting papers were read manually. The understanding gained from the leading of the content of the board papers was utilized in developing a coding scheme for categorizing the various issues. In this step, a distinction was made between agenda notes and the items for discussion. The focus was on analyzing the items tabled and deliberated rather than mere agenda notes. Second, the actual coding of the issues tabled and discussed in the board documents was undertaken based on the coding scheme that was fine-tuned in the first step.

V.C Categorization

We classify all the issues tabled in the board meetings into five board categories. The brief description of these categories is as follows:

1. Risk: Risk management plays a critical role in banking business (Ellul and Yerramilli (2013)). Therefore, we analyze matters relating to risk separately. Matters relating to risk include reviewing large forex exposures, fixing ceilings in different areas, adherence to exposure norm and reviewing credit risk management policy fall under risk discussions.

2. Business Strategy: These include forward looking issues relating to business strategy that have long-term consequences for the bank. We consider only those issues that are not mandated by the regulator as issues mandated for tabling under business strategy. Representative examples would be a proposal to enter insurance business by forging a joint venture with a foreign collaborator, initiating a promotional campaign, and approval of large investments.

3. Financial Reporting: These involve regular stock taking of financial results. These issues are generally based on the management's presentation of financial results for the quarter. These include, for example, discussion of quarterly performance, review of growth of deposits and peer-level performance reviews.

4. Regulation and Compliance: Under this category, the first set of issues are generally tabled and discussed in response to either a specific instruction or a general guideline by regulators. A representative issue in this category would be a discussion on Anti Money Laundering Guidelines issued by the RBI or on meeting the KYC (Know Your Customer) norms issued by the RBI. Second, banks in India are mandated to direct credit to some sectors, which are identified as priority sectors. Government of India as well as RBI, from time to time, announce financial inclusion schemes to be delivered by banks. Any discussion on these issues come under this category. Third, this category includes issues that must receive the formal approval of the board, such as granting the authority to sign a contract or financial reports, nomination of trustee, power of attorney, etc.

5. Human Resources: This includes issues such as appointments and approvals of directors, perks and perquisites for employees, incentive schemes for employees, promotion policies for employees, training and skill development of employees.

Table 2 shows a few examples of each category of issues.

V.D Tabling vs. Deliberation of Issues

After recording the issues, we distinguish between mere tabling of issues and their deliberation. If an issue is just presented before the board and the related resolution is deemed to be passed without discussion, then we code such an issue as just presented or tabled without it being deliberated. If tabling of an issued is followed by discussion on the issue then we code such issue as deliberated. Before coding an issue as deliberated, we make sure that a discussion on the issue is found in the minutes. Specifically, we define an issue as deliberated if the board discusses the issue in detail and takes any of the following actions: (i) directs management for further action; (ii) demands more information; (iii) expresses concern over relevant existing processes, data, performance indicators, etc.; (iv) rejects a new policy or proposal. An issue, where the minutes just mentions that the issue was deliberated without providing details of the discussion, is not considered as deliberated.

V.E Forward vs. Backward looking statements

We classify issues in risk committee minutes as forward looking or not. To do so, we follow the methodology of Muslu et al. (2014). Using criteria from computational linguistics, we develop a comprehensive list of forward looking words found in the risk committee minutes. Our unit of measurement is a sentence. We identify a sentence as forward looking if it contains any of the following phrases: (1) keywords that implies action to be taken in future (e.g. "future", "next year"); (2) verb conjugations that indicate the future (e.g. "bank plans to monitor", "bank shall"). These phrases are developed from our reading of randomly selected committee minutes.

VI Results and Discussion

VI.A Test of the Key Hypothesis

Table 3 shows the total number of issues tabled in a board meeting for each category. Panel A shows the number of issues table in a board while panel B shows the percentage of issues tabled in each category. On average, bank boards table 50 issues, which is significantly greater than the 8.5 tabled in the boards of industrial firms as shown in Schwartz-Ziv and Weisbach (2013). On average, bank boards in our sample table 18 issues in business strategy and 19 issues in regulation and compliance. In contrast, they only table six issues in risk, five in financial reporting and three in human resources. Panel B shows that boards discuss issues relating to regulation and compliance the most, which takes up 37% of the total board attention. Issues relating to business strategy are next in importance as they receive 35% of the board's attention. In comparison, issues relating to risk only account for 10% of the board's attention. This ordinal ranking is consistent with the key hypothesis mentioned in section III.G.

We formally test this key hypothesis in tables 4 and 5. In table 4, we find strong support for the hypothesis that the percentage of risk issues tabled is dominated by the percentage of strategy issues tabled. The difference in means is statistically significant at the 99% level. In table 5, we similarly find strong support for the hypothesis that the percentage of issues tabled pertaining to regulation and compliance dominates the percentage of strategy issues tabled. The difference in means here is statistically significant at the 95% level. Thus, the evidence in tables 4 and 5 provides strong support for the ordinal ranking hypothesised in section III.G.

VI.B Inference of over- and under-investment

As described in section III.G, we can use the theoretical arguments and the empirical predictions obtained using these arguments, especially figure 1, to make inferences using

this ordinal ranking. As figure 1 shows, the ordinal ranking that we find is consistent with bank boards in our sample under-investing in risk mitigation and over-investing in regulation and compliance. These results are consistent with anecdotal evidence in several multilateral and national reports, which have highlighted failure of bank boards in effectively assessing risks as well as in excessively conforming with laid down procedures.

The under-investment in risk related matters is especially pertinent given policymaker concerns following the financial crisis that bank boards did not assess risks effectively. Walker (2009) mentions that "the overriding strategic objective of a bank/financial institution is the successful management of financial risk." The supervision manual of the Federal Reserve states that "The board of directors is responsible to the bank's depositors, other creditors, and shareholders for safeguarding their interests" (see section 5000.1). Moreover, although the penalties from losses in shareholder value is immediate, they are not as severe as in the case of losses arising from poor risk management (Mongiardino and Plath (2010b)).

However, following figure 1, we cannot use the ordinal ranking that we find to infer whether the attention paid by bank boards in our sample to matters pertaining to strategy is consistent with over- or under-investment (compared to the optimal level). This is because while the ordinal ranking is consistent with regulatory pressure being moderately high, using this ranking, we cannot distinguish between regimes where regulatory pressure is extremely high and those where regulatory pressure is moderately high. Over-investment in strategy creation is obtained only if the regulatory pressure is extremely high. Therefore, we cannot infer whether the attention paid to strategy creation in our sample is consistent with over- or underinvestment by bank boards in strategy creation.

VI.C Robustness

We now examine the robustness of the above findings.

VI.C.1 Examining the entire distribution

In table 6, for each of the categories, we examine the distribution of the number and percentage of issues tabled in a board meeting. Specifically, we show the 10th, 25th, 50th, 75th, 90th percentiles together with the mean for the number and percentage of issues tabled in a board meeting across the various categories. Panel A displays the distribution by number of issues tabled while panel B displays the distribution for the percentage of issues tabled. In this table, we observe that the distributions for the number and percentage of business strategy issues tabled first-order stochastically dominate the distributions for the number and percentage of risk issues tabled. Similarly, we observe that the distributions for the number and percentage of regulation and compliance issues tabled first-order stochastically dominate the distributions for the number and percentage

of risk issues tabled. Finally, we observe that the number and percentage of regulation and compliance issues tabled is strictly greater than the number and percentage of strategy issues tabled at the 10th, 25th, 50th percentiles. However, the reverse is true for the 75th and the 90th percentiles. This provides further confirmation that issues pertaining to both regulation and compliance and strategy dominate the issues pertaining to risk. But, we cannot necessarily infer that issues pertaining to regulation and compliance first-order stochastically dominate the issues pertaining to strategy. Thus, examining the entire distribution suggests the possibility that the regime underlying our sample may be one where the regulatory pressure lies in the range $\left(0.5-\alpha, \frac{2+\mu}{3}-\alpha\right)$. However, even in this range, the inference that boards over-invest in regulation and compliance and under-invest in risk remains unaltered.

VI.C.2 Effect of State versus Private ownership

Table 7 shows how the number and percentage of issues tabled across various categories varies with the nature of bank ownership. Since the Indian banking sector comprises of both state-owned banks, also called public sector banks, and private owned banks, we make this important distinction. While the number of issues that are tabled are about 30% higher in private-sector banks than in the public sector banks, the percentage of issues tabled across the various categories are no different between the private sector banks and the public sector banks.

VI.C.3 Correlation with bank size

We now examine if the above inferences vary with size of the banks in our sample. Figure 2 shows the correlation of the fraction of issues tabled in a particular category with bank size. From this figure, we can infer very clearly that the percentage of issues tabled in a particular category do not vary with bank size. Thus, a key bank characteristic— size— does not seem to drive the above inferences.

VI.C.4 Correlation with real outcomes

To examine if our measures of board conduct are indeed meaningful, we correlate them with various real outcomes. In table 8, we examine the correlation of the various categories of issues tabled in bank board meetings with various real outcomes including return on assets, return on equity, net non-performing assets to net advances, and gross non-performing assets to gross advances. Among the various categories of issues tabled in board meetings, we find that the percentage of issues pertaining to risk correlate significantly with all the proxies for bank performance. Specifically, higher percentage of risk issues tabled in board meetings correlates positively and significantly with return on assets and return on equity and correlates negatively and significantly with the proportion

of non-performing assets to advances. However, the other categories such as business strategy, regulation and compliance, financial reporting et cetera do not seem to correlate with bank performance. Figures 3-5, which show the scatterplot as well as the linear fit, provide the same inferences.

VI.D Quality of Deliberation in Bank Boards

The Walker Report (2009), which reviews corporate governance in UK banks, mentions that the sequence in board discussion should start with an idea being presented, followed by the idea being challenged. To check whether the board follows this sequence, we look at the level of pro-activeness shown by the directors. To this end, we look at whether any board member participates beyond merely giving approval or agreement. Actions such as seeking further information or update, expressing concern, modifying a proposal, and dissenting with the management qualify as identifiers of pro-activeness (issue deliberated).

Table 9 shows the total number of issues that are deliberated in detail across each category. Panel A shows the number of issues deliberated in detail in the board while panel B shows the fraction of issues deliberated in detail in each category. Panel C shows the fraction of tabled issues that are deliberated in detail in each category. On average, while bank boards table 50 issues, only 9 of these are deliberated in detail on average. Thus, only 18% of the tabled issues are deliberated in detail. On average, bank boards in our sample deliberate 4 issues in business strategy and 3 issues in regulation and compliance. In contrast, they only deliberate one issue in each of risk, financial reporting and human resources. Panel B shows that boards deliberate issues relating to business strategy the most, which accounts for close to 30% of the issues deliberated. Issues relating to regulation and compliance are next in importance as they account for close to 25% of the issues deliberated. Issues relating to risk account for only 8% of the issues deliberated.

As a percentage of the issues that are tabled, in Panel C, we find that close to 30% of the issues tabled in financial reporting are deliberated in the detail. These percentages are about 17% for risk, 19% for business strategy, 14% for regulation and compliance and 15% for human resources.

VI.D.1 Robustness

Table 10, which shows the distribution of the number and percentage of issues deliberated in detail across the various categories, suggests that the above findings remain robust when we examine the entire distribution rather than just the means. Panel A displays the distribution by number of issues deliberated in detail while panel B displays the distribution for the percentage of issues deliberated in detail. In this table, we observe

that the distributions for the number and percentage of business strategy issues deliberated in detail first-order stochastically dominate the distributions for the number and percentage of regulation and compliance issues that are deliberated. Similarly, we observe that the distributions for the number and percentage of regulation and compliance issues that are deliberated, in turn, first-order stochastically dominates the the distributions for the number and percentage of risk issues that are deliberated.

Table 11 shows how the number and percentage of issues tabled across various categories varies with the nature of bank ownership. The number of issues that are deliberated in detail equal 10 for both private-sector banks and public sector banks. Further, the percentage of issues that are deliberated in detail are no different between the private sector banks and the public sector banks. As a percentage of the number of issues that are tabled in each category, the fractions are different for the private sector banks and the public sector banks. However, this is primarily because of the differences in the number of issues tabled between the public sector banks and the private sector banks as we saw in table 7.

We now examine if the above inferences vary with size of the banks in our sample. Figure 6 shows the correlation of the fraction of issues deliberated in detail in a particular category with bank size. From this figure, we can infer that while the percentage of risk issues deliberated in detail decreases with bank size, albeit at a very low rate, the selection of issues that are related in business strategy and compliance do not vary with bank size.

VI.D.2 Correlation with real outcomes

To examine if our measures for deliberation in the board are indeed meaningful, we correlate them with various real outcomes. In table 12, we examine the correlation of the various categories of the fraction of issues deliberated in detail with return on assets, return on equity, net non-performing assets to net advances, and gross non-performing assets to gross advances. Among the various categories of issues tabled in board meetings, we find that the percentage of issues pertaining to risk correlate significantly with most of the proxies for bank performance. Specifically, higher percentage of risk issues tabled in board meetings correlates positively and significantly with return on assets and correlates negatively and significantly with the proportion of non-performing assets to advances. However, the other categories such as business strategy, regulation and compliance, financial reporting et cetera do not seem to correlate with bank performance.

Overall, our results support the findings in the Walker Report (2009), which identifies lack of ideas being challenged in the board room as one of the principal deficiencies in bank boards.

VI.D.3 Low level of deliberation of issues relating to risk

Specifically, we discuss our finding that risk issues are deliberated inadequately. Only 16.5% of the risk issues that are tabled are deliberated in detail. Considering that issues relating to risk are more complex in nature, we should expect a higher level of discussion from the board of directors on risk related issues. We also find that of all the issues deliberated across categories, risk account for only 8%.

While we have not modeled differences in the complexity of efforts made towards risk mitigation versus efforts in compliance and strategy, one explanation for such low levels of deliberation of risk can be the difficulty in understanding and evaluating risk in a bank. In contrast, activities falling under categories such as performance or compliance are easy to comprehend. Risks assumed by banks are quite opaque for two reasons. First, as part of their fundamental functionality, banks lend money and act as delegated monitors on behalf of their depositors (Diamond and Dybvig (1983)). The literature on banking has emphasized that banks rely on soft information for their lending decisions (Petersen (2004), Berger, Miller, Petersen, Rajan, and Stein (2005)). Soft information by its very nature is unverifiable and complex (Petersen (2004)). As a result, as part of their normal lending business, the risks that banks assume are opaque and complex. Second, banks indulge in technically complex trading activities, which make it possibly difficult for even directors in a board to comprehend.

VI.E Evidence from Risk Management Committee Minutes

Given the low number of risk issues being tabled and deliberated in detail, a natural follow up question that arises is whether banks are discussing risks in any other board-level committee meetings. Indian banks are mandated to constitute a separate RMC where these issues could possibly be discussed in detail. This committee is endowed with the responsibility of evaluating overall risks faced by the bank and determining the level of risks, which will be in the best interest of the bank. In the wake of Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, which requires large bank holding companies to create a stand-alone board-level risk committee, it becomes important to understand the kind of discussions that take place in a RMC meeting.

Table 13 presents the details of the constitution and the number of meetings of RMC as a proportion of the number of times the board of a bank meets. We find that on average, the RMC meets only 4 times a year when compared to the 12 annual meetings of the board, or the 10 annual meetings of audit committee. Column 3 of Table 13 shows that in several banks the frequency of RMC meetings are significantly lower than the frequency of board meetings. While frequent meetings are by no means sufficient for robust risk governance, infrequent meetings imply that the RMC has insufficient time to review and discuss risk issues. Table 14 shows the kind of issues that are brought up in the

RMC meetings. Considering the complexity of issues relating to risk that are discussed in these meetings, the frequency of meetings of risk committee may be insufficient.

VI.E.1 Tabling of issues and deliberation

Panel A of Table 15 shows that the average number of issues brought up in the RMC of a bank is 27, which is quite a large number for a single meeting. On average, private-sector banks table 38 issues in the RMC while the public sector banks table 22 issues. To examine if the RMC members ask pointed questions and debate matters relating to risk, we measure pro-activeness in the RMC by the measuring detailed deliberations taken up during the meeting. Surprisingly, we find that only 27% of the risk issues that are tabled are deliberated in detail. This finding supports the view that the RMC seems to be indulging in box-ticking for regulatory purposes rather than performing risk assessment, and risk management in their true spirit. Our findings are supported by the findings in Walker Report (2009), which mentions that boards have delegated key parts of risk oversight to the financial compliance function with the object of meeting regulatory capital requirements at minimum cost and with minimum erosion of returns on equity.

Public sector banks deliberate in detail five of the 22 issues tabled in the risk management committee; thus public sector banks deliberate 22% of the issues tabled in the risk management committee. Private sector banks deliberate in detail 12 of the 38 issues tabled in the risk management committee; thus private sector banks deliberate 32% of the issues tabled in the risk management committee. Thus, here we find some differences in the quality of deliberations in the RMC between the private sector banks and the public sector banks. Specifically, private-sector banks table and deliberate more of the issues tabled in the RMC than public sector banks.

We next look at the ratification and monitoring of issues in the risk committee meetings. Ratification and monitoring is defined as in Fama and Jensen (1983). Specifically, ratification refers to "the choice of the decision initiatives to be implement" while monitoring refers to "the measurement of the performance of management and the implementation of rewards." Panel B of table 15 shows the number of issues that are ratified and monitored. Of the total number of issues that are tabled, 73.22% of issues relate to monitoring and the rest are for ratification. Of the deliberated issues, 72.90% pertain to monitoring and the rest are for ratification. Largely, risk committees seem to be performing a monitoring role with respect to risk matters.

VI.E.2 Forward looking versus backward-looking

Finally, we look at whether the activities of risk-committee are forward looking or backward-looking. The Walker Report (2009) emphasizes the necessity of risk committees to be forward-looking: "Alongside assurance of best practice in the management

and control of known and reasonably measurable risks, the key priority is to give clear, explicit and dedicated focus to current and forward-looking aspects of risk exposure". To test whether risk committees are forward looking, we perform text analysis on the minutes of RMC meetings. We operationalize the methodology used in Muslu et al. (2014) using text analytic tools in R. Table 16 shows that, on average, only 25% of risk committee discussions are forward looking. In this aspect private-sector banks are better than government-owned banks. Private banks discuss forward-looking risks 43% of the time while public banks discuss forward-looking risks only 21% of the time.

Combining the findings that risk committees meet infrequently (only four times in a year), conduct detailed deliberations only 28% of the time, primarily perform monitoring activities (72%), and discuss forward looking aspects of risk exposure infrequently (25%), we infer that board-level risk committees also do not discuss risk adequately.

VI.E.3 Comparing with a benchmark bank

To assess the validity of our measures, we use a bank, which has won multiple awards in the last decade for having the best risk management practices as a benchmark. The RMC of this bank meets 7 times a year, as opposed to the average of 4. In this bank, the percentage of risk issues tabled equals 22%, which is much higher than the average of 11%. The risk committee of this bank ratifies 67% of the issues put forth, while the average is only 26%. The fact that the bank that has been rated as having excellent risk management practices also rates highly on our measures for focus on risk lends credence to our findings.

VI.F Correlation of board structure with board conduct

A large literature has carefully examined the association between board structure and performance and found equivocal results (Hermalin and Weisbach (1991); Yermack (1996); Bebchuk, Cohen, and Ferrell (2009); Eisenberg, Sundgren, and Wells (1998); Bhagat and Black (2002); Ferris, Jagannathan, and Pritchard (2003); Hillman (2005)). Various dimensions of board structure examined include size of the board, stock ownership of the board members, whether the board members are insiders or outsiders, educational background of board members, other engagements of board members etc. Plausible endogeneity involved in board selection and lack of data pertaining board conduct have been major stumbling blocks in relating board structure to corporate performance via board conduct(Hermalin and Weisbach (1998); Wintoki, Linck, and Netter (2012); Schwartz-Ziv and Weisbach (2013)). Although Vafeas (1999) find that higher frequency of board meetings is associated with better operational performance, they do not observe the actual board conduct, which should ideally influence performance. As well, it has been observed that it is not apt to generalize the findings from studies on general corporate boards to

banks, which are complex and opaque by nature (Aebi, Sabato, and Schmid (2012b); Coles, Daniel, and Naveen (2008); Haan and Vlahu (2016)).

Motivated by the above findings and the lack of consensus in the literature, we examine the association between board structure and conduct among Indian banks. The structural dimensions we examine are quite comprehensive. These include the size of the board, age of board members, professional experience, prior board experience, educational back ground, political connections, corruption charges, among other things. We first identify the attributes at board member level and calculate the average for a bank. As mentioned earlier, our board minutes data covers meeting conducted after July-September quarter of 2013. Therefore, we collect information about those who were bank board directors as on 30th September, 2013. As before, the issues tabled in the board are classified into five categories; financial reporting, risk, human Resources, business strategy and regulation and complaince. We then calculate the raw correlations between various board attributes and the number of issues tabled in each category. The results are reported in table 17.

The results presented in table 17 broadly show that most board attributes studied in the literature are not significantly associated with board conduct as proxied by number of issues tabled. However, some of the correlations between structural attributes and issued discussed at the board are striking. First, prior board experience is positively correlated with both the number of risk issues as well as number of HR issues. Prior Board Experience captures the cumulative experience of board members. This finding is not surprising because board members with significant board experience may be in a position to appreciate the importance of risk and talent management better than others and hence spend considerable time on these issues. Second, boards with high international experience and those comprised members with degrees from international universities seem to focus more on risk related issues.The association could be driven by the possibility that such directors are fully aware about the current global situation and the perils of neglecting risks (Westphal and Milton (2000); Cohen, Frazzini, and Malloy (2008)) due their own experiences and constant interaction with their private networks. Third, prior board experience is positively associated with number of risk issues taken up. This is conceivable because board members with executive experience have first-hand experience of the type of risks an organisation may face, on the one hand, and the agency problem faced by executives with respect to risk, on the other hand. Therefore, it is likely that they give priority to risk related issues. Fourth, a board with high cumulative experience in civil services seems to focus more on financial reporting and regulation and compliance issues. This is expected as the civil servants would have had rich experience of working in a highly regulated and rule bound environment (Blau (1956)). In fact one of the reasons for the "excessive focus" in our setting could be the significance presence of civil servants in Indian bank boards. Fifth, high private sector experience is positively associated with risk and financial reporting. However the association here is very weak. Finally, we

separately examine private and public sector banks. In line with our earlier results, we do not find any significant difference between the two.

These findings, therefore, highlight the importance of examining the actual conduct of boards as board structure does not correlate very much with board conduct.

VII Conclusion

Prior academic research on bank governance has mostly concentrated on the role of board structure. However, board conduct and its relationship to governance in banks has not received attention. In this paper, we fill this gap by analyzing the minutes of board and RMC meetings of 29 banks in India. We manually classify the issues into different categories, and code whether each issue has been deliberated at length. Risk accounts for only 10% of the board's attention with regulation and compliance accounting for the most (41%) followed by business strategy (31%). Only 20% of the issues are deliberated at length. The RMC meets infrequently and deliberates only 28% of the issues. Only 25% of the issues tabled in the RMC are forward-looking in nature. Using a simple framework to discipline our analysis and to enable the interpretation of our results, we infer that bank boards are under-investing in matters relating to risk and over-investing in matters pertaining to compliance.

It is important to keep in mind some important caveats and some redeeming features about our setting. While the discipline enforced by a theoretical model, albeit highly stylised and simple, provides some generalisability to our findings, our sample is restricted to the minutes of one board meeting and one board-level committee meeting for each bank. Therefore, we would urge caution in generalising our findings.

Yet, some features may help in redeeming these weaknesses. Government ownership of banks is pervasive across the world (La Porta, Lopez-de Silanes, and Shleifer (2002)). Therefore, our results may extend better to several emerging economies where governments own banks when compared to studies that focus on banks in the U.S. or U.K. Given the worldwide concerns about corporate governance in banks, it helps to have analysis of board conduct that includes both private-sector and government-owned banks. Unlike banking sectors in U.S. or U.K., where governments invested in distressed banks for a short period following the financial crisis, the Indian banking sector comprises of both government-owned banks as well as private-sector banks. Our sample of board minutes reflects this reality as well. The fact that our findings are not different across government-owned and private-sector banks also helps in this aspect.

Given the significant limitations of our study that we have articulated, we hope that subsequent work would overcome this limitation. We hope that our work would motivate follow-up work examining how the conduct of bank boards affects bank governance. Subsequent work that throws light on the responsibilities and tasks of the various committees

of bank boards would serve to enhance our understanding of the conduct of bank boards.

References

Adams, R., and H. Mehran (2003): "Is corporate governance different for bank holding companies?," *Economic Policy Review*, (Apr), 123–142.

Adams, R. B. (2010): "Asking directors about their dual roles," in *Finance and Corporate Governance Conference*.

Aebi, V., G. Sabato, and M. Schmid (2012a): "Risk management, corporate governance, and bank performance in the financial crisis," *Journal of Banking & Finance*, 36(12), 3213–3226.

——— (2012b): "Risk management, corporate governance, and bank performance in the financial crisis," *Journal of Banking & Finance*, 36(12), 3213–3226.

Bebchuk, L., A. Cohen, and A. Ferrell (2009): "What matters in corporate governance?," *Review of Financial studies*, 22(2), 783–827.

Berger, A. N., N. H. Miller, M. A. Petersen, R. G. Rajan, and J. C. Stein (2005): "Does function follow organizational form? Evidence from the lending practices of large and small banks," *Journal of Financial economics*, 76(2), 237–269.

Bertrand, M., P. Mehta, and S. Mullainathan (2000): "Ferreting out tunneling: An application to Indian business groups," Discussion paper, National Bureau of Economic Research.

Bhagat, S., and B. S. Black (2002): "The non-correlation between board independence and long-term firm performance," *As published in Journal of Corporation Law*, 27, 231–273.

Blau, P. M. (1956): "Bureaucracy in modern society.," .

Boot, A. W., and A. V. Thakor (1993): "Self-interested bank regulation," *The American Economic Review*, pp. 206–212.

Ciancanelli, P., and J. A. Reyes-Gonzalez (2001): "Corporate governance in banking: a conceptual framework," *Available at SSRN 253714*.

Cohen, L., A. Frazzini, and C. Malloy (2008): "The Small World of Investing: Board Connections and Mutual Fund Returns," *Journal of Political Economy*, 116(5).

Cole, S. (2009): "Financial development, bank ownership, and growth: or, does quantity imply quality?," *The Review of Economics and Statistics*, 91(1), 33–51.

Coles, J. L., N. D. Daniel, and L. Naveen (2008): "Boards: Does one size fit all?," *Journal of financial economics*, 87(2), 329–356.

Demsetz, H., and K. Lehn (1985): "The structure of corporate ownership: Causes and consequences," *Journal of political economy*, 93(6), 1155–1177.

Diamond, D. W. (1984): "Financial intermediation and delegated monitoring," *The Review of Economic Studies*, 51(3), 393–414.

Diamond, D. W., and P. H. Dybvig (1983): "Bank runs, deposit insurance, and liquidity," *The journal of political economy*, pp. 401–419.

Eisenberg, T., S. Sundgren, and M. T. Wells (1998): "Larger board size and decreasing firm value in small firms," *Journal of financial economics*, 48(1), 35–54.

Ellul, A., and V. Yerramilli (2013): "Stronger risk controls, lower risk: Evidence from US bank holding companies," *The Journal of Finance*, 68(5), 1757–1803.

Ferris, S. P., M. Jagannathan, and A. C. Pritchard (2003): "Too busy to mind the business? Monitoring by directors with multiple board appointments," *The Journal of finance*, 58(3), 1087–1111.

Gopalan, R., V. Nanda, and A. Seru (2007): "Affiliated firms and financial support: Evidence from Indian business groups," *Journal of Financial Economics*, 86(3), 759–795.

Group, G. W. (2012): "Toward Effective Governance of Financial Institutions," *Washington, DC*.

Haan, J., and R. Vlahu (2016): "Corporate governance of banks: A survey," *Journal of Economic Surveys*, 30(2), 228–277.

Hermalin, B. E., and M. S. Weisbach (1991): "The effects of board composition and direct incentives on firm performance," *Financial management*, pp. 101–112.

——— (1998): "Endogenously chosen boards of directors and their monitoring of the CEO," *American Economic Review*, pp. 96–118.

Hillman, A. J. (2005): "Politicians on the board of directors: Do connections affect the bottom line?," *Journal of Management*, 31(3), 464–481.

Khanna, T., and K. Palepu (2000): "Is group affiliation profitable in emerging markets? An analysis of diversified Indian business groups," *The Journal of Finance*, 55(2), 867–891.

Kim, B., and J. Prescott (2005): "Deregulatory Forms, Variations in the Speed of Governance Adaptation, and Firm Performance," *The Academy of Management Review*, 30(2), 414–425.

Krippendorff, K. (2012): *Content analysis: An introduction to its methodology*. Sage.

La Porta, R., F. Lopez-de Silanes, and A. Shleifer (2002): "Government ownership of banks," *The Journal of Finance*, 57(1), 265–301.

Levine, R. (2004): *The corporate governance of banks: A concise discussion of concepts and evidence*, vol. 3404. World Bank Publications.

Lieblich, A., R. Tuval-Mashiach, and T. Zilber (1998): "Narrative research," *Reading, analysis and interpretation*, 47.

Macey, J. R., and M. O'hara (2003): "The corporate governance of banks," *Economic Policy Review*, 9(1).

Mehran, H., A. D. Morrison, and J. D. Shapiro (2011): "Corporate governance and banks: What have we learned from the financial crisis?," *FRB of New York Staff Report*, (502).

Mongiardino, A., and C. Plath (2010a): "Risk governance at large banks : have any lessons been learned?," *Journal of risk management in financial institutions*, 3.2009/10(2), 116–123.

——— (2010b): "Risk governance at large banks: have any lessons been learned?," *Journal of Risk Management in Financial Institutions*, 3(2), 116–123.

Muslu, V., S. Radhakrishnan, K. R. Subramanyam, and D. Lim (2014): "Forward-Looking MD&A Disclosures and the Information Environment," *Management Science*, 61(5), 931–48.

Petersen, M. A. (2004): "Information: Hard and soft," Discussion paper, working paper, Northwestern University.

Prowse, S. (1997): "The corporate governance system in banking: What do we know?," *Banca Nazionale del Lavoro Quarterly Review*, March, 11–40.

Santomero, A. M. (1997): "Commercial bank risk management: an analysis of the process," *Journal of Financial Services Research*, 12(2-3), 83–115.

Schwartz-Ziv, M., and M. S. Weisbach (2013): "What do boards really do? Evidence from minutes of board meetings," *Journal of Financial Economics*, 108(2), 349–366.

Senior Supervisors Group (2014): "For more information, see http://www.newyorkfed.org/newsevents/news/banking2014/SSG_Progress_Report_on_Counterparty_January2014.pdf," Discussion paper, Senior Supervisors Group.

Sheifer, A. (2011): "Transformation of Finance," .

Shleifer, A., and R. W. Vishny (1997): "A survey of corporate governance," *The journal of finance*, 52(2), 737–783.

Smith, A. (1937): *The wealth of nations [1776]*. na.

Subbarao, D. (2011): "Central bank governance issues: some RBI perspectives," in *comments at the meeting of the Central Bank Governance Group in Basel on*, vol. 9.

UNCTAD (2010): "Corporate Governance in the wake of the financial crisis," Discussion paper.

Vafeas, N. (1999): "Board meeting frequency and firm performance," *Journal of financial economics*, 53(1), 113–142.

Walker, D. (2009): "A review of corporate governance in UK banks and other financial industry entities," Discussion paper.

Westphal, J. D., and L. P. Milton (2000): "How experience and network ties affect the influence of demographic minorities on corporate boards," *Administrative Science Quarterly*, 45(2), 366–398.

Wintoki, M. B., J. S. Linck, and J. M. Netter (2012): "Endogeneity and the dynamics of internal corporate governance," *Journal of Financial Economics*, 105(3), 581–606.

Yermack, D. (1996): "Higher market valuation of companies with a small board of directors," *Journal of financial economics*, 40(2), 185–211.

Figure 1: Menu to observe attention given to various issues by the board and make inferences from the same

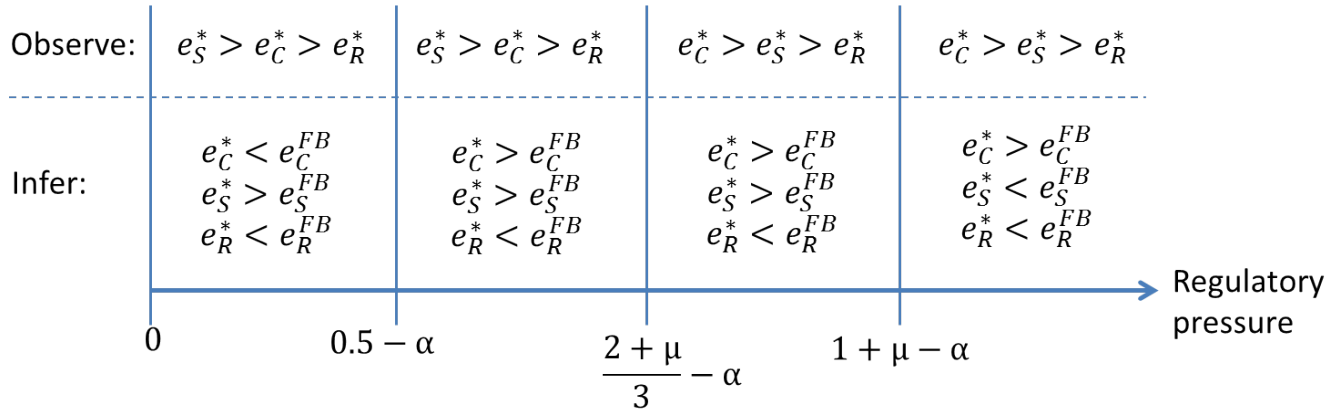

Figure 2: Correlation of Issues Tabled with Bank Size

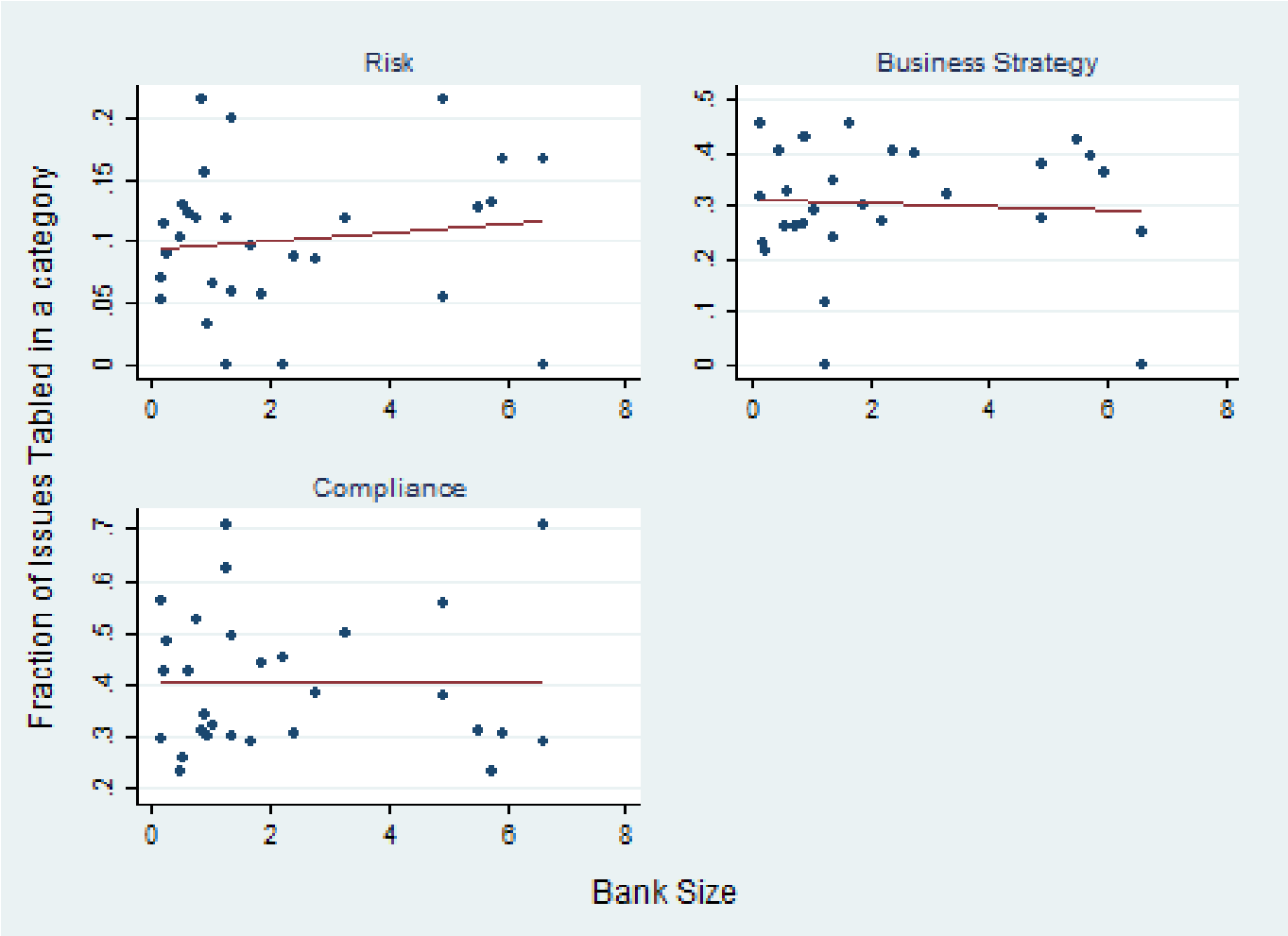

Figure shows the correlation of fraction of issues tabled across categories with bank size. Bank size is measured by total assets in Trillion Rupees. Fraction of issues is obtained by deflating number of issues in a given category by total number of issues. All variables are winsorized at 95 percent

Figure 3: Correlation of Risk Issues Tabled with Real Outcomes

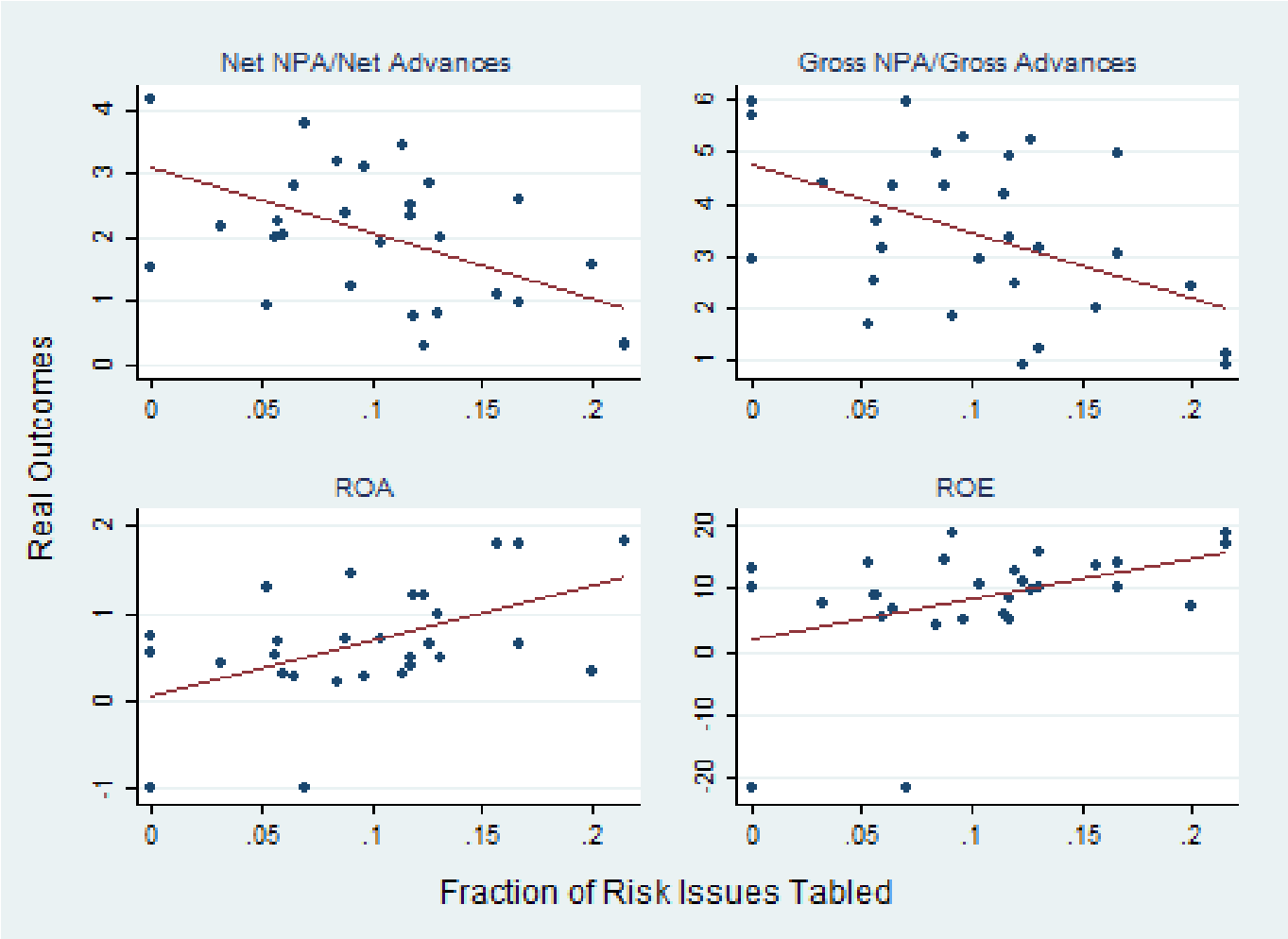

Figure shows the correlation of fraction of risk issues tabled with real outcomes. ROA is measured by ratio of net income to yearly averaged assets. ROE is measured as ratio of net income to equity. NPA refers to Non-performing assets. All real outcomes are obtained from RBI website. Fraction of issues is obtained by deflating issues in a given category by total number of issues. All variables are winsorized at 95 percent

Figure 4: Correlation of Business Strategy Issues Tabled with Real Outcomes

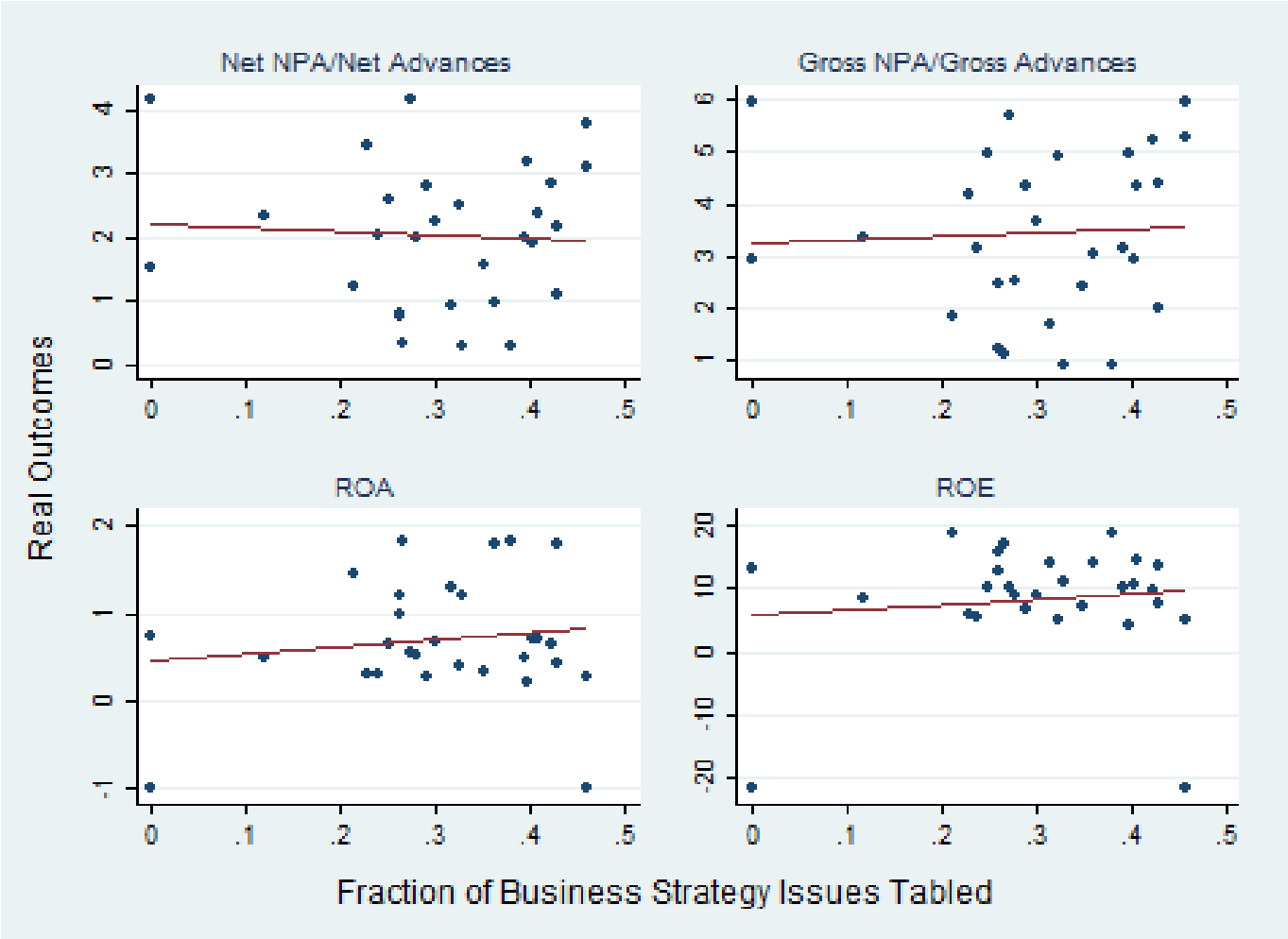

Figure shows the correlation of fraction of business strategy issues tabled with real outcomes. ROA is measured by ratio of net income to yearly averaged assets. ROE is measured as ratio of net income to equity. NPA refers to Non-performing assets. All real outcomes are obtained from RBI website. Fraction of issues is obtained by deflating issues in a given category by total number of issues. All variables are winsorized at 95 percent

Figure 5: Correlation of Regulatory and Compliance Issues Tabled with Real Outcomes

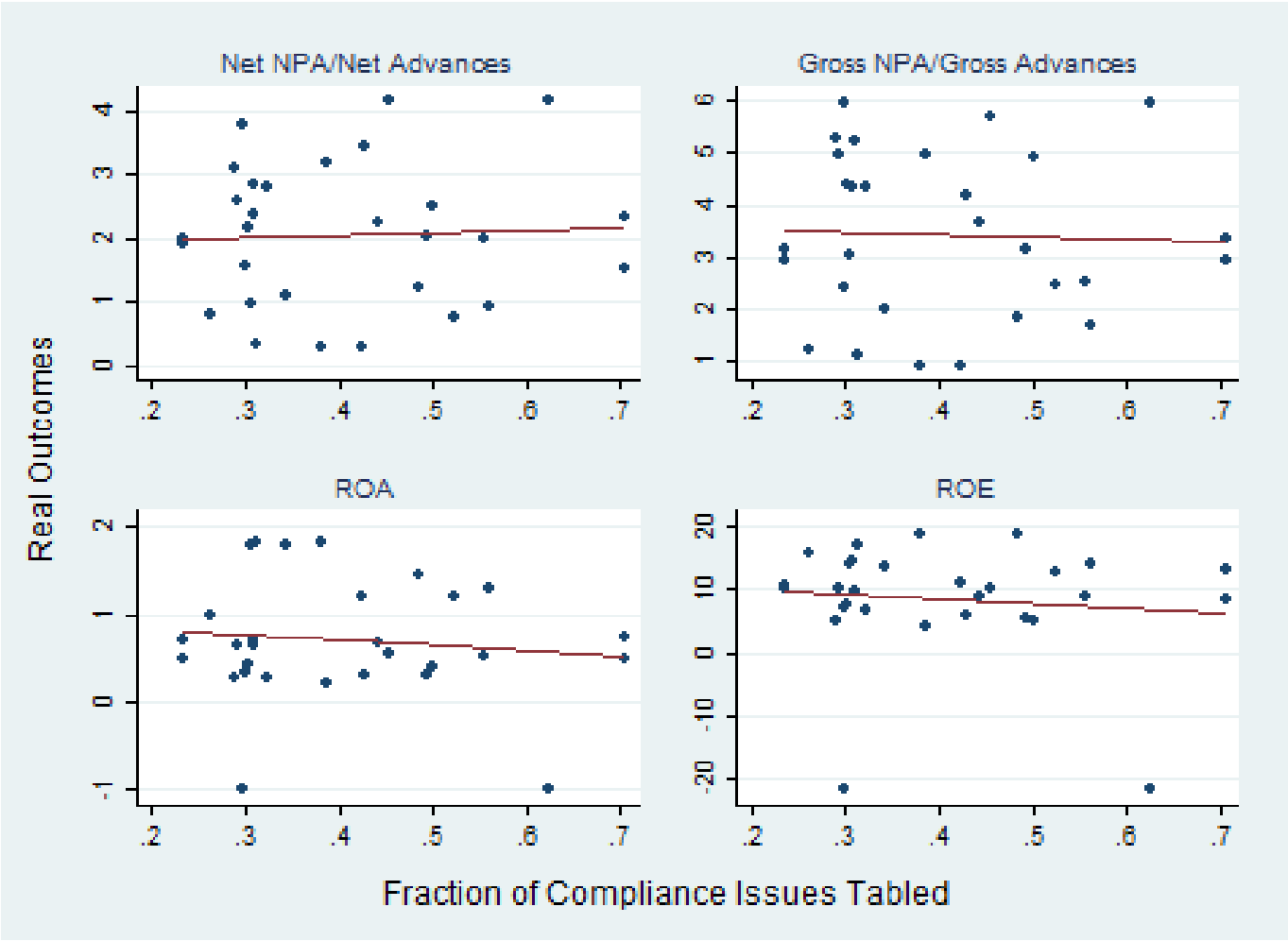

Figure shows the correlation of fraction of compliance issues tabled with real outcomes. ROA is measured by ratio of net income to yearly averaged assets. ROE is measured as ratio of net income to equity. NPA refers to Non-performing assets. All real outcomes are obtained from RBI website. Fraction of issues is obtained by deflating issues in a given category by total number of issues. All variables are winsorized at 95 percent

Figure 6: Correlation of Issues Deliberated with Bank Size

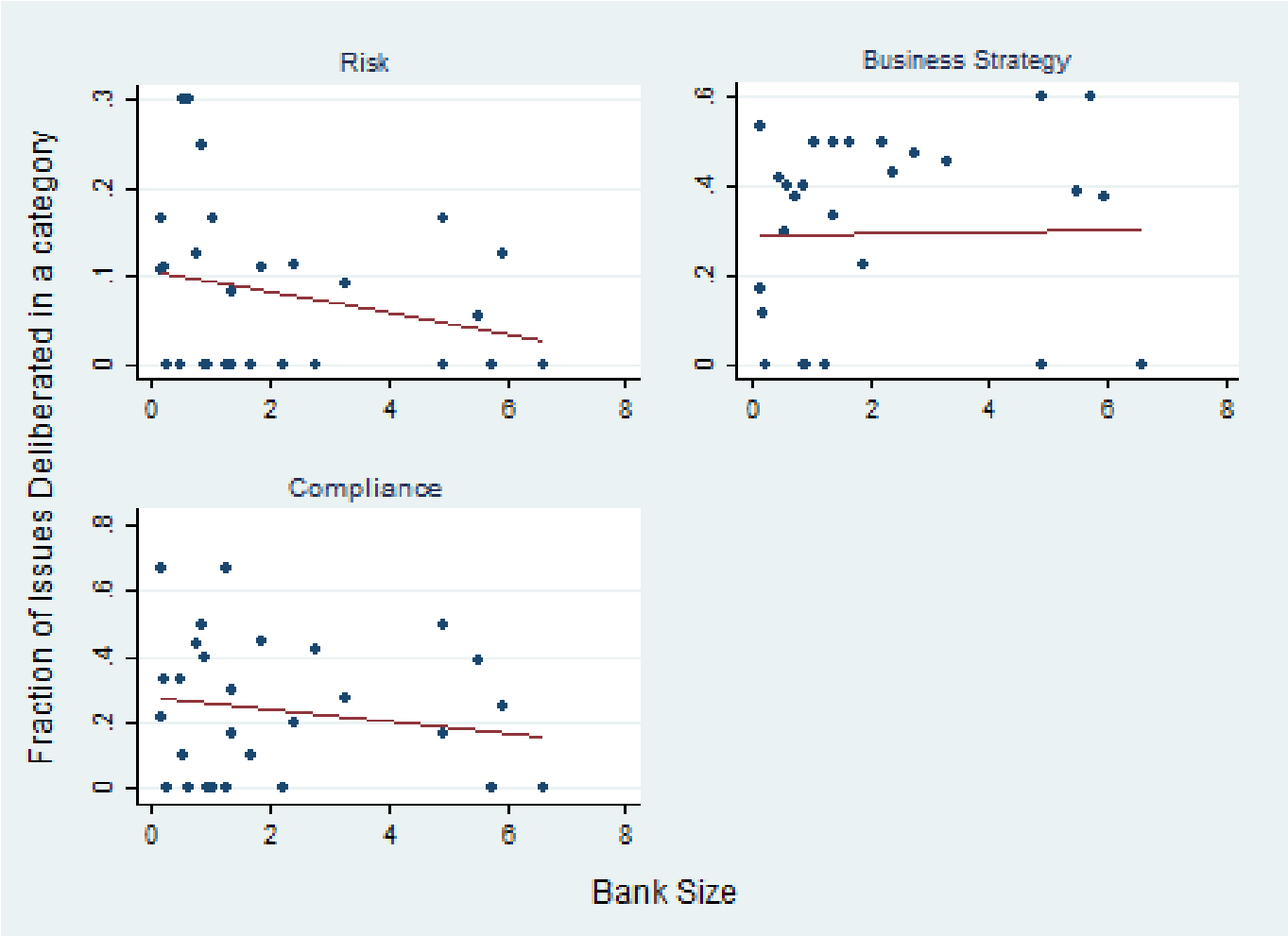

Figure shows the correlation of fraction of issues deliberated across categories with bank size. Bank size is measured total assets in INR(Trillion), and is obtained from RBI website. Fraction of issues is obtained by deflating issues deliberated in a given category by total number of issues deliberated across all categories. All variables are winsorized at 95 percent

Table 1: Statistics For Indian Banks

This table reports summary statistics pertaining to operating performance, ownership and market capitalization of Indian banks. The Market Capitalization is calculated based on closing share price as on 31st March-2014. Government ownership is also calculated as on 31st March 2014. Other operating metrics are averaged over 2005-06 to 2013-2014. CAR refers to Capital Adequacy Ratio, NIM stands for Net Interest Margin, NII refers to Net Interest Income, NPA refers to Non Performing Assets, ROA refers to Return on Assets and finally P/B ratio refers to Profit to Book Ratio.

Panel A: Government-Owned Banks

Bank	Market Cap (In Rs. Billion)	CAR	NIM	NII Growth	Net NPA	ROA	P/B ratio	Profit Growth	Govt Stake
Allahabad Bank	49.5	12.662	2.525	0.185	1.148	1.129	1.024	0.144	0.55
Andhra Bank	37.7	12.836	2.758	0.181	0.548	1.273	1.177	0.151	0.580
Bank of Baroda	309.5	13.544	2.428	0.188	0.690	1.000	1.148	0.276	0.550
Bank of India	146.7	11.906	2.265	0.196	1.328	0.841	1.253	0.383	0.640
Bank of Maharashtra	33.2	12.229	2.535	0.176	1.263	0.599	0.872	0.623	0.810
Canara Bank	121.9	13.313	2.275	0.132	1.297	1.060	1.151	0.144	0.680
Central Bank of India	67.3	11.539	2.309	0.158	1.921	0.508	0.990	0.291	0.850
Corporation Bank	29.2	13.713	2.266	0.157	0.630	1.166	1.081	0.180	0.600
Dena Bank	32.5	11.770	2.402	0.180	1.902	0.810	0.826	0.455	0.550
IDBI Bank Ltd	104.7	13.358	0.934	0.572	1.262	0.692	0.848	0.278	0.720
Indian Bank	53.4	13.446	3.106	0.171	0.807	1.388	1.089	0.199	0.800
Indian Overseas Bank	62.8	13.349	2.691	0.144	1.329	0.937	1.102	0.044	0.740
Oriental Bank of Commerce	66.8	12.151	2.316	0.163	1.138	1.092	0.939	0.058	0.580
Punjab and Sindh Bank	12.4	12.589	2.656	0.147	1.796	0.774	0.593	-0.101	0.800
Punjab National Bank	269.3	13.160	3.016	0.182	0.812	1.200	1.452	0.187	0.580
State Bankk of India	1431.7	12.957	2.703	0.163	1.881	0.906	1.776	0.188	0.620
Syndicate Bank	60	12.138	2.524	0.169	0.968	0.843	1.009	0.256	0.660
Uco Bank	74	12.257	2.094	0.178	2.052	0.578	0.936	0.169	0.690
Union Bank of India	86.6	12.316	2.517	0.184	1.220	1.030	1.304	0.172	0.580
United Bank of India	17.4	13.113	2.369	0.152	1.812	0.627	0.720	0.120	0.820
Vijaya Bank	34.3	12.356	2.264	0.102	1.040	0.763	0.991	0.251	0.550

Panel B: New Private-Sector Banks

Bank	Market Cap (In Rs. Billion)	CAR	NIM	NII Growth	Net NPA	ROA	P/B ratio	Profit Growth
Axis Bank Ltd	686.2	13.538	2.453	0.390	0.581	1.433	2.754	0.411
HDFC Bank Ltd.	1796.2	14.769	3.779	0.320	0.343	1.507	4.052	0.314
ICICI Bank Ltd	1437.2	15.836	2.048	0.233	1.307	1.307	2.034	0.271
Indusind Bank Ltd	263.7	13.288	2.244	0.286	1.338	0.976	2.252	0.478
Kotak Mahindra Bank LTD.	601.6	16.448	4.074	0.420	1.162	1.461	6.031	0.461
Yes Bank Ltd.	149.3	16.923	1.996	1.009	0.063	1.436	3.186	-1.420

Panel C: Old Private-Sector Banks

Bank	CAR	NIM	NNI Growth	Net NPA	ROA	P/B ratio	Profit Growth
City Union Bank Ltd	12.780	2.861	0.245	1.182	1.549	1.282	0.287
Development Credit Bank	12.742	2.373	0.221	2.490	-0.523	1.637	0.573
ING Vyasya Bank	11.918	2.432	0.208	0.831	0.644	1.639	1.303
Karnataka Bank	12.709	2.139	0.218	1.467	1.037	1.020	0.130
Karur Vyasya Bank	14.501	2.720	0.214	0.459	1.570	1.353	0.233
Lakshmi Vilas Bank	12.332	2.244	0.195	2.269	0.508	0.970	1.119
South Indian Bank	13.318	2.530	0.229	1.094	0.890	1.034	0.967
The Dhanalakshmi Bank	11.068	2.270	0.206	1.712	0.201	1.169	-0.750

Source: CMIE Prowess and Authors' Calculations; Annual Reports

Table 2: Category-Wise Examples of Issues in Board Minutes

Category	Examples
Risk	At one meeting, the Board reviewed country risk management of the bank. The Board took note of country-wise exposures, their causes and steps taken to mitigate the risks. Following the advice of RBI from its Annual Financial Inspection, another board discussed a study concerning the implementation of a mechanism for evaluating concentration risk amongst Cash In Transit (CIT) agencies empanelled by the bank. The Board was briefed on the salient features relating to the CIT agencies on concentration risks identified, appointment, annual appraisal, recommendations etc. In another meeting, the Board was presented with the annual review of Market Risk & Derivative Policies covering various risk limits, monitoring and reporting arrangements of Market Risk, Treasury activities which was thereby approved.
Business Strategy	At one bank, the management sought approval for ratification for the introduction of a new retail loan product and also for delegation of powers for this specific product to branch managers from zonal managers. The Board ratified the proposals followed by specific directions regarding collection and verification of customer In another minutes, the management sought Board approval for Rupee Drawing Arrangement with two different international exchanges. The Board did not approve one of the proposals. One board undertook a strategic review of the areas like, Business Plan, Capital Planning, Performance under Priority Sector advances, Performance under Lead districts, Non-fund business and prospective business/product lines and closure of existing ones. In another bank, the senior management presented the strategy on liability and asset to the Board who stressed the need for adequate training of the concerned staff for a successful strategy. The Board also stressed to improve the turnaround time on credit to enhance customer service. At another bank, the Board was updated on the underwriting commitments for loans entered into by the Investment Banking division during the previous fiscal year and current half year.
Financial Reporting	The Board reviewed the banks credit/debit/prepaid card operations. The Board was briefed on the industry snapshot, product and portfolio update, customer service indicators, KPIs, new initiatives and strategy going forward. Performance review related issue common to all banks is the review of financial statements for previous quarter end. At another bank, the Board reviewed the P&L accounts of branches for quarter end June 2013.

Regulation and Compliance	Following RBI directions for reporting on monthly basis on Overseas Regulatory violations, the Board of a bank reviewed the same for the banks overseas branches. At another bank, the Board was updated on the actionable for banks based on findings of the Thematic Review on KYC/AML and sought comments from the Audit & Risk Management committees of the board before final submission. In one instance, the Board of a bank considered a note on appointment of designated director under PML Act, 2002 who will be responsible to ensure overall compliance by the bank with the provisions of the Act. The Board further clarified the roles and responsibilities of the Chief Compliance Officer as the Principal Officer under the Act in regard of this new development. At a government-owned bank, the Board reviewed the implementation of Business Correspondent (BC) Model under Financial Inclusion Plan. Workmen Employee director however dissented with the proposal. In one instance, the Board resolved that the bank become a member and actively participate in the Aadhaar Enabled Payment System, a payment service offered by the National Payment Corporation of India and Unique Identification Authority of India. However, the Board desired that the cost of Aadhar Enabled Services be brought down by using technology. The Board of one bank was updated on the progress made by the bank in lending to the Micro and Small (MSE) sector in the current financial year. Appointment of board members, approving past minutes, choosing a chairman for the meeting, granting leave of absence.
Human Resources	In one meeting, the management sought Board approval for modification in the duration of compulsory leave required to be availed of by all officers of the Bank during a calendar year. The board further stressed that taking compulsory leave must be enforced on all officers and that during this period, the concerned officer should not have any access to his work desk. One of the directors of a bank in a meeting requested for the continuation of the guidelines regarding the appointment of Part-time Sub-staff and absorption of the PTS as Sub-staff which was thereby approved. At another meeting, approval was accorded for Performance Appraisal System (PAF) ratings & marks of officers in SMG Scale-IV to TEG Scale-VI be made accessible to the concerned officers. The Board however desired that, (i) TEF Scale-VII officers are to included in the proposal, and (ii) the reviewing authority gives opportunity to the officer to explain, if his/her marks are below the cut-off level for promotion and such an opportunity will be given in prospective cases.

Table 3: Issues Tabled in Board Meetings

Panel A: No. of issues tabled in a board meeting

	N	Mean	SD	Min	Max
Risk	29.00	6.00	4.40	0.00	17.00
Business Strategy	29.00	18.00	11.85	0.00	38.00
Regulation and Compliance	29.00	19.00	9.17	4.00	33.00
Financial Reporting	29.00	5.00	3.30	1.00	14.00
Human Resources	29.00	3.00	3.71	0.00	11.00
Toal Issues Tabled	29.00	50.00	26.00	5.00	91.00

Panel B: Issues tabled in a category as a percentage of total number of issues tabled

	N	Mean	SD	Min	Max
Risk	29.00	10.3	6.18	0	25
Business Strategy	29.00	30.6	12.1	0	50.9
Regulation and Compliance	29.00	40.9	14.4	21.3	80
Financial Reporting	29.00	13.1	8.74	2.53	37.5
Human Resources	29.00	5.08	5.56	0	17.5

This table shows the summary of issues tabled in board meetings across different categories. Panel A provides the summary for number of issues tabled in a board meeting. Panel B provides the summary statistics for issues tabled in a particular category as a percentage of total issues tabled across categories.

Table 4: Comparison of fraction of Risk Issues Tabled with Business Issues Tabled

Variable	Obs	Mean	S.E	S.D	95% C.I.	
Risk Tabled/Total Tabled	29	0.10	0.10	0.06	0.07	0.12
Strategy Tabled/ Total Tabled	29	0.3	0.02	0.12	0.26	0.35
Difference	29	-0.20	0.02	0.12	-0.24	-0.-0.15

mean(diff) = mean(risk - busstrategy)		t = -9.3643
Ha: mean(diff) < 0	Ha: mean(diff) ! =0	Ha: mean(diff) > 0
Pr(T < t) = 0.0000	Pr($\|T\| > \|t\|$)>0.0000	Pr(T >t) = 1.0000

This table shows the test of means of risk issues tabled with business strategy issues tabled. Since we are testing whether risk issues tabled is lesser than that of business strategy issues tabled, we are interested in the first alternate hypothesis of $Pr(T < t)$

Table 5: Comparison of fraction of Business Strategy Issues Tabled with Regulation and Compliance Issues Tabled

Variable	Obs	Mean	S.E	S.D	95% C.I.	
Strategy Tabled/Total Tabled	29	0.3	0.02	0.12	0.26	0.35
Compliance Tabled/ Total Tabled	29	0.4	0.02	0.14	0.35	0.46
Difference	29	-0.1	0.04	0.24	-0.19	-0.07

mean(diff) = mean(risk - busstrategy)		t = -2.2137
Ha: mean(diff) < 0	Ha: mean(diff) ! =0	Ha: mean(diff) > 0
Pr(T < t) = 0.0176	Pr($\|T\| > \|t\|$)>0.0352	Pr(T >t) = 0.9824

This table shows the test of means of business strategy issues tabled with compliance issues tabled. Since we are testing whether risk issues tabled is lesser than that of business strategy issues tabled, we are interested in the first alternate hypothesis of $Pr(T < t)$

Table 6: Distribution of Issues tabled

Panel A: No. of issues tabled in a board meeting

	N	10th Percentile	25th Percentile	50th Percentile	Mean	75th percentile	90th Percentile
Risk	29	0.00	3.00	4.00	6.00	8.00	12.00
Business Strategy	29	2.00	7.00	17.00	18.00	29.00	33.00
Regulation and Compliance	29	5.00	12.00	18.00	19.00	24.00	32.00
Financial Reporting	29	1.00	3.00	5.00	5.00	7.00	10.00
Human Resources	29	0.00	0.00	1.00	3.00	6.00	9.00
Total Tabled	29	11.00	31.00	57.00	50.00	71.00	83.00

Panel B: Issues tabled in a category as a percentage of total number of issues tabled

	N	10th Percentile	25th Percentile	50th Percentile	Mean	75th percentile	90th Percentile
Risk	29.00	0	5.97	10.4	10.2	13	20
Business Strategy	29.00	11.8	26.1	31.6	30.5	39.8	42.9
Regulation and Compliance	29.00	26.1	30.2	38	40.6	49.3	62.5
Financial Reporting	29.00	4.23	7.02	10.5	12.8	17.4	29
Human Resources	29.00	0	0	2.94	5.08	7.79	14.8

This table shows the distribution of issues tabled across categories. Panel A reports the distribution for number of issues tabled, while panel B reports the distribution of issues tabled in a category as a percentage of the total number of issues tabled.

Table 7: Summary of Issues tabled by bank ownership

	Private			Public		
	N	Mean Number of issues	As a % of total issues tabled	N	Mean Number of issues	As a % of total issues tabled
Risk	12.00	8.00	13.56	17.00	4.00	8.89
Business Strategy	12.00	20.00	33.90	17.00	16.00	35.56
Regulation and Compliance	12.00	22.00	37.29	17.00	16.00	35.56
Financial Reporting	12.00	7.00	11.86	17.00	5.00	11.11
Human Resources	12.00	2.00	3.39	17.00	4.00	8.89

This table shows the distribution of issues tabled by ownership. We obtain ownership data from from RBI website.

Table 8: Correlations of issues tabled (as a fraction of total number of issues) across categories with real outcomes

	ROA	ROE	Net NPA/Net Advances	Gross NPA/Gross Advances
Risk	6.319***	64.409**	-10.410***	-12.806***
	(3.349)	(2.332)	(-3.404)	(-2.842)
Observations	29	29	29	29
R-squared	0.293	0.168	0.300	0.230
Human Resources	-0.835	24.671	-0.830	-0.839
	(-0.350)	(0.775)	(-0.214)	(-0.154)
Observations	29	29	29	29
R-squared	0.005	0.022	0.002	0.001
Business strategy	0.819	8.691	-0.546	0.687
	(0.735)	(0.576)	(-0.298)	(0.267)
Observations	29	29	29	29
R-squared	0.020	0.012	0.003	0.003
Regulation and Compliance	-0.526	-7.585	0.397	-0.440
	(-0.536)	(-0.573)	(0.247)	(-0.195)
Observations	29	29	29	29
R-squared	0.011	0.012	0.002	0.001
Financial Reporting	-25.773	-2.318	5.242**	5.858
	(-1.181)	(-1.450)	(2.090)	(1.615)
R-squared	0.049	0.072	29	29
Observations	29	29	0.139	0.088

Table shows the correlation of fraction of issues tabled across categories with various real outcomes. All real outcome values are obtained from RBI website as on 31 March, 2014. All variables are winsorized at 95 percent. t-statistics is in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 9: Deliberation of Issues in Board Meetings

Panel A: No. of issues deliberated in a board meeting					
	N	Mean	SD	Min	Max
Risk	29.00	1.00	1.09	0.00	4.00
Business Strategy	29.00	4.00	3.99	0.00	15.00
Regulation and Compliance	29.00	3.00	2.71	0.00	8.00
Financial Reporting	29.00	1.00	1.31	0.00	4.00
Human Resources	29.00	1.00	1.26	0.00	5.00
Total Deliberated	29.00	9.0	8.44	0	35
Panel B: Issues deliberated in a category as a percentage of total number of issues deliberated					
	N	Mean	SD	Min	Max
Risk	29.00	8.18	10.4	0	40
Business Strategy	29.00	29.8	21.9	0	66.7
Regulation and Compliance	29.00	24.8	24.3	0	100
Financial Reporting	29.00	18.7	22.1	0	100
Human Resources	29.00	4.71	7.74	0	25
Panel C: Issues deliberated in a category as a percentage of issues tabled in that category					
	N	Mean	SD	Min	Max
Risk	29.00	16.5	21.6	0	75
Business Strategy	29.00	19	19.2	0	71.4
Regulation and Compliance	29.00	14.4	16	0	60
Financial Reporting	29.00	29.5	31	0	100
Human Resources	29.00	14.9	28.2	0	100
Total Deliberated	29.00	18.0	14.20	0	50

This table shows the summary of issues deliberated in board meetings across different categories. Panel A provides the summary for average number of issues deliberated in a board meeting. Panel B provides the summary statistics for issues tabled in a particular category as a percentage of total issues tabled across categories on average. Panel C provides the summary statistics for number of issues deliberated in a category as a percentage of number of issues tabled in the same category.

Table 10: Distribution of issues deliberated in board meetings

Panel A: No. of issues deliberated in a board meeting

	N	10th Percentile	25th Percentile	50th Percentile	Mean	75th percentile	90th Percentile
Risk	29	0.00	0.00	1.00	0.86	1.00	3.00
Business Strategy	29	0.00	0.00	3.00	3.55	5.00	9.00
Regulation and Compliance	29	0.00	0.00	2.00	2.59	4.00	7.00
Financial Reporting	29	0.00	0.00	1.00	1.31	2.00	4.00
Human Resources	29	0.00	0.00	0.00	0.69	1.00	3.00
Total Deliberated	29	0.00	3.00	6.00	9.00	12.00	19.00

Panel B: Issues deliberated in a category as a percentage of total number of issues deliberated

	N	10th Percentile	25th Percentile	50th Percentile	Mean	75th percentile	90th Percentile
Risk	29.00	0	0	5.56	7.84	12.5	25
Business Strategy	29.00	0	0	37.5	29.6	47.4	53.6
Regulation and Compliance	29.00	0	0	21.4	23.7	40	50
Financial Reporting	29.00	0	0	11.4	17	25	50
Human Resources	29.00	0	0	0	4.54	10	20

This table shows the distribution of issues deliberated in board meetings across different categories. Panel A provides the distribution for the number of issues deliberated in a board meeting. Panel B provides the distribution for issues tabled in a particular category as a percentage of total issues tabled across categories on average.

Table 11: Summary of Issues deliberated by bank ownership

	Private				Public			
	N	Mean Number of issues	As a % of total issues deliber-ated	As a % of issues tabled in that category	N	Mean Number of issues	As a % of total issues deliber-ated	As a % of issues tabled in that category
Risk	12.00	1.00	10.00	22.20	17.00	1.00	10	12.4
Business Strategy	12.00	4.00	40.00	17.10	17.00	4.00	40	20.3
Regulation and Compliance	12.00	3.00	30.00	13.40	17.00	3.00	30	15
Financial Reporting	12.00	2.00	20.00	21.00	17.00	1.00	10	35.5
Human Resources	12.00	0.00	0.00	2.08	17.00	1.00	10	23.9

This table shows the issues deliberated in board meetings across different categories, split by ownership. Ownership classification is obtained from RBI website.

Table 12: Correlations of issues deliberated (as a fraction of total number of issues deliberated) across categories with real outcomes

	ROA	ROE	Net NPA/Net Advances	Gross NPA/Gross Advances
Risk	2.628*	22.506	-6.109***	-8.278***
	(1.989)	(1.211)	(-3.082)	(-2.937)
Observations	29	29	29	29
R-squared	0.128	0.052	0.260	0.242
Human Resources	-1.188	9.718	0.142	0.041
	(-0.660)	(0.399)	(0.048)	(0.010)
Observations	29	29	29	29
R-squared	0.016	0.006	0.000	0.000
Business strategy	-0.093	-1.442	0.277	0.748
	(-0.150)	(-0.174)	(0.276)	(0.533)
Observations	29	29	29	29
R-squared	0.001	0.001	0.003	0.010
Regulation and Compliance	-0.081	-10.186	-0.039	-0.262
	(-0.129)	(-1.237)	(-0.038)	(-0.183)
Observations	29	29	29	29
R-squared	0.001	0.054	0.000	0.001
Financial Reporting	-0.079	3.813	1.127	0.565
	(-0.100)	(0.359)	(0.890)	(0.314)
R-squared	29	29	29	29
Observations	0.000	0.005	0.029	0.004

Table shows the correlation of fraction of issues deliberated across categories with various real outcomes. All real outcome values are obtained from RBI website as on 31 March, 2014. ROA is net income deflated by yearly averaged total assets. ROE is net income deflated by yearly averaged equity. NPA refers to non-performing assets. Net NPA is deflated with Net Advances and Gross NPA is deflated with Gross Advances. All variables are winsorized at 95 percent. t-statistics is in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 13: Bank-wise Number of Risk Committee Meetings and Composition during FY 2013-14

Name	Group	Risk Committee Meetings/Board Meetings	No. of Members	Constitution	Chairman
Allahbad Bank	Public	0.24	5	CMD, ED, CA, SD	CMD
Andhra Bank	Public	0.36	8	CMD, ED, Gov, SD, OE	CMD
Axis Bank	New Private	0.83	5	Chairman Promoter, Promoter, MD&CEO, Ind	Ind
Bank of Baroda	Public	0.25	5	CMD, ED, Non-ED	CMD
Bank of India	Public	0.33	7	CMD, ED, part-Time	CMD
Bank of Maharasthra	Public	0.55	5	CMD, ED, RBI, Non-Ex	CMD
Canara Bank	Public	0.31	7	CMD, ED, OD, CA, SD	CMD
Central Bank	Public	0.27	8	CMD, ED, Gov, RBI, Part time	CMD
City Union	Old Private	0.24	5	Chairman (Non-ED), MD&CEO, Non-ED	Chairman (Non-ED)
Corporation Bank	Public	0.41	8	CMD, ED, Gov, WE, SD	CMD
DCB	New Private	1.17	5	Non-ED (Ind) , MD	Non-ED
Dena Bank	Public	0.33	6	CMD, ED, Gov, SD	CMD
Dhanalaxmi	Old Private	0.27	5	Chairman (Non-Ex Ind), MD&CEO, Ind Non-Ex	Chairman (Non-Ex Ind)
Federal Bank	Old Private	0.41	6	Chairman, MD&CEO, ED, Ind Non-Ex	Chairman
HDFC	New Private	0.88	5	Ind Non-Ex Chairman, MD, Dep MD, non-Ex non-Ind, Ind non-Ex	non-Ex non-Ind
ICICI	New Private	1.0	6	MD&CEO, Ind	Ind
IDBI Bank	Other Public	0.31	5	Ind , DMD	Ind
Indian Bank	Public	0.36	7	CMD, ED, WE, CA, SD, part time non-official	CMD
Indian Overseas	Public	0.41	5	CMD, ED, SD	CMD
IndusInd	New Private	0.57	3	Non-Ind Non-Ex, MD&CEO, Ind Non-Ex	*n.a*
Oriental Bank	Public	0.27	7	CMD, ED, Part-Time, CA	CMD
Punjab & Sind	Public	0.25	7	CMD, ED, Non-Official	CMD
Punjab National	Public	0.31	6	CMD, ED, part-Time Non-Official, SD	CMD
South Indian	Old Private	0.46	4	INE Chairman, INE	non-Chairman INE
State Bank of India	Public	0.33	8	MDs, SD, Non-Official	Senior MD
Syndicate Bank	Public	0.46	8	CMD, ED, WE, Part-Time, SD	CMD
UCO	Public	0.38	8	CMD, ED, Gov, CA, OE, WE, Part-time	CMD
Union Bank	Public	0.21	9	CMD, ED, Gov, Part-time Non-Official, SD, WE	CMD
Vijaya Bank	Public	0.31	8	CMD, ED, Non-official, SD, WE, OE	CMD
Yes Bank	New Private	0.8	5	Non-Ex Non-Ind , MD&CEO, Ind	Non-Ex Non-Ind

Source: Annual Reports of Banks

Table 14: Examples of discussion in Risk Committee Minutes

Panel A: Monitoring Issues

Issue Description	**Deliberation**
Interest Rate Risk in Banking Book for the quarter ended Dec 2012	The concerned department was directed to conduct sensitivity analysis under varying degree of interest rate shock and its impact on CRAR followed by back testing
Credit Portfolio Review As of June 30, 2013	The committee advised that Fortnightly report on the rating to be up to Executive Directors regularly
Impairment in Retail Loan Assets-Position as on June 30, 2013	The committee directed that mitigation measures proposed in respect of increase in NPA under *[blocked]* should be put up to the CMD. It also expressed concern about the increasing trend in NPAs and directed that those critical Zones/Regions where the increase in NPAs is comparatively higher than the rest of Bank, special area- specific efforts to be initiated and results should be monitored regularly
Review of Desired Portfolio Mix	The committee expressed its concern regarding low GDP levels of economy and existing percentage of High Risk internal rating category and thereby changed the desired portfolio limits for Totally internally rated accounts. It further directed that these limits be reviewed by the Credit Risk Management Committee every six months and to be placed before Board once a year
Key Risk Indicators-Upper Threshold Breaches Report	The committee desired that risk categorisation of the branches be reviewed. Further, all the thresholds limits be also reviewed by the respective divisions
Status of National Spot Exchange Limited transactions	The committee advised the Bank that it is critical to monitor the situation closely and take care of the interest of the investors with appropriate coordination with *[vendor/agency name blocked]*, though there may not be any direct financial impact to the Bank. Considering the tough economic environment and the likely higher inflation ahead, the Committee also advised that the Bank should closely monitor its mortgage portfolio especially in the light of likely impact of inflation on the Mortgage EMIs and so the resultant credit quality in case of Mortgage portfolio. The Committee appreciated the efforts being put in by the Management in the current situation and the presentation in such a short notice covering all areas likely to impact the Bank
Update on stress testing	The committee sought to know about the assumptions in stress testing scenarios of credit risk stress testing. While reviewing the results on liquidity stress testing enquired about the reasons for decrease in the cumulative gaps for bucket upto 28 days

Panel B: Ratification Issues

Issue Description	**Deliberation**
Credit Risk Management Policy 2013-14	The committee directed that the policy be vetted by an external consultant
Implementation of New Capital Adequacy Framework - Parallel Run reporting for the quarter ended March 2013	The committee directed to undertake revaluation of all assets every three years
Review of KYC Policy for 2013-14	The committee advised that obtaining the customer identification documents by the branch should be the beginning of KYC verification & the branch should be aware of the day-to-day transactions of the customer. It also suggested that may explore the possibility of compulsory checking of AMLOCK records by the Branch Manager may be on a weekly interval basis. It also recommended bringing out a booklet containing list of Do's & Dont's for branches for KYC
Ratification of Services provided to Co-operative Banks for facilitating payments of cheques at par	The committee suggested that the discussed business arrangement with co-operative banks be suitably incorporated in a standard agreement with separate clauses for completing the "Due Diligence" exercise and ensuring compliance with the KYC/AML norms
Ammendments to Investment Policy	A non-executive director enquired about the control framework in place for a business investment to which it was informed that the investment would be monitored within the existing investment limit, value at risk limit and stop loss limit stipulated in the Investment Policy
Modification to Underwriting and Loan Syndication Policy (UWLS)	The committee stressed that (i) a voting risk representative always be present and (ii) in the absence of CRO there should always be a senior risk representative in the risk UWLS committee
Early Intervention Mechanism - Increased scope of Special Loan Monitoring Group (SLMG) Resultant Modification to Credit Risk, SAP and Restructuring Policies	The committee did not agree to recommend for delegation of authority on Corporate Debt Restructuring Cases to A1 Global Mandate but recommended the rest of proposed modifications

Table 15: Bank Group-Wise Issues in Risk Committee Minutes

Panel A: Bank Group-Wise distribution			
Bank Group	No. of Issues Tabled	No. of Issues Deliberated	% Deliberated Issues
Public	22	5	22
Private	38	12	32
Average for all Banks	27	7.4	27.3

Panel B: Bank Group-Wise Decision Control				
Bank Group	Ratification Average No.		Monitoring Average No.	
	Tabled	Deliberated	Tabled	Deliberated
Public	6.0	1.0	21.0	5.0
Private	9.0	3.0	21.0	6.0
All Banks	7.0	2.0	21.0	6.0

Panel A shows the distribution of RMC issues. The first column show the number of issues tabled in a RMC meeting. Second column shows the number of issues deliberated, while the third column shows the number of issues deliberated as a percentage of issues tabled
Panel B shows the number of issues ratified and monitored across the two bank ownership categories

Table 16: Forward Looking nature of Risk Committees

	Public	Private	All Banks
Total Sentences	603	370	481
Forward Looking Sentences(No.)	154	171	163
Percentage of forward looking sentences	21.1	43.2	25.0

This table shows the amount of forward looking sentences in any RMC meeting. The first row reports the average number of sentences in a RMC meeting minutes. Row two reports the number of forward looking sentences, and the third row reports the number of forward looking sentences as a percentage of the total number of sentences

Table 17: Association Between Board Structure and Conduct

	Financial Reporting	Risk	HR	Business Strategy	Regulation and Compliance
Size	0.123 (0.649)	0.23 (0.391)	0.0281 (0.918)	0.382 (0.144)	0.255 (0.341)
Age	0.387 (0.139)	0.262 (0.327)	0.403 (0.121)	0.227 (0.398)	0.0359 (0.895)
Financial_Exp	0.368 (0.161)	0.2 (0.459)	0.349 (0.185)	0.282 (0.29)	0.0428 (0.875)
Banking_Exp	0.365 (0.164)	0.0172 (0.95)	0.12 (0.659)	0.382 (0.144)	0.0541 (0.842)
Prior_Board_Exp	0.0313 (0.908)	**0.669***** **(0.005)**	**0.605**** **(0.013)**	0.0261 (0.924)	0.0498 (0.855)
Managerial_Positions	0.00856 (0.975)	**0.439*** **(0.089)**	0.356 (0.176)	0.0451 (0.868)	0.0891 (0.743)
Independent_Directors	0.0974 (0.72)	0.316 (0.234)	0.412 (0.113)	0.2 (0.457)	0.245 (0.361)
International_Experience	0.155 (0.566)	**0.629***** **(0.009)**	0.348 (0.186)	0.0763 (0.779)	0.289 (0.277)
Private_Sector_Exp	**0.49*** **(0.054)**	**0.485*** **(0.057)**	0.048 (0.86)	0.343 (0.193)	0.215 (0.425)
Political_Connections	0.418 (0.107)	0.0138 (0.96)	0.145 (0.593)	0.269 (0.313)	0.0527 (0.846)
Financial_Qualifications	0.18 (0.504)	0.274 (0.304)	**0.442*** **(0.087)**	0.252 (0.346)	0.363 (0.167)

This table reports the association between board structure and conduct. ***, ** and * represents significance at 1%, 5% and 10% respectively.

Appendix - Proofs

Proof of Proposition 1: Since greater effort adds to firm value, the constraint (4) would be binding. Else, the firm value can be increased without violating the constraint. Therefore, the the maximization problem transforms into

$$\max_{(e_S,e_R,e_C)} a - 0.5\mu\left(a - e_S - e_R\right)^2 - 0.5e_S^2 - 0.5e_R^2$$

The first-order conditions for e_S^{FB}, e_R^{FB} are therefore given by:

$$\mu\left(a - e_S^{FB} - e_R^{FB}\right) = e_S^{FB} \tag{31}$$
$$\mu\left(a - e_S^{FB} - e_R^{FB}\right) = e_R^{FB} \tag{32}$$

Therefore,

$$e_S^{FB} = e_R^{FB} = \frac{\mu a}{1+2\mu} \tag{33}$$

Using (4) , we get

$$e_C^{FB} = a - e_S^{FB} - e_R^{FB} = \frac{a}{1+2\mu} \tag{34}$$

Since $\mu > 1, e_S^{FB} = e_R^{FB} > e_C^{FB}$.$\diamond$

Proof of Proposition 2: Using the fact that constraint (4) would be binding in the equation for the Lagrangian 11, we get

$$\pounds = e_S + \alpha e_C + \lambda_C \cdot (\beta e_C + e_S + e_R - \psi) - 0.5\mu e_C^2 - 0.5e_S^2 - 0.5e_R^2 \tag{35}$$
$$= e_S + \alpha\left(a - e_S - e_R\right) + \lambda_C \cdot \left[\beta\left(a - e_S - e_R\right) + e_S + e_R - \psi\right]$$
$$-0.5\mu\left(a - e_S - e_R\right)^2 - 0.5e_S^2 - 0.5e_R^2 \tag{36}$$

The first-order conditions for e_S^*, e_R^* are therefore given by:

$$(1+\mu)\, e_S^* + \mu e_S^* = 1 - \alpha - \lambda_C\left(\beta - 1\right) + \mu a \tag{37}$$
$$(1+\mu)\, e_S^* + \mu e_S^* = -\alpha - \lambda_C\left(\beta - 1\right) + \mu a \tag{38}$$

Therefore using equations (33) and (34) and solving, we get:

$$e_S^* = e_S^{FB} - \frac{\lambda_C \cdot (\beta - 1)}{1+2\mu} + \frac{1+\mu-\alpha}{1+2\mu} \tag{39}$$
$$e_R^* = e_R^{FB} - \frac{\lambda_C \cdot (\beta - 1)}{1+2\mu} - \frac{\mu+\alpha}{1+2\mu} \tag{40}$$
$$e_C^* = e_C^{FB} + \frac{2\lambda_C \cdot (\beta - 1)}{1+2\mu} + \frac{2\alpha - 1}{1+2\mu} \tag{41}$$

$\diamond$

Table A.1: Comparison Between Indian Banks and Banks from Comparable Countries

In this table, we compare five largest banks of Brazil, Russia and China with five largest banks in India. We use Net Interest Margin (NIM), Non Performing Assets (NPAs) to Total Assets Ratio, Total NPAs , Capital Adequacy Ratio (CAR), Market Capitalization, Net Profit, Deposits and Loans. Panel A reports the numbers for Brazil, panel B covers China, Panel C covers Russia and Panel D reports the numbers for India. Market Capitalization is computed as at end of year 2013. All other variables are averaged over 5 years. All values, other than ratios are reported in billion US dollars.

Panel A: Brazilian Banks								
Bank Name-Brazil	NIM	NPAs to total assets	Total non performing assets	CAR	Market Cap	Net Profit	Deposits	Loans
ITAU UNIBAN-PREF	19.0	3.2	5.20	17.0	27.87	2.47	62.61	56.07
BRADESCO SA-PREF	17.0	2.8	5.22	16.3	24.18	2.17	43.77	49.22
BANCO DO BRASIL	16.8	4.5	10.24	15.1	14.93	2.35	101.52	80.32
BANCO SANTA-UNIT	19.4	3.8	3.68	19.3	12.37	1.02	40.38	34.27
GRUPO BTG-UNIT	24.0	0.2	0.08	16.9	5.69	0.51	62.07	20.54
Country Average	19.2	2.9	4.89	16.9	16.70	1.71	62.07	44.39
Panel B: Chinese Banks								
Bank Name-China	NIM	NPAs to total assets	Total non performing assets	CAR	Market Cap	Net Profit	Deposits	Loans
IND & COMM BK-A	39.7	1.1	19.19	13.3	264.66	27.03	2058.78	1108.21
AGRICULTURAL-A	27.7	2.9	32.79	11.5	149.43	15.53	1715.73	841.11
CHINA MERCH BK-A	35.3	0.7	2.37	11.3	50.97	4.91	370.97	230.89
CHINA MINSHENG-A	29.6	0.7	2.21	10.3	29.26	3.55	369.27	170.93
CHINA EVERBRIG-A	32.7	1.2	2.02	9.0	23.77	2.36	294.51	124.74
Country Average	33.0	1.3	11.72	11.0	103.62	10.68	961.86	495.18
Panel C: Russian Banks								
Bank Name-Russia	NIM	NPAs to total assets	Total non performing assets	CAR	Market Cap	Net Profit	Deposits	Loans
SBERBANK	27.1	2.6	5.13	14.9	27.71	3.23	200.76	133.70
VTB BANK PJSC	16.0	4.8	5.06	15.7	11.07	0.62	72.33	63.94
BANK OTKRITIE FI	24.7	2.0	0.31	15.8	1.66	0.12	14.61	8.45
BANK ST PETERSBU	23.9	2.2	0.11	14.3	0.36	0.52	5.05	3.13
BANK VOZROZHDENI	13.0	4.7	0.14	15.1	0.32	0.25	2.68	1.91
Country Average	21.0	3.3	2.15	15.2	8.22	0.81	59.09	42.23
Panel D: Indian Banks								
Bank Name-India	NIM	NPAs to total assets	Total non performing assets	CAR	Market Cap	Net Profit	Deposits	Loans
STATE BANK IND	17.6	2.2	6.17	12.9	20.18	1.89	195.51	158.67
ICICI BANK LTD	15.6	1.8	1.67	17.8	17.26	1.02	43.83	44.86
HDFC BANK LTD	26.2	0.6	0.45	15.8	16.15	0.73	34.11	27.40
AXIS BANK LTD	29.0	0.7	0.29	14.4	7.20	0.55	27.81	21.92
KOTAK MAHINDRA	18.5	1.0	0.14	19.0	6.09	0.24	5.03	5.88
Country Average	21.4	1.3	1.75	16.0	24.33	0.89	61.26	51.75