Why Do Banks Hide Losses?*

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Abstract

Despite plenty of anecdotal evidence of hidden losses in banks, there is no systematic study analyzing the economic drivers of this behavior: we simply do not get to observe what banks are hiding unless they are caught. Using a regulatory change in India that forced all commercial banks to reveal the extent of hidden losses, we uncover two key economic forces behind this behavior: lack of close supervision by the shareholders and high-powered managerial incentive contracts. Specifically, banks with higher shareholding by distant and passive Foreign Institutional Investors (FIIs) hide more and these effects become specially strong for banks where CEOs get highly compensated for reported profits. Our findings caution against using high-powered compensation contracts linked to observable performance measures as a substitute for diluted monitoring: instead of solving the agency problem, it can result in perverse misreporting incentives.

Keywords: underreporting, monitoring, incentives
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1 Introduction

Intermediation often comes with opacity. Banks specialize in making loans to borrowers that require active screening and monitoring. As a result, banks' own activities become opaque to the outsiders. But a clear assessment of banks' profitability and riskiness is vital for almost all banking regulations: capital requirements, deposit insurance premium, bailout assistance, to name a few. If banks do not truthfully report their profits and losses, then the efficacy of each of these policies becomes questionable. Such misreporting can render market discipline ineffective as well. Hence a careful examination of economic drivers of truthful reporting is of utmost importance to the banking literature. Unfortunately, there is very limited empirical evidence on this issue, mainly due to data constraints: we simply do not get to observe what banks are hiding.

While we do get to see some episodes of misreporting of profits and risk-taking in limited settings, it is rare to find systematic data on underreporting of losses by the entire banking sector of an economy. Our paper exploits an unexpected event in the Indian banking sector, where a policy change by the central bank of India (the Reserve Bank of India, or RBI in the rest of the paper) in 2015 mandated all banks to come clean on the extent of bad loans they had been hiding in their financial reports. After a sector-wide supervisory audit, banks were now required to report both the extent of underreporting of non-performing assets/loans (NPAs or NPLs), and consequently the overreporting of profits due to inadequate provisioning against hidden losses. The economic magnitude of this shock was large: collectively banks had reported profits of over $9 billion during 2016 and 2017 before accounting for hidden losses. Once they accounted for the hidden losses as per the RBI's new disclosure policy, profits were cut by less than half to about $4 billion: about 60% of their reported profits was inflated.

The unexpected revelation of these losses that have been building up due to decisions taken in the past by the bankers provides us with an unparalleled opportunity to study the

drivers of loss hiding behavior, which in turn allows us to draw some broader conclusions for the banking sector in general, beyond the specific setting of India. The regulation is especially attractive in teasing out hiding behavior from poor investment decisions. Much of the bad loans were made before the regulatory change; hence investment decision is not influenced by the disclosure policy. Specifically, the regulator inspected the books of banks and uncovered instances of hidden losses for loans that were typically made years ago. Banks used various methods to hide losses such as changing the terms and conditions of loans made to a defaulting borrower to make it a "performing loan", extending new loans to pay for the old loans of borrowers close to default, and simple delay in recognition of losses. RBI's supervisory audit uncovered these losses by inspecting the internal books of banks, comparing the loss recognition of the same borrower across banks, and evaluating the borrower's financial conditions based on public information. Overall, using a standard methodology, the process ended up with a fairly detailed assessment of the extent of loan losses banks have been hiding.

What could motivate a bank to hide its losses? Theoretical literature and institutional details provide two compelling motivations, one driven by regulatory considerations and the other by manager-shareholder conflicts. Hiding loan losses have two immediate effects for the bank: reported profits exceed true profits due to lower provisioning against bad loans, and asset portfolio looks less risky than the truth due to the underreporting of non-performing loans (NPLs). Together they can lower the bank's capital requirement; thus banks may engage in underreporting activities to save on regulatory capital requirements. At the same time, managers can gain from the perception of better performance either directly through higher compensation or indirectly through better labor market reputation.Thus managers are more likely to engage in underreporting behavior if they stand to benefit from the perception of improved short-term performance, even if it destroys long-term value for the shareholders. Managerial myopia has been analyzed extensively in the literature (see e.g., Narayanan (1985), Stein (1989) and Von Thadden (1995)). Rajan (1994) develops a model in which short-sighted bank managers try to change the market's perception of true performance by

inflating earnings or concealing losses, for example by continuing to lend to defaulters. In fact, Rajan (1994) emphasizes this agency problem can arise 'even if the bank is well capitalized'. This line of work suggests the importance of shareholder monitoring and managerial incentives on the underreporting behavior. We empirically analyze the importance of these economic forces on misreporting behavior in this paper.

The key source of managerial agency problems is the information disadvantage of shareholders as compared to the managers of the firm. When shareholders have less information about the manager's actions or when shareholders are less able to process the information available to them, the possibility of managerial misbehavior increases. For example, uninformed shareholders are more likely to reward managers for inflated short-term performance due to lower but inaccurate NPAs. Boot and Macey (2003) highlight a fundamental trade-off inherent in any corporate governance mechanism: proximity versus objectivity. Proximity increases the information set of monitors, making them better monitors. On the flip side, proximate monitors can become too close to the management, losing the objectivity required for monitoring. Building on these arguments, we construct proxies for monitoring based on the identity and composition of the bank's shareholder base as well as the nature of the its board. We look at cross-sectional variation in shareholding pattern that are likely to be correlated with information and incentive to monitor. For board specific monitoring we use standard proxies from the literature such as the size of the board and the fraction of independent directors (e.g., see Adams and Mehran (2012)).

Specifically, we focus on an interesting and important measure of information asymmetry between the managers and shareholders: the fraction of shares held by foreign institutional shareholders (FIIs). These investors are likely to have less local knowledge compared to domestic institutions and local promoters and blockholders, especially in light of the fact that their investment in these stocks is predominantly motivated by passive diversification consideration.[1] Brennan and Cao (1997) show theoretically and empirically that FII portfolios

[1]Distance as a metric of information asymmetry has been well studied in the banking literature (e.g.,

are more responsive to public signals of information relative to their domestic counterparts.[2] FIIs' greater reliance on public information creates two reinforcing effects on manager's misreporting incentives: (a) they are less likely to be caught by their shareholders when FII shareholding is high, and (b) their stock price is likely to be high in the short run with better publicly reported performance. Thus the potential punishment from misreporting comes down, whereas potential reward, in the short run, goes up. As a result, we expect increased hiding for banks with higher FII shareholding. This narrative, however, is not obvious. FIIs can bring in their superior governance technology to put pressure on underperforming managers, and improve governance in domestic firm. Aggarwal, Erel, Ferreira, and Matos (2011) and Bena, Ferreira, Matos, and Pires (2017), for example, provide evidence that higher FII ownership boosts investment and governance of non-financial firms. Our empirical analysis is able to tease out these competing hypotheses.

Our sample covers all commercial banks in India for fiscal years 2016 and 2017, i.e., two years for which they were required to disclose the extent of hidden losses through NPA underreporting (called NPA divergence by the RBI). The average bank in our sample has approximately 50% shares held by "promoters", which includes the Government of India (GOI) for the public sector banks and individual promoters for private banks (e.g., Uday Kotak had 39.7% shares in Kotak Mahindra Bank in 2015). Of the remaining, about 15% each is held by FIIs and Domestic Institutional Investors (DIIs). The remaining 20% stake is held by other companies (called "corporate bodies") and individuals. There is large cross-sectional variation in these percentages across banks, allowing us to carefully tease out the effect of different classes of shareholdings on underreporting behavior.

We find that increased FII shareholding is related to significantly higher levels of underreporting of non-performing loans, i.e., higher levels of hidden losses. One standard deviation increase in FII shareholding results in 21.5% higher underreporting of bank's gross

Stein (2002) and Petersen and Rajan (2002)).

[2] A number of papers have documented evidence of information disadvantage of foreign investors compared to local investors (see e.g., Kang and Stulz (1997))

NPLs. Further analysis reveals that there is no meaningful relationship between domestic financial institutions shareholdings and hiding behavior. Thus, our results are not coming from institutional shareholding: it is specific to distant, foreign shareholding, who are likely to possess relatively little information and therefore incur higher monitoring costs. Lending support to the monitoring based interpretation of our results, we show that hidden losses are higher when the FII shareholding is more dispersed. On the board level monitoring, we find no meaningful pattern; specifically, board independence is not associated with higher hiding, which is broadly consistent with the findings of Adams and Mehran (2012) in the broader context of the governance of U.S. banks. Further, the effect of FII shareholding remains significant even after controlling for board level governance measures such as the size and independence of the board.

What could be the alternative explanations behind our finding that links FIIs to underreporting, if it is not our preferred monitoring-based explanation? It must be some omitted variable that correlates both with FII shareholding and incentives to misreport. It is worth emphasizing here that our results cannot be explained away by endogeneity concerns related to FII shareholdings and investment decisions of banks since we are exploring the relationship between misreporting and FII shareholding. Nor can our results be explained by the role of institutional shareholdings alone. It is the foreign institutional investors that drive variation in underreporting, not the domestic institutions. Hence any omitted variable of concern must be FII specific, not institution specific. One potential threat to identification could be the hidden ability of managers of banks with high FII shareholdings. If banks with higher FII shareholdings have managers with poor ability to recognize losses in time, then our estimates may end up picking up that effect. We find this interpretation less plausible because the hidden losses arose mainly from the failure to recognize obvious cases of default, for example by rolling over the debt of a defaulting borrower.

To address the endogeneity concerns more directly and identify the monitoring channel, we make use of the fact that FIIs' investment in emerging markets is driven primarily by the

inclusion (and weight) of a particular stock in popular Emerging Market Indices such as MSCI. Certain Indian banks are included in MSCI's India index, while others are not. Exclusion restriction relies on the idea that membership to these indices is not influenced by the hidden ability of bank managers to recognize loan losses. MSCI states that the inclusion of a stock in its index is mainly determined by factors such as liquidity, diversification benefits, and size of the firm. Hence our exclusion restriction is very likely to be satisfied. We find strong results in an instrumental variable model using the MSCI index inclusion as the instrument. Our IV estimates are slightly larger, but comparable in magnitude to the OLS estimates. Slightly larger IV estimates is consistent with the idea that selection bias – where FIIs are likely to invest in firms with better governance on other dimensions – is likely to bias against finding our result.

Why do bank managers engage in the underreporting of losses even if the shareholder monitoring is low? In the next part of the paper, we conduct a variety of tests to establish a link between managerial incentives, i.e., benefits to top managers from hiding losses, and misreporting. We first investigate the effect of FII shareholding across public and private banks to better understand the incentives of managers who hide. Private bank managers earn significantly higher compensation[3] and a large part of their compensation is performance-based. Thus the private-public divide provides us with a natural variation in the extent of benefits managers derive from inflated short-term performance metrics. We show that private banks have higher misreporting, but it's the interaction of private banks with FII shareholding that provides the most meaningful variation in the hiding behavior. Within the set of private banks, one standard deviation higher FII shareholding is associated with about 32.2% higher misreporting. Within public sector banks, FII shareholding has no impact on misreporting. Private and public banks differ from each other on dimensions other than compensation contracts. A common narrative among industry practitioners and regulators is that private sector banks are able to attract better talent and are more efficient with their

[3]For example in 2015 the CEO of the largest private sector bank, the ICICI Bank, made 24.6 times higher compensation than the CEO of the largest public sector bank, namely the State Bank of India (SBI).

screening and monitoring technology. Our results show that the perceived superiority of these banks do not translate into better reporting. In fact our results are consistent with the idea discussed in Subrahmanyam (2005) that talented managers may be good at both running the firm and committing fraud that goes undetected. The change in regulation, or a regime-shift in the disclosure policy, reveals the extent of misreporting by these managers that we are able to detect in our analysis.

We directly assess the effect of managerial compensation on misreporting behavior by examining the effect of compensation policies across banks. Two results stand out. When CEOs' compensation is high, firms underreport more. This result is in line with our earlier results linking private banks to higher underreporting. Second, the effect of compensation on underreporting is considerably higher for banks with large FII shareholding. Overall these results paint a clear picture: diluted monitoring from distant shareholders combined with high compensation results in higher hiding.

To better understand the economic drivers of this behavior, we next investigate how banks responded to increased shareholdings by FIIs in years leading up to the regulation mandating the underreporting disclosure. Using the panel of all bank-year observations from 2005 to 2015 and employing bank and year fixed-effects specification, we show that bank's reported profits go up, NPLs come down, and total lending goes up as the fraction of FII shareholdings goes up.[4] During the same time period, we show that CEO's compensation is more tightly linked to observable metrics such as profitability and NPL ratios for banks with higher FII shareholdings. This result is consistent with the idea that as the distance between principal and agents increase, the principal is more likely to lean on hard pieces of information for decision making (see Stein (2002)). FIIs rely on reported profitability and NPLs to evaluate

[4]Banks often disclose these measures as the key drivers of compensation for their top management. For example, while discussing the measures used to set compensation policy, ICICI bank in its annual report for 2017-18 states that: "The main performance metrics include profits, loan growth, deposit growth, risk metrics (such as quality of assets), compliance with regulatory norms, refinement of risk management processes and customer service. The specific metrics and weightages for various metrics vary with the role and level of the individual."

the local managers, and therefore CEOs of such firms stand to benefit by reporting better performance along these dimensions. Indeed, we show that CEO's compensation goes up as the FII shareholdings increases. Overall our analysis shows that FIIs encourage better performance along hard-to-observe dimensions such as reported profits and NPLs.[5] and bank managers respond by providing better than actual NPLs, as evident by our earlier analysis.

These results paint a broad picture: performance-sensitive contracts may not be a complete substitute for lack of monitoring. In fact, without proper monitoring, linking compensation to observable performance metrics can have a deleterious impact on the agent's behavior. U.S. institutions are known to deploy high powered performance-based incentive contracts in their firms (see Hartzell and Starks (2003)). Our study shows that the effectiveness of such a practice crucially depends on the information set of these institutions. We do not tackle the issue of optimal disclosure policy in this paper. As Rajan (1994) argues, theoretically it is not obvious that higher information disclosure improves welfare in the presence of agency problems such as managerial short-termism. Our results should serve as a useful input to this debate and future theoretical work in the area.

Our paper connects to three strands of literature: (a) risk measurement and loss detection in banks, (ii) role of shareholder monitoring on incentives to commit fraud, and (iii) effects of foreign investors on domestic firm. There has been a renewed interest in the literature in understanding how to measure and monitor risks in banks (e.g., see Behn, Haselmann, and Vig (2016), Begley, Purnanandam, and Zheng (2017), and Plosser and Santos (2014)). Our paper provides a first look at how shareholder monitoring and incentives affect incentives to hide losses and as a result the accuracy of risk reporting. The importance of hiding bank accounting losses is highlighted in Bushman and Williams (2015) who show that delayed recognition of loan loss provisions increases bank opacity and contributes to systematic risk. Second, our paper relates to the literature on shareholder monitoring and incentives to commit

[5]To emphasize, undererporting of NPLs directly improves the bank's short term profit due to lower provisioning for loan losses.

fraud. There is a large literature on the effect of institutional shareholders and blockholders on firm governance (e.g., see the survey in Edmans and Holderness (2017)). Closer to our paper, using accounting restatements, Burns and Kedia (2006) show that option-based managerial incentives are positively related with incentives to misreport. Povel, Singh, and Winton (2007) develop a theoretical model linking monitoring costs and misreporting incentives, and show that an increase in monitoring costs can lead to either higher or lower misreporting depending on the prior beliefs of the shareholders. Finally, we contribute to the literature on the effect of investments by institutional investors, specifically foreign shareholders, on domestic firms (see e.g., Gillan and Starks (2007), Bena et al. (2017)). Our paper highlights a previously undocumented cost of FII investment: it can facilitate untruthful reporting by firms.

2 Indian Banking Sector and the Policy Change

Indian banking sector is characterized by very large nation-wide banks that are either private or public. In the public sector banks, the Government of India is the majority, but not the only, shareholders. Private sector banks have practically no direct government stakes. After the liberalization of the Indian economy in 1991, several regulations that earlier restricted shareholdings by foreign investors were relaxed. Over time, Foreign Institutional Investors (FIIs) have taken considerable stake in Indian banks, both in the private sector banks and the public sector banks. Other prominent shareholder groups are "promoters", "domestic financial institutions", "corporate bodies", and "individuals". Promoters are either the Government of India for public sector banks or individuals for private sector banks. We provide descriptive statistics on the fraction of shares held by each of the these groups later in the paper.

The largest public sector bank, the State Bank of India (SBI), has an asset base of 328 billion dollars as of 2015, whereas two of the largest private sector banks ICICI Bank and

HDFC Bank have assets of 104 and 94 billion dollars , respectively on the same date. All three banks, as well as most other banks in the country, have branch networks across the country. Some banks specialize in regional markets, but even these banks are generally very large.

The issue of non-performing loans has been an important issue for market participants and regulators in India for a very long time. In 2015, the then Governor of RBI, Raguram Rajan, took several steps to deal with the problem of rising NPL in Indian banks. One of the key steps was to first recognize the extent of NPAs that banks truly had. This line of thinking motivated the first Asset Quality Review by the RBI in 2015, the beginning of the process for detection and better reporting of NPLs in the country.

In its monetary policy statement dated September 29, 2015, RBI explicitly discussed the issue of underreporting of NPLs and provisions: "As a part of its supervisory process, the Reserve Bank assesses compliance by banks with extant prudential norms on income recognition, asset classification and provisioning (IRACP). There have been divergences between banks and the supervisor as regards asset classification and provisioning. In order to bring in greater transparency, better discipline with respect to compliance with IRACP norms as well as to involve other stakeholders, the Reserve Bank will mandate disclosures in the notes to accounts to the financial statements of banks where such divergences exceed a specified threshold. Instructions in this regard are being issued separately."

Subsequently, in its circular dated April 18, 2017, RBI mandated the disclosure of underreported NPLs to public by way of notes to annual statements. As per this regulation, The RBI stated that it "assesses compliance by banks with extant prudential norms on income recognition, asset classification and provisioning (IRACP) as part of its regular supervisory processes. There have been instances of material divergences in banks' asset classification and provisioning from the RBI norms, thereby leading to the published financial statements not depicting a true and fair view of the financial position of the bank." In order to bring better

transparency to financial reporting, RBI mandated that banks report the divergence in their publicly reported NPLs and NPLs assessed by RBI as per its supervisory audit in a specified format if the extent of underreporting exceeds some threshold. As per the RBI's circular "In order to ensure greater transparency and promote better discipline with respect to compliance with IRACP norms, it has been decided that banks shall make suitable disclosures as per Annex, wherever either (a) the additional provisioning requirements assessed by RBI exceed 15 percent of the published net profits after tax for the reference period or (b) the additional Gross NPAs identified by RBI exceed 15 percent of the published incremental Gross NPAs for the reference period, or both."

Thus banks that exceeded the 15% divergence level, as described above, were required to disclose the extent of divergence, called the NPA or NPL divergence, in their annual statements. RBI provided a very precise format to disclose these losses and we present one such example from Yes Bank in Appendix A.1. Banks began to report these losses starting from fiscal year 2015-16. We collect data from the financial statements of all Indian commercial banks for both 2015-16 and 2016-17 fiscal years, two years for which the information is available at the time of writing this paper. Since all Indian banks fiscal years' end in March, both fiscal years were completed before the announcement of the RBI audit in April 2017. As seen from the example of Yes Bank disclosure, banks reported detailed information on what they had initially reported as NPLs on their own (i.e., before RBI's supervisory action) as well as the extent of underreporting based on RBI's supervisory actions.

While we do not have access to the precise data and methodology used by RBI to detect the divergence, some general principles are well known. In its initial AQR conducted in 2015, it focused on issues such restructured loans where original terms of the loans were modified to avoid classifying a bank as an NPLs. For example, a bank can delay classifying a loan as a bad loan by continuing to lending to a defaulting borrower, i.e., by ever-greening the loan, sometimes called the 'extend and pretend' policy.[6] Second, if a loan to the same

[6] As per RBI's Deputy Governor Mr. N.S. Vishwanathan's address to the industry practitioners on August

corporate borrower was classified as NPL by one bank, other banks with similar loan terms were required to classify their loans as NPLs as well. Overall, the entire effort was geared towards cleaning up the accounts of India's bank, a policy initiative undertaken by the then governor of the bank.

3 Data and Sample

We collect data from three primary sources: annual reports of banks during 2016 and 2017, RBI's statistics on Indian Banks, and Prowess database. Data on misreporting comes from the annual reports. As discussed earlier banks were required to report both the extent of hidden NPLs and the resulting underreporting of loan loss provisions as a note to the shareholders, if such losses exceeded certain threshold. Data on financial conditions of banks and shareholding patterns comes from RBI and Prowess.

Our sample covers all scheduled commercial banks of India that were required to report NPA divergence in their annual report. This covers practically the entire banking sector in the country. Only significant group that we miss from this sample is foreign banks operating in India. This group has only a minor market share in the country. Our main test linking NPL underreporting to FII shareholding is based on fiscal year 2016 and 2017 data. In total we have 73 bank-year observations, out of which 53 observations are for banks that reported NPA divergence, i.e., for these banks the extent of underreporting exceeded the 15% threshold criteria discussed earlier. It is worth emphasizing that the relatively smaller sample size presents some challenge in terms of power of the tests. However, since we have the entire population of banks in India, we do not expect any issues of biased estimates. In addition to the NPL divergence test, we also investigate the relationship between FII

30, 2016: "During the five years to March 2015, banks have resorted to restructuring of loans in many cases to postpone recognition of non-performance, or what we now call 'extend and pretend', rather than using it as a tool to preserve the economic value of the units as intended. As a result, until 2016 the restructured assets constituted more than 50% of the stressed assets of all scheduled commercial banks masking the actual extent of deterioration of the loan portfolios...."

shareholding and firm's performance over 2005-2015 period to understand the dynamics of firm behavior and remuneration in response to FII shareholding. These results are based on the sample of all private and public sector banks during this period, with a panel of 377 bank-year observations.

We complement our tests with Tobit regressions to include information from non-reporting banks into our sample. As per the RBI's guidelines, banks are required to disclose if either (1) divergence divided by incremental NPL or (2) divergence divided by net profits exceeds 15%. Since scaling by net profits might complicate our economic inference, we only censor along the first dimension: divergence divided by incremental NPL.

For the Tobit model, we want to ensure that our variable is left censored at the same point for all banks, namely at 0%. To do so, we first subtract the 0.15 x Incremental NPA from the actual NPA, and divide the difference with reported NPA number to compute the extent of underreporting. The transformed variable is simply, (Actual NPA - 0.15 x Incremental NPA)/Reported NPA; we take the log of this number for regression analysis. This transformation (i.e., shifting the actual NPA by 15% of incremental NPA) ensures that for all banks the data is left censored at 0%. A bank with underreporting just at the threshold will have zero value of the transformed measure under this measurement, and it will increase thereafter depending on how large the actual NPA differ from this threshold.[7] Although this variable is standardized, its correlation coefficient with the OLS dependent variable is 0.99. We provide an example of this method of construction in Appendix A.2.

[7]Of the 53 banks that reported NPA divergences, 35 of them exceeded 15% of incremental NPL and are uncensored in the Tobit regressions. The other 18 banks that reported NPA divergences were required to report because they exceeded 15% of net profits. These 18 banks along with the other 20 that did not report NPA divergences are censored in the Tobit regressions. All 38 of these banks had less than 15% divergence based on incremental NPL.

3.1 Descriptive Statistics

Table 1 provides summary statistics of key variables used in our study broken down into two periods: (i) 2016 & 2017 when we investigate the underreporting data (Panel A), and (ii) 2005-2015 period based on which we investigate firm performance and CEO remuneration in periods leading up to the policy change on disclosure of the NPLs (Panel B).

As shown in Panel A, the extent of underreporting has been quite large. Banks reported NPL divergence for two years: 2016 and 2017. We have observations on 37 banks for two years. After accounting for a few missing observations, in total we have 73 bank-year observations in the sample, out of which 53 bank-year observation disclosed underreporting. In terms of number of banks, out of 37 banks, 32 reported divergence at least once. Thus 86% of banks exceeded the 15% threshold for reporting requirements at least in one of these two years. Of the reporters, the average firms underreported 23% of its NPL and 18.5% of provisions. These are economically large numbers. Figure 1 demonstrates the magnitude of underreporting. To put it in the aggregate context, during these two years banks in our sample reported aggregate profits of 9.2 billion dollars before the detection of underreporting. Once we account for the underreporting, 58% of these reported profits disappear due to additional loan loss provisions the banks were required to make on account of underreporting. In terms of aggregate NPLs, the banking sector as a whole underreported (gross) NPL of 20 billion dollars which is 172% of the reported incremental (gross) NPL during these two years. Thus our setting is economically very meaningful. Indeed, there has been an intense debate in the regulatory as well as investment community in India about these NPL divergences and its implication for financial stability and bank lending.

As shown in Panel A, on average institutions – domestic and foreign combined – hold about 32% of shares in banks, with FIIs holding about half (16%). Table 2 provides a more detailed breakdown of the shareholding structure across different class of shareholders. Broadly they can be divided into three groups: promoters, institutions, and non-institutions.

Promoters are the initial sponsors of these banks. For public sector banks, it is the government of India whereas for private banks typically the promoter is an individual or a family. This groups holds about half of the shares in these banks on average. The median number is higher at 61% for promoter's holding because the government holds majority stake in public sector banks. More important for us, there is a large cross-sectional variation, both within private and public banks, along these dimensions. FII shareholding ranges from 2.59% at the 25th percentile to 23.55% at the 75th percentiles. Some banks have significantly higher FII shareholding: for example HDFC banks have as high a number as 40% in 2016. We exploit these variations in our tests.

Contrasting the profitability numbers in Panel A and B, it is clear that the banking sector reported much better performance during 2005-2015 period, and was under stress in 2016-2017 even before accounting for the hidden losses. Indian economy grew at an average annual growth rate of 7.73% during 2005-2015, and the banking sector grew with it. However, as pointed out earlier banks made significant amounts of bad loans during this period that started to reflect in their balance sheet in the later parts of this period.

4 Results

We first present the extent of underreporting by banks that exceeded the reporting threshold across different quintiles of FII shareholdings. Results are presented in Figure 2. A remarkable pattern emerges from this plot. For the first three quintiles of FII shareholding, which works out to shareholdings of less than 9.48%, the extent of underreporting is much lower compared to the top two quintiles. There is remarkably higher underreporting for both the top quintiles, and the positive relationship between FII shareholding and underreporting is almost monotonic. Compared to the lowest FII shareholding quintile, banks in highest quintile have 58% higher underreporting.

Table 3 presents more formal regression results that accounts for the size and capital position of the bank, as well as an indicator variable that captures the year fixed effect, i.e., whether the underreporting is from fiscal year 2016 or 2017. Panel A presents the OLS regression results for the set of banks that exceeded the 15% threshold. As seen in Column (1), increased FII shareholding is associated with significantly higher hiding of losses. For the ease of exposition, we standardize all variable by subtracting the respective mean and dividing the difference by the standard deviation of the variable. Thus all estimates represent the effect of one s.d. change in X-variable on the Y-variable. One s.d. change in FII shareholding is associated with 21.5% higher underreporting. Columns (2)-(3) show that it is only the FII shareholding, and not the domestic institutional shareholding, that is driving our results. For example, compared to Column (1) that uses FII shareholding as the main explanatory variable, in Column (2) that instead uses DII shareholding, the R^2 of the model drops from 42% to 17%; while the coefficient is highly significant for FII, the estimate on DII is statistically zero. Hence our results point to some special effect of foreign investors, and not simply institutional investors.

Panel B uses the entire sample, including banks that were below the underreporting threshold, in a Tobit framework. As discussed earlier, banks were required to report NPA divergence if the difference between the number initially reported by the bank and the one assessed by RBI exceeded 15% of incremental NPA during the year. Since incremental NPA varies across banks, we subtract actual NPA by 15% of incremental NPA in our dependent variable. This new standardized dependent variable ensures that for all banks the data is left censored at 0%. This methodology is discussed in greater detail in the Data section and Appendix A.2. Our results remain similar. Panel B reports the marginal effect: one s.d. higher FII shareholding is associated with about 21.6% higher underreporting, and the result is significant at 10% level. The economic magnitude is in line with the OLS estimates discussed earlier.

In our next test, we investigate whether the concentration of FII shareholding matters for

hidden losses. Concentrated holdings by shareholders is likely to increase the benefits from monitoring. When there are fewer FII shareholders for the same level of total shareholdings, the monitoring is likely to be higher. In order to capture this effect, we create a variable $\frac{1}{No.\ FII}$ that measures the inverse of the number of FIIs present in a bank. We interact this variable with total FII shareholding to assess whether the effect of FII shareholding on misreporting changes with the the number of shareholders. The interaction variable is nothing but the average shareholding by FIIs in a bank.

Results are provided in Table 4. We find that average FII shareholding is negatively correlated with the hiding behavior. One standard deviation increase in the average shareholding is associated with approximately 33% lower hiding. The result is consistent with the idea that managers are hiding losses when shareholders are dispersed. In this specification, the effect of total FII shareholding is even higher compared to the base case: one s.d. increase in FII shareholding is associated with 27% higher hiding in this model compared to the corresponding estimate of 21% in the model that does not control for the average size of FII shareholding. Consistent with our monitoring based interpretation, these results show that banks hide more when their shareholders are distant and dispersed.

In our next set of tests we focus on board monitoring using a number of proxies for this variable based on prior literature. Results are provided in Table 5. We find that board size, dual CEO/chair, and fraction of board outsiders do not significantly explain variation in bank hiding. We do find some evidence of regulatory monitoring on the board: banks with RBI members on the board are associated with 32.6% less underreporting. In Column (6), we include all board monitoring variables in one specification. Only RBI membership is significantly associated with bank hiding. We introduce FII shareholding to the model in Column (7), and its coefficient is still positive, significant, and very close in magnitude to the original estimate. A clear pattern emerges from these findings: FII shareholding is one of the key drivers of loss hiding behavior, with board monitoring having little-to-no impact.

4.1 IV Regressions

A key concern with our interpretation that lack of monitoring by FIIs causes hiding behavior is that it is not the FII's shareholding but some omitted correlated variable that is responsible for our results. What could potentially be these omitted variables that explains the variation in FII shareholding and loss hiding at the same time? One natural candidate is hidden governance characteristics that correlate both with FII shareholding and incentive to hide truthful reporting. As per this selection-bias alternative, FIIs invest in firms with poor governance characteristics and our estimate simply captures that correlation. This alternative explanation does not seem plausible based on earlier work that shows that FIIs are more likely to invest in firms with better governance on observable dimensions. Hence the direction of bias should go against our finding. Further, we control for several governance variables such as board size and independence and show that the relation between FII shareholding and underreporting does not get explained by these variables.

However, if banks with higher FII shareholding are simply bad at assessing the extent of NPLs they have, then our results could be due to the hidden ability to understand NPLs. Could our results be driven by this force? We address this more directly by using an interesting driver of FII shareholding in a firm: its inclusion in broadly tracked MSCI index. The exclusion restriction relies on the assumption that the inclusion in MSCI index is not influenced by the hidden ability to understand NPLs. This is a plausible assumption since indices such as MSCI are often designed to capture the diversification benefit these stocks provide.

The instrument, $MSCI$, is equal to 1 if the bank's stock is included in the MSCI India domestic index in May 2015 and 0 otherwise. (The same set banks in the index was constant through November 2016). The banks in the index at this time were HDFC bank, ICICI Bank, Kotak Bank, Axis Bank, State Bank of India, IndusInd Bank, Yes Bank, and Bank of Baroda. A similar instrument used in Aggarwal et al. (2011) and Bena et al. (2017). Note

that the index includes both private and public sector banks.

We provide IV estimation results in Table 6. Panel A produces least squares estimates for the set of banks that underreported NPLs, Panel B is for the Tobit IV estimation. As shown in Column (1) of Panel A, our instrument is strong. Inclusion in MSCI index is associated with 1.83 standard deviations or 24% higher holding by the FIIs. The first stage F-statistic for the excluded instrument is about 23 and the R^2 of the model is 73.7%: we have a strong, relevant instrument. Figure 4 shows the relevance of this instrument graphically by plotting the average FII shareholdings across three groups: banks included in the MSCI index, non-included private banks, and non-included public banks. Clearly, MSCI inclusion strongly affects the extent of FII shareholdings in a bank.

The reduced form estimate linking underreporting to the instrument directly shows that banks that were included in the MSCI index underreported 60.2% higher NPLs. This is an important finding. As we mentioned earlier, MSCI index included both private and public banks. These banks collectively underreported significantly higher amounts of NPLs compared to all other stocks. In fact, comparing MSCI included stocks with the rest of public and private sector banks, we find that it is the MSCI subsample that has underreported maximum amount of NPLs. MSCI group underreported by 64.6%, compared to 21.6% for the remaining private sector banks and 9.2% for the remaining public sector banks as shown in Figure 5. Column (3) produces the second stage IV estimates: one s.d. higher FII shareholdings is associated with about 33% higher underreporting. The effect is statistically significant at 1%. Compared to the corresponding OLS estimate of 21.5%, IV estimates are slightly higher. This is consistent with our earlier argument that active investment by the FIIs target firms that are better at governance, hence the selection bias should go against our finding. When we tease out the variation that comes from passive index based investing, we more likely recover the portion of non-information based investing and our results become slightly stronger in economic terms.

4.2 Private vs. Public Banks

We investigate the effect of private versus public bank with two key motivations. First, we want to investigate if our results are simply driven by private banks, which will allow us to better understand if it is the organization form of the bank that's driving our result instead of distant monitors. Second, private banks have much stronger incentive based contracts and their top managers make significantly higher compensation linked to observable performance metrics compared to their public sector banks. Hence this test allows us to see whether our results are driven by banks whose managers stand more to gain from underreporting.

Table 7 documents the results. For expositional simplicity, we reproduce the estimates linking FII shareholding and underreporting in Column (1). Column (2) shows that private banks had much higher underreporting, both based on OLS estimates (Panel A) and Tobit estimates (Panel B). Private banks have about 51% higher underreporting condition on reporting their NPA divergence (Panel A). Notice the model fit of Column (1) versus Column (2). FII shareholding explains larger variation in underreporting (R^2 of 42%) that the private-public divide (R^2 of 34%). The key estimates are contained in Column (4) that includes both these variable – FII and Private – along with their interaction term. In the OLS model, the interaction term is positive and significant, whereas the individual effects are statistically insignificant. Thus the highest level of underreporting is concentrated within private banks with high FII shareholdings. The interaction term is positive and significant in the Tobit model as well. As expected, there is high positive correlation between FII and Private (0.8676 correlation coefficient). However even within the set of private banks as the FII shareholding increased banks underreport more. Thus our results linking FII to underreporting is not simply explained away by the private-public divide. We explore the second possibility that it is the compensation-based incentives of private sector banks that is driving our result in our next test.

4.3 Compensation

We gather data on the total remuneration of the CEOs of these banks. First, we hand collect the names of each bank's CEO's over the period 2005-2017. Second, we merge this information with board of directors data in Prowess, which provides information on total remuneration. We begin our analysis with some univariate results. In Figure 3, we reproduce a plot of average underreporting broken into categories based on the remuneration of the CEO. The relationship is stark. As CEO compensation increases, the extent of misreporting increases in a monotonic fashion as well. Compared to the lowest paid CEO quintile, the higher paid CEO's bank has 65% higher misreporting. Observations in the top two quintiles are all private sector banks.

Regression results are provided in Table 8. Banks with highly compensated CEOs underreport more. One standard deviation higher compensation is associated with almost 22% higher underreporting (Column 1). More important, this result is entirely concentrated within the set of private banks. As shown in Column (2), the interaction term between FII shareholding and remuneration is positive and significant, and inclusion of this variable renders the standalone effect of FII and remuneration insignificant. The finding shows that banks with larger FII shareholding and large remuneration are the ones that underreport more. This result is a more nuanced version of our earlier result where we show that FII shareholding in private banks is the main driving force behind our results. However, the remuneration based test allows us to establish a more granular result: it captures the variation in compensation within private banks and shows that when the CEOs stand to gain more they hide more.

4.4 Historical Performance

We now look at how CEOs were compensated for their performance during 2005-2015, i.e., during a period when the disclosure policy was relatively less truthful. The test is based on a

panel of about 260 bank-year observations, allowing us to detect the relationship between compensation and bank's reported performance using bank and year fixed effects in the following model:

$$comp_{it} = \alpha_i + year_t + \beta \times X_{it} + \epsilon_{it}$$

$comp_{it}$ is is log of total compensation of bank *i's* CEO in year t. The model includes both firm and year fixed effects to soak away yearly variation in compensation as well as bank specific fixed levels. X_{it} is a set of performance measure for bank i in year t. Results are provided in Table 9. As seen in Columns (1) - (4), CEOs compensation increases with higher profitability (ROA) and especially with lower NPLs. Column (3) uses NPL ratio as the measure of performance; Column (4) replaces it by provisions, which is highly correlated with NPL, but even more directly related to boost in reported earnings. The economic magnitude is strongest for better provisioning as well as better NPL ratio numbers. Thus bank managers did benefit by reporting good numbers along these dimensions.

In the last column of Table 9, we replace performance measure by FII shareholdings. Bank managers get paid more when FII shareholdings increase. Given that their compensation depends strongly on reported profitability and NPL numbers, it is natural to assess whether increased FII shareholding is associated with better performance on these measures. We know that post-regulation, banks with higher FII shareholding came out with higher underreporting. We now investigate if these very same banks reported better performance during the historical period and whether the CEO's compensation in these banks were more tightly linked to these observable performance metrics.

We proceed in two steps to do so. In Table 10, we estimate the following model linking FII shareholdings to reported performance:

$$perf_{it} = \alpha_i + year_t + \beta \times FII_{it} + \epsilon_{it}$$

A clear pattern emerges. As FII shareholdings increase, banks report better NPLs (Column 1), profitability (Column 2), and growth (Column 3). Thus, FII shareholdings is associated with high growth and profits, all with lower NPLs. Given our earlier results on underreporting, clearly some of this better reported performance came from hiding of the risk, rather than more prudent lending decision. Did the CEOs benefit from this? As shown earlier, indeed when FII shareholding became higher, CEO compensation went up. Now we link these results more directly by investigating how CEOs were compensated during this period. We regress their (log of) annual compensation on performance metrics, including NPLs, to assess how tightly their compensation is linked to observable, reported performance metrics. Results are provided in Table 11.

We first provide a regression of compensation on key performance metrics: profitability, NPL ratio, growth rate and asset size on the entire sample. The model includes bank and year fixed effects. As shown earlier, CEOs get compensated more when their banks show better profitability, and especially lower NPLs. The economic magnitude of NPL is highly significant. The model as a whole explains a reasonable portion of variation across bank CEO's compensation with overall R^2 of 86% and within-bank R^2 of 6%. Next, we break our sample into two groups: high and low FII shareholding based on the median of the average of each banks' FII shareholding over the entire sample. A clear pattern emerges: these performance metrics explain a significantly higher fraction of variation in CEO compensation when FII shareholding is high: overall and within R^2 of 91% and 13%, respectively. In contracts for low FII shareholding banks the corresponding R^2 are much lower at 40% and 1%. Thus banks with higher FII shareholding link their CEO's compensation much more tightly with these observable metrics. Finally, we consider the impact of FII shareholding on the slope of these performance metrics. Interacting the observable metrics with FII shareholding, we find that CEOs are more steeply rewarded for lower NPLs and higher ROE when levels of FII shareholding is high.

Together these results show that distant monitors rely more on observable metrics to

compensate their managers. This is consistent with a model such as Holmstrom (1979), in which it is optimal to compensate managers in opaque firms with high pay-for-performance. Without specifying the entire "action space" of managers, however, these are suboptimal contracts if CEOs are able to manipulate accounting profits to boost their compensation (Healy (1985)). Managers, unfortunately, engage in misreporting to show better performance in part. Thus distant monitors should be cautious in using performance linked contracts as a substitute for information-gathering and monitoring.

4.5 Robustness Tests

We conduct a series of robustness checks to provide further support to our main claim that distant monitors coupled with performance-linked compensation contract is the key driver of our findings. First, we re-run our earlier tests using a set of richer control variables. Our base tests so far controlled for firm's capitalization ratio, size, and year fixed effects. Now we include additional variables such as asset growth and the level of GNPA scaled by total assets in the model. Asset growth rate accounts for the investment opportunities of the bank, whereas the level of GNPA captures the quality of the investment portfolio itself. Table 12 presents these results. Our main results remain the same: the interactions between private and remuneration are all positive and significant when interacted with FII shareholding.

4.5.1 DII shareholding

As shown in Table 3, our institutional monitoring results are specific to foreign investors. This means any alternative explanation involving endogeneity must be specific to foreign investors rather than institutional investors in general. In Table 13, we explore this idea in greater detail. We re-run earlier tests involving interactions of FII shareholding with (economically motivated variables such as compensation levels) using domestic institutional investors as a placebo group. We conduct this test by interacting private and compensation

variables with both FII and DII shareholdings in the same model. If our preferred explanation – the one based on distant monitor – is correct, FII interactions should remain robust while DII shareholding interactions should not have a positive effect.

The table shows that all interactions with FII from earlier specifications remain positive and significant even when including the corresponding interaction terms with DII shareholdings. Furthermore, the interactions with DII are not statistically different from zero. Columns (1) and (2) show the results for interaction of FII and DII shareholdings with private and compensation variables. These results suggest that DII are relatively better at monitoring CEOs with high powered incentives than foreign investors. Overall, these results point to the specific properties of FII as distant investors who lack the private information to effectively monitor managerial agency problems in banks.

4.5.2 IV Placebo

Clearly, we cannot test the exclusion restriction of our instrument, MSCI index inclusion. However, we can rule out any mechanical relationship between the instrument and underreporting using a placebo test in the following manner: we use MSCI inclusion as an instrument for DII shareholdings. This placebo test allows us to comment on whether our instrument is picking up variation in institutional holding as against distant monitors. We regress DII shareholding on the MSCI instrument in Table 14 using the same first stage specification as in our actual IV test. As expected, the coefficient is not statistically different from zero and has a very small t statistic. Furthermore, the F statistic is small and less than 1 for both specifications.

This result is useful because it shows the instrument works intuitively: MSCI index inclusion only attracts FII but not DII investment. DII shareholders, who we have shown to be better monitors, are unaffected by MSCI inclusion. Therefore, we can at least rule out that MSCI inclusion is related to DII investors with preferences for banks with lower NPL

underreporting.

5 Conclusion

We show that managers are more likely to engage in underreporting their banks' risk, and thus inflate short term profits, when their shareholders are distant. Distance amplifies information frictions and hinders the shareholders' ability to properly monitor the managers. Thus managers are able to engage in misreporting without facing any significant probability of getting caught. When they stand to gain from inflated performance measures, misreporting incentives go up as well. Consistent with this idea and using a regime-change in reporting requirement for NPLs (non-performing loans) in India, we show that banks with higher holdings by Foreign Institutional Shareholders (FIIs) actively engaged in underreporting of their NPLs, and as a consequence overreporting of their profits. Such behavior was essentially concentrated among banks where CEOs stood to benefit from reporting better-than-true results. At a very broad level, our paper shows that distant monitors should use caution in relying on performance-linked compensation contract as a substitute for monitoring: it can make the problem worse by providing the managers incentive to engage in untruthful reporting.

Figure 1: Economic Magnitude of Underreporting

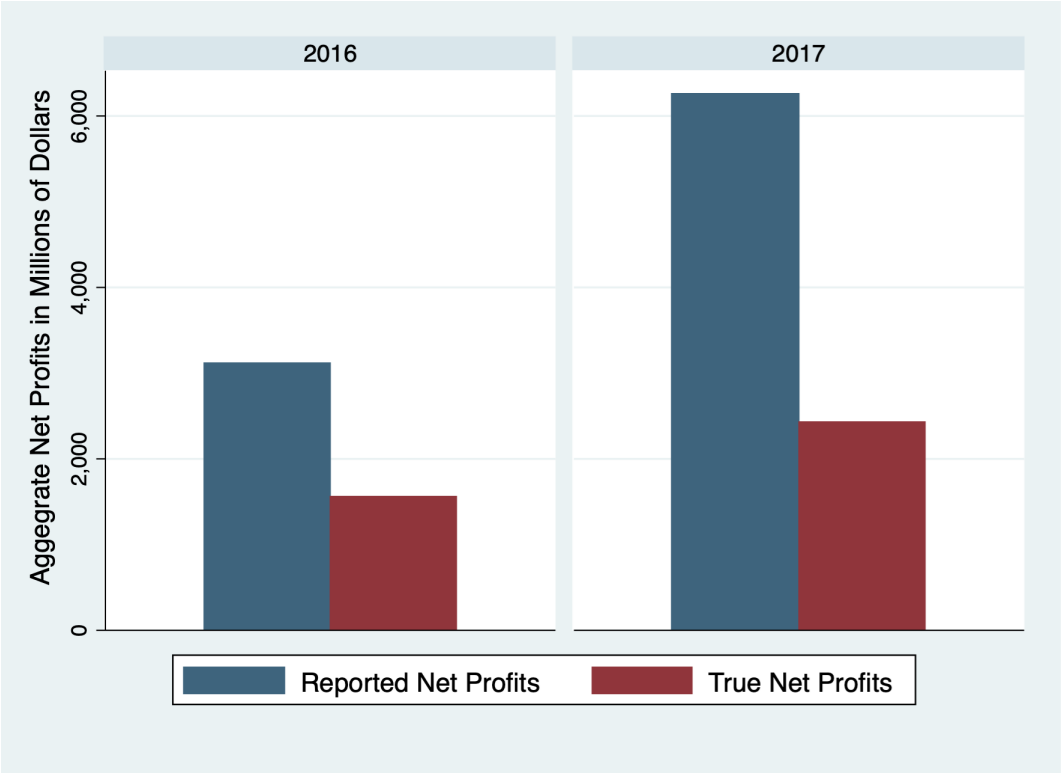

Figure 2: GNPA Underreporting by quantiles of %FII

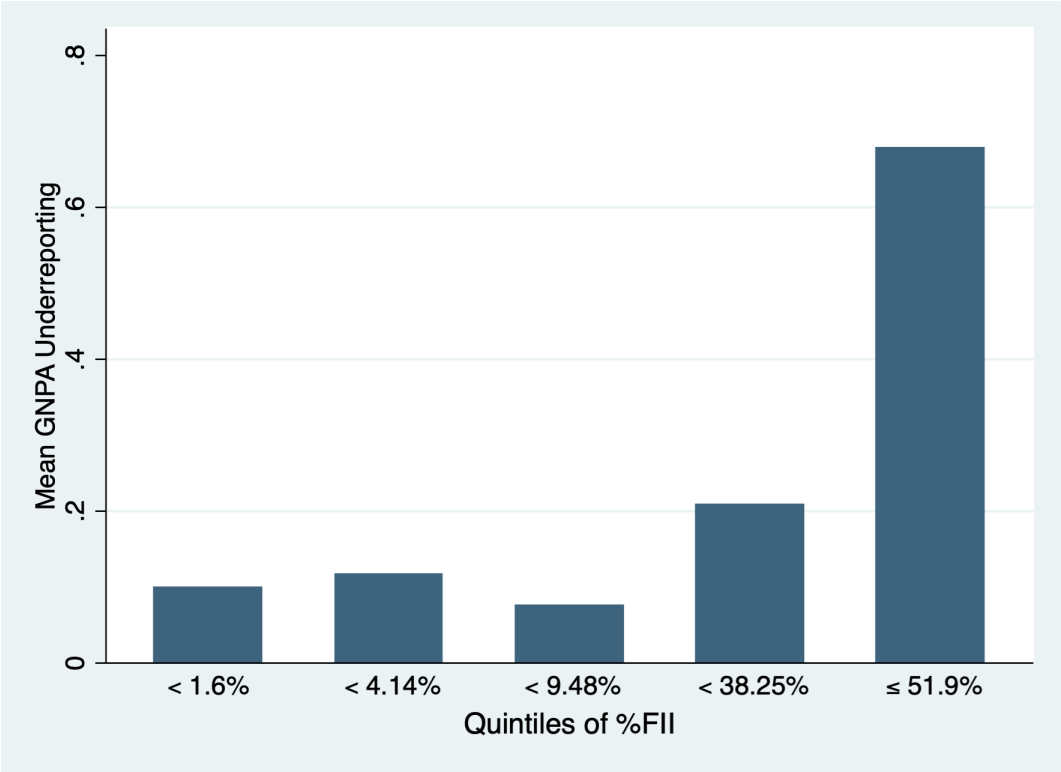

Figure 3: GNPA Underreporting by quantiles of Total Remuneration

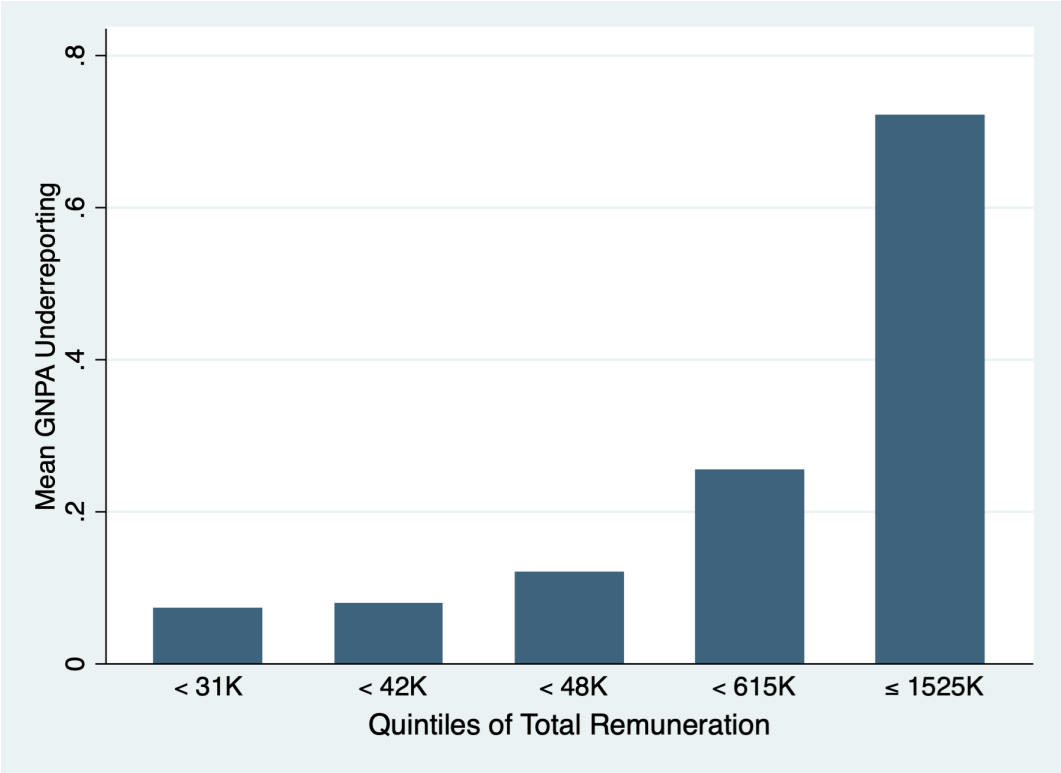

Figure 4: FII Shareholding by MSCI Inclusion Instrument

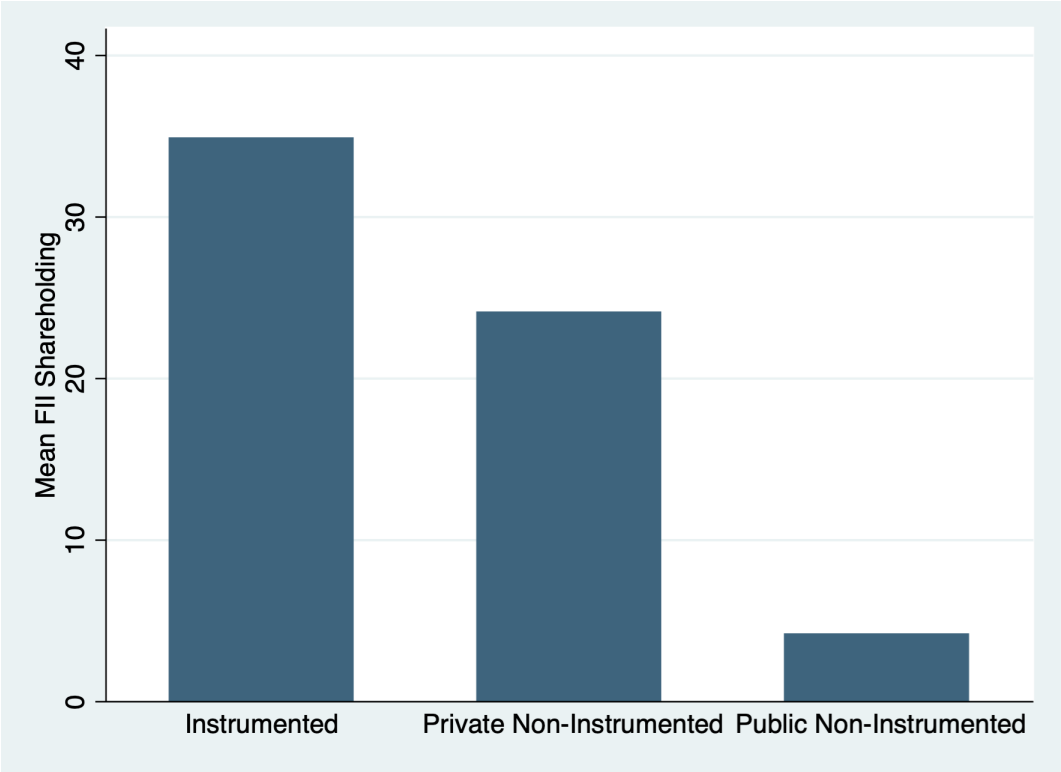

Figure 5: GNPA Underreporting by MSCI Inclusion Instrument

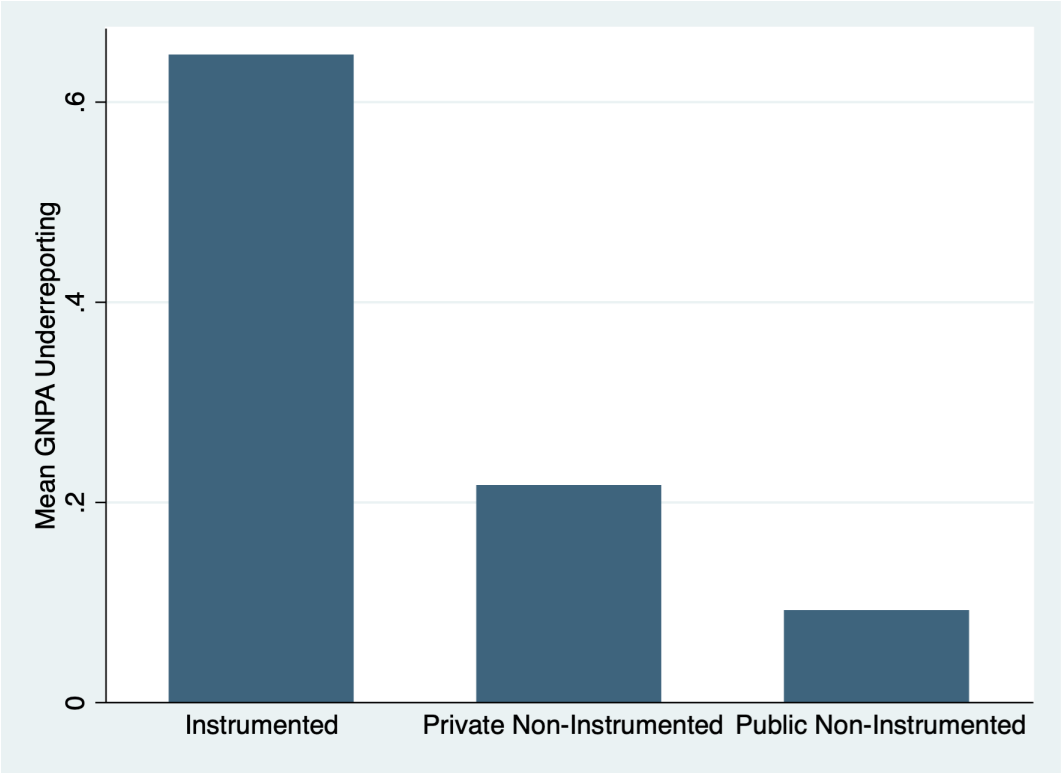

Table 1: Summary Statistics

Table 1 contains summary statistics for the banks in our sample. Panel A reports measures in 2016 and 2017 during which we observe banks underreporting. Panel B reports summary statistics over the historical period 2005-2015. $GNPAUR$ and $ProvisionUR$ are the amounts of GNPA and Provisions underreporting scaled by total assets. $Capital$ is the Tier 1 Capital Ratio. $\%Inst$ and $\%FII$ are the percentages of bank equity owned by institutional and foreign institutional investors. $\frac{\%FII}{No.\ FII}$ is the average shareholding by FII. $\%RBI$ is the percentage of bank equity owned by RBI. $RBI\ Mem$ is an indicator equal to 1 if board member represents the RBI. $Board\ Size$ is the number of board members. $CEOChair$ is an indicator equal to 1 if the chair is also the CEO of the Bank. $\%Outsiders$ and "$\%Audit\ Board\ Outsiders$ are the fraction of board and audit board members who are outsiders to the bank. $GNPA$ is the amount of gross non-performing assets scaled by total assets. $Provisions$ are the amount of provisions for gross non-performing assets in millions of dollars. $NetProfit$ is net profits after taxes in millions of dollars. $Total\ Assets$ is total assets in millions of dollars. $Remun.$ is the amount of total remuneration awarded to the bank's CEO in dollars. Lev is total debt plus total deposits divided by total assets. $TobinQ$ is bank book value divided by market value of bank. ROE and ROA are the bank's return on equity and return on assets in that fiscal year. All variables are measured at the end of a bank's fiscal year.

Panel A: Observed Underreporting Period: 2016-2017

	N	Mean	SD	P10	P25	P50	P75	P90
$GNPA\ UR$	53	23.022	34.445	3.103	5.913	11.988	24.219	53.359
$Provision\ UR$	53	18.477	22.272	2.849	4.944	10.058	20.570	44.899
$Capital$	73	10.392	2.453	8.140	8.750	9.260	11.870	14.360
$\%Inst.$	73	31.853	18.983	13.640	17.780	25.940	41.760	61.390
$\%FII$	73	15.942	16.444	0.890	2.590	8.760	23.550	42.130
$\frac{\%FII}{No.\ FII}$	73	0.122	0.208	0.021	0.036	0.055	0.124	0.245
$\%RBI$	73	40.949	35.793	0.000	0.000	61.255	70.760	80.985
$RBI\ Mem.$	73	0.575	0.498	0.000	0.000	1.000	1.000	1.000
$Board\ Size$	72	14.417	2.336	12.000	13.000	14.000	16.000	18.000
$CEO\ Chair$	72	0.236	0.428	0.000	0.000	0.000	0.000	1.000
$\%Outsiders$	72	0.325	0.212	0.000	0.172	0.314	0.500	0.615
$\%Audit\ Board\ Outsiders$	70	0.464	0.358	0.000	0.143	0.388	0.800	1.000
$GNPA$	73	0.050	0.032	0.010	0.018	0.045	0.073	0.087
$Provisions$	72	1041.093	1223.588	41.508	100.409	577.698	1572.829	2969.109
$Net\ Profit$	73	126.471	571.781	-422.730	-131.163	54.449	171.374	558.192
$Total\ Assets$	73	49749	65569	5357	15306	32622	56085	105405
$Remun.$	61	274434	406606	21589	33243	47709	176314	881708

Panel B: Historical Period: 2005-2015

	N	Mean	SD	P10	P25	P50	P75	P90
$Capital$	377	9.621	2.511	6.840	7.850	8.980	11.210	13.100
$\%Inst.$	377	28.432	14.539	10.640	18.320	26.880	35.850	49.010
$\%FII$	377	16.805	12.523	2.490	6.940	13.870	24.790	36.140
$Lev.$	377	0.896	0.032	0.847	0.882	0.906	0.917	0.924
$TobinQ.$	377	1.073	0.129	0.995	1.017	1.044	1.085	1.166
ROA	377	0.951	0.554	0.330	0.640	0.980	1.330	1.610
ROE	377	14.032	7.763	5.717	9.843	14.796	19.124	22.032
$GNPA$	375	0.018	0.010	0.007	0.010	0.015	0.023	0.033
$Provisions$	375	313.327	597.595	16.647	53.046	128.086	347.793	658.646
$Net\ Profit$	377	272.820	393.401	16.416	61.745	139.727	290.628	734.619
$Total\ Assets$	377	31745	42765	2542	7608	18229	37728	76413
$Remun.$	277	192103	295163	9224	28531	52022	184141	656307

Table 2: Shareholding Composition

Table 2 contain summary statistics for shareholder ownership of banks during 2016 and 2017 when we observe underreporting. Promoters, Institutions, and Non-Institutions roughly make up 100% of bank ownership. Indented variables break down these amounts into finer categories. $\%IndianProm.$ and $\%ForeignProm.$ are the percentages of bank equity owned by Indian and Foreign Promoters .$\%FII$ and $\%DII$ are the percentages of bank equity owned by foreign and domestic institutional investors. $\%Mutual\ Fund$, $\%Insurance$, and $\%Bank$ are the percentage of bank equity owned by domestic mutual funds, insurance funds, and banks. These are a subcategory of $\%DII$. $\%Corp.\ Bodies$ is the percentage of bank equity owned by non-promoter corporate bodies. $\%Individuals$ is percentage of bank equity owned by non-promoter individuals. All variables are measured at the end of a bank's fiscal year.

	N	Mean	SD	P25	P50	P75
Promoters	73	46.829	30.246	16.720	61.260	70.760
$\%Indian\ Prom.$	70	47.918	30.487	20.190	61.350	72.830
$\%Foreign\ Prom.$	63	1.020	3.951	0.000	0.000	0.000
Institutions	73	31.853	18.983	17.780	25.940	41.760
$\%FII$	73	15.942	16.444	2.590	8.760	23.550
$\%DII$	73	15.910	7.465	12.110	14.940	20.330
$\%Domestic\ Mutual\ Fund$	73	5.602	6.163	0.040	4.380	9.520
$\%Domestic\ Insurance$	73	8.268	6.704	1.430	10.140	14.100
$\%Domestic\ Banks$	73	1.748	3.513	0.110	0.210	1.700
Non-Institutions	73	21.201	21.628	7.400	11.520	21.510
$\%Corp.\ Bodies$	73	3.807	5.145	0.820	1.510	5.380
$\%Individuals$	73	15.352	15.914	6.010	8.350	13.330

Table 3: Shareholder Monitoring

OLS Dependent variable is log(Actual NPL/Reported NPL). In the Tobit panel, the dependent variable is log of Actual NPA - 0.15 x Incremental NPA)/Reported NPA. $\%FII$ and $\%DII$ are the percentages of bank equity owned by foreign and domestic institutional investors.$Capital$ is the Tier 1 Capital Ratio. All explanatory variables are lagged by one year. Panel A is estimated via OLS for the sample of banks we observe reporting divergences. Panel B contains results from a Tobit regression using the sample of all banks in 2016 and 2017. Observations are censored below by the 15% minimum GNPA required to report. Standard errors are clustered at the bank level.

Panel A: OLS

	(1)	(2)	(3)
$\%FII$	0.215**		0.211**
	(2.14)		(2.32)
$\%DII$		0.108	0.093
		(0.90)	(1.20)
$Capital$	-0.051	0.120*	-0.043
	(-0.81)	(1.95)	(-0.75)
$Log(Assets)$	-0.003	-0.073	-0.050
	(-0.07)	(-0.88)	(-0.84)
Year FE	Yes	Yes	Yes
Observations	53	53	53
R^2	0.424	0.174	0.459

Panel B: Tobit

	(1)	(2)	(3)
$\%FII$	0.216*		0.217*
	(1.73)		(1.79)
$\%DII$		0.014	-0.006
		(0.14)	(-0.06)
$Capital$	-0.096	0.068	-0.097
	(-1.04)	(1.29)	(-1.06)
$Log(Assets)$	-0.007	-0.014	-0.004
	(-0.13)	(-0.19)	(-0.06)
Year FE	Yes	Yes	Yes
Observations	73	73	73
Pseudo R^2	0.137	0.025	0.137

t statistics in parentheses

* $p < .10$, ** $p < .05$, *** $p < .01$

Table 4: Shareholder Concentration

OLS Dependent variable is log(Actual NPL/Reported NPL). In the Tobit panel, the dependent variable is log of Actual NPA - 0.15 x Incremental NPA)/Reported NPA. $\%Inst$, $\%FII$, and $\%DII$ are the percentage of bank equity shares held by institutional, foreign institutional, and domestic institutional investors. $\frac{1}{No.\ FII}$ is the inverse of the number of FII shareholders. $\frac{\%FII}{No.\ FII}$ is the average shareholding by FII. $Capital$ is the Tier 1 Capital Ratio. All explanatory variables are lagged by one year. Panel A is estimated via OLS for the sample of banks we observe reporting divergences. Panel B contains results from a Tobit regression using the sample of all banks in 2016 and 2017. Observations are censored below by the 15% minimum GNPA required to report. Robust standard errors are clustered at the bank level.

Panel A: OLS

	(1)	(2)	(3)
$\%FII$	0.273**		0.262**
	(2.44)		(2.74)
$\frac{1}{No.\ FII}$	0.002		0.005
	(0.15)		(0.24)
$\%FII \times \frac{1}{No.\ FII}$	-0.328*		-0.410*
	(-1.97)		(-1.95)
$\%DII$		0.149	0.142
		(0.89)	(1.21)
$\frac{1}{No.\ DII}$		0.077	0.166
		(0.63)	(0.91)
$\%DII \times \frac{1}{No.\ DII}$		-0.086	-0.107
		(-1.00)	(-1.06)
$Capital$	-0.104	0.107*	-0.074
	(-1.37)	(1.72)	(-1.11)
$Log(Assets)$	-0.146*	-0.071	-0.184
	(-1.72)	(-0.89)	(-1.68)
Year FE	Yes	Yes	Yes
Observations	52	53	52
R^2	0.512	0.208	0.556

Panel B: Tobit

	(1)	(2)	(3)
$\%FII$	0.288*		0.300**
	(1.99)		(2.16)
$\frac{1}{No.\ FII}$	0.061*		0.057
	(1.72)		(1.64)
$\%FII \times \frac{1}{No.\ FII}$	-0.317*		-0.302
	(-1.78)		(-1.42)
$\%DII$		0.009	-0.044
		(0.08)	(-0.39)
$\frac{1}{No.\ DII}$		-0.015	-0.031
		(-0.14)	(-0.20)
$\%DII \times \frac{1}{No.\ DII}$		0.003	0.032
		(0.04)	(0.31)
$Capital$	-0.151	0.062	-0.157
	(-1.27)	(1.12)	(-1.30)
$Log(Assets)$	-0.131	-0.020	-0.117
	(-1.29)	(-0.24)	(-0.98)
Year FE	Yes	Yes	Yes
Observations	72	73	72
Pseudo R^2	0.191	0.025	0.195

t statistics in parentheses

* $p < .10$, ** $p < .05$, *** $p < .01$

Table 5: Role of the Board

OLS Dependent variable is log(Actual NPL/Reported NPL). *Board Size* is the number of board members. *RBI Mem* is an indicator equal to 1 if board member represents the RBI. *CEO Chair* is an indicator equal to 1 if the chair is also the CEO of the Bank. *%Outsiders* and "*%Audit Board Outsiders* are the fraction of board and audit board members who are outsiders to the bank. *%FII* is the percentage of bank equity shares held by foreign institutional investors. All explanatory variables are lagged by one year. Underreporting is observed in years 2016 and 2017. Panel A is estimated via OLS for the sample of banks we observe reporting divergences. Panel B contains results from a Tobit regression using the sample of all banks in 2016 and 2017. Observations are censored below by the 15% minimum GNPA required to report. Standard errors are clustered at the bank level.

Panel A: OLS

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Board Size	-0.069	-0.034	-0.064	-0.072	-0.074	-0.042	-0.069
	(-1.03)	(-0.67)	(-1.02)	(-1.12)	(-1.11)	(-0.75)	(-1.14)
RBI Mem.		-0.326*				-0.275*	-0.154**
		(-1.97)				(-2.02)	(-2.61)
CEO Chair			-0.083			-0.005	0.040
			(-1.26)			(-0.09)	(0.70)
%Outsiders				0.161		0.170	0.209
				(1.46)		(0.92)	(1.29)
%Audit Board Outsiders					0.120	-0.096	-0.272
					(1.53)	(-0.70)	(-1.56)
%FII							0.245**
							(2.21)
Capital	0.105*	0.017	0.099	0.045	0.044	0.014	-0.067
	(1.72)	(0.29)	(1.66)	(0.79)	(0.74)	(0.22)	(-1.00)
Log(Assets)	0.010	0.017	0.007	0.051	0.041	0.035	0.018
	(0.26)	(0.41)	(0.19)	(0.99)	(0.84)	(0.71)	(0.45)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	52	52	52	52	51	51	51
R^2	0.152	0.276	0.162	0.241	0.211	0.301	0.531

Panel B: Tobit

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Board Size	-0.072	-0.060	-0.069	-0.087	-0.137	-0.114	-0.122
	(-0.81)	(-0.88)	(-0.80)	(-0.94)	(-1.31)	(-1.23)	(-1.49)
RBI Mem.		-0.415*				-0.337	-0.230
		(-1.71)				(-1.50)	(-1.46)
CEO Chair			-0.128			-0.045	-0.019
			(-0.76)			(-0.31)	(-0.13)
%Outsiders				0.128		-0.020	0.079
				(0.97)		(-0.10)	(0.40)
%Audit Board Outsiders					0.138	0.065	-0.168
					(1.41)	(0.38)	(-0.75)
%FII							0.223
							(1.67)
Capital	0.062	-0.056	0.057	0.012	-0.022	-0.074	-0.135
	(1.22)	(-0.83)	(1.18)	(0.22)	(-0.37)	(-1.04)	(-1.35)
Log(Assets)	0.035	0.041	0.031	0.072	0.074	0.049	0.023
	(0.58)	(0.69)	(0.52)	(0.93)	(1.04)	(0.74)	(0.45)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	72	72	71	72	70	69	69
Pseudo R^2	0.032	0.101	0.039	0.050	0.073	0.120	0.204

t statistics in parentheses

* $p < .10$, ** $p < .05$, *** $p < .01$

Table 6: FII instrumented by MSCI Index Inclusion

Table 6 estimates the effect of FII shareholding on GNPA underreporting using an instrument variable. The instrument, $MSCI$, is defined as 1 if the bank was included in the MSCI India domestic index in 2015 and 0 otherwise. The first column presents the results from the first stage regression where FII shareholding is regressed on the instrument. In the second column, GNPA underreporting is regressed on the MSCI instrument. The third column presents the second stage of the instrumented FII shareholding on GNPA underreporting. $\%FII$ is the percentage of bank equity shares owned by foreign institutional investors. *Capital* is the Tier 1 Capital Ratio. OLS Dependent variable is log(Actual NPL/Reported NPL). In the Tobit panel, the dependent variable is log of Actual NPA - 0.15 x Incremental NPA)/Reported NPA. Underreporting is observed in years 2016 and 2017. Standard errors are clustered at the bank level.

Panel A: IV

	First Stage	Reduced Form	Second Stage
$MSCI$	1.828***	0.602**	
	(4.84)	(2.46)	
$\%FII$			0.329***
			(2.88)
$Capital$	0.429***	0.003	-0.138
	(3.00)	(0.08)	(-1.55)
$Log(Assets)$	-0.411**	-0.130*	0.005
	(-2.43)	(-1.96)	(0.08)
Year FE	Yes	Yes	Yes
Observations	53	53	53
R^2	0.737	0.487	0.341
F First Stage	23.404		

Panel B: Tobit IV

	First Stage	Reduced Form	Second Stage
$MSCI$	1.432***	0.646**	
	(3.64)	(2.12)	
$\%FII$			0.441**
			(2.46)
$Capital$	0.555***	-0.026	-0.268
	(3.71)	(-0.53)	(-1.58)
$Log(Assets)$	-0.284*	-0.144	-0.014
	(-1.73)	(-1.56)	(-0.19)
Year FE	Yes	Yes	Yes
Observations	73	73	73
R^2	0.670		
Pseudo R^2		0.212	
F First Stage	13.267		

t statistics in parentheses

* $p < .10$, ** $p < .05$, *** $p < .01$

Table 7: Foreign Institutional Investors and Private Banks

OLS Dependent variable is log(Actual NPL/Reported NPL). In the Tobit panel, the dependent variable is log of Actual NPA - 0.15 x Incremental NPA)/Reported NPA. $\%Inst$, $\%FII$, and $\%DII$ are the percentage of bank equity shares held by institutional, foreign institutional, and domestic institutional investors. *Private* an indicator variable whether less than % 50 of the bank is owned by the state. *Capital* is the percentage of Tier 1 Capital. Underreporting is observed in years 2016 and 2017. Panel A is estimated via OLS for the sample of banks we observe reporting divergences. Panel B contains results from a Tobit regression using the sample of all banks in 2016 and 2017. Observations are censored below by the 15% minimum GNPA required to report. Robust standard errors are clustered at the bank level.

Panel A: OLS

	(1)	(2)	(3)	(4)
$\%FII$	0.215**		0.233	-0.038
	(2.14)		(1.41)	(-0.40)
Private		0.511**	-0.056	0.144
		(2.21)	(-0.22)	(0.66)
$Private \times \%FII$				0.322**
				(2.40)
Capital	-0.051	-0.033	-0.048	-0.046
	(-0.81)	(-0.63)	(-0.85)	(-0.84)
$Log(Assets)$	-0.003	0.107	-0.016	-0.007
	(-0.07)	(1.68)	(-0.19)	(-0.08)
Year FE	Yes	Yes	Yes	Yes
Observations	53	53	53	53
R^2	0.424	0.337	0.425	0.470

Panel B: Tobit

	(1)	(2)	(3)	(4)
$\%FII$	0.216*		0.147	-0.567**
	(1.73)		(0.80)	(-2.41)
Private		0.593*	0.229	0.876**
		(1.92)	(0.77)	(2.40)
$Private \times \%FII$				0.768**
				(2.53)
Capital	-0.096	-0.093	-0.106	-0.102
	(-1.04)	(-1.23)	(-1.19)	(-1.19)
$Log(Assets)$	-0.007	0.129	0.046	0.086
	(-0.13)	(1.47)	(0.50)	(0.91)
Year FE	Yes	Yes	Yes	Yes
Observations	73	73	73	73
Pseudo R^2	0.137	0.126	0.141	0.223

t statistics in parentheses

* $p < .10$, ** $p < .05$, *** $p < .01$

Table 8: Interaction of Remuneration and Monitoring

OLS Dependent variable is log(Actual NPL/Reported NPL). In the Tobit panel, the dependent variable is log of Actual NPA - 0.15 x Incremental NPA)/Reported NPA. *Remun* is the log of total remuneration awarded to a bank's CEO in the year of undereporting. $\%FII$ is the percentage of bank equity shares owned by foreign institutional investors. Underreporting is observed in years 2016 and 2017. Columns (1), (2), and (3) present OLS results conditional on a bank reporting divergences. Columns (4) , (5), and (6) present results from a Tobit regression using the sample of all banks in 2016 and 2017. Observations are censored below by the 15% minimum GNPA required to report. Standard errors are clustered at the bank level.

	OLS		Tobit	
	(1)	(2)	(3)	(4)
Remun.	0.219**	0.116**	0.202*	0.071
	(2.36)	(2.08)	(1.78)	(0.86)
$\%FII$		-0.875*		-1.349*
		(-1.94)		(-1.99)
$Remun. \times \%FII$		0.080**		0.120**
		(2.11)		(2.04)
Capital	-0.089	-0.062	-0.134	-0.093
	(-1.27)	(-1.15)	(-1.35)	(-1.12)
$Log(Assets)$	-0.036	-0.077	-0.025	-0.116
	(-0.71)	(-1.27)	(-0.35)	(-1.38)
Year FE	Yes	Yes	Yes	Yes
Observations	47	47	61	61
R^2	0.482	0.553		
Pseudo R^2			0.144	0.229

t statistics in parentheses

* $p < .10$, ** $p < .05$, *** $p < .01$

Table 9: Remuneration Panel

Table 9 presents results from a panel regression estimated over 2005-2015. Dependent variable is the log of total remuneration awarded to the Bank's CEO. ROE and ROA are the bank's return on equity and return on assets in that fiscal year. $GNPARatio$ is Gross NPAs divided by advances. $Provisions\ Ratio$ is Provisions divided by net interest income. $\%FII$ is the percentage of bank equity shares owned by foreign institutional investors. All explanatory variables are contemporaneous with the dependent variables. Regressions include Bank FE and Year FE. Standard errors are clustered at the bank level.

	(1)	(2)	(3)	(4)	(5)
ROE	0.114				
	(1.29)				
ROA		0.161**			
		(2.35)			
$GNPA\ Ratio$			-0.224***		
			(-2.81)		
$Provisions\ Ratio$				-0.245***	
				(-2.91)	
$\%FII$					0.237***
					(3.12)
$Log(Assets)$	0.530***	0.571***	0.526**	0.752**	0.258
	(3.72)	(4.10)	(2.10)	(2.04)	(1.65)
Year FE	Yes	Yes	Yes	Yes	Yes
Bank FE	Yes	Yes	Yes	Yes	Yes
Observations	277	277	258	275	277
R^2	0.853	0.855	0.874	0.856	0.856

t statistics in parentheses

* $p < .10$, ** $p < .05$, *** $p < .01$

Table 10: Historical Performance

Table 10 presents results from a panel regression estimated over 2005-2015. Dependent variables are GNPA scaled by Total Assets, Net Profit scaled by Total Assets, and Log(Advances). $\%FII$ is the percentage of bank equity shares owned by foreign institutional investors. *Capital* is the Tier 1 Capital Ratio. *Lev* is total debt plus total deposits divided by total assets. *TobinQ* is bank book value divided by market value of bank. All explanatory variables are contemporaneous with the dependent variables. Regressions include Bank FE and Year FE. All standard errors are clustered at the Bank level.

	GNPA	Net Profit	Advances
$\%FII$	-0.686***	0.178**	0.156**
	(-6.64)	(2.11)	(2.72)
Capital	-0.118	0.142	0.038
	(-0.93)	(1.59)	(0.84)
Lev.	-0.368***	-0.013	0.129*
	(-3.09)	(-0.13)	(1.92)
TobinQ.	-0.232	0.068	-0.044
	(-1.53)	(0.91)	(-0.77)
Year FE	Yes	Yes	Yes
Bank FE	Yes	Yes	Yes
Observations	375	377	377
R^2	0.644	0.649	0.989

t statistics in parentheses

* $p < .10$, ** $p < .05$, *** $p < .01$

Table 11: Compensation Regression by FII Groups

Table 11 presents results from a panel regression estimated over 2005-2015. Dependent variable is the log of total remuneration awarded to the Bank's CEO. The first column is estimated over the entire sample. The second and third columns are split by the median of the average of each banks' FII shareholding over the entire sample. ROE is the bank's return on equity in that fiscal year. $GNPARatio$ is Gross NPAs divided by advances. $\%FII$ is the percentage of bank equity shares owned by foreign institutional investors. All explanatory variables are contemporaneous with the dependent variables. Regressions include Bank FE and Year FE. Standard errors are clustered at the bank level.

	(1) Full Sample	(2) High FII	(3) Low FII	(4) Full Sample	(5) Full Sample
ROE	0.017	0.055	-0.188		0.084
	(0.26)	(0.85)	(-1.31)		(0.89)
$GNPARatio$	-7.424*	-7.644**	-1.554	-8.288**	
	(-1.93)	(-2.37)	(-0.15)	(-2.51)	
$Log(Assets)$	0.720**	0.797**	0.919	0.394	0.161
	(2.19)	(2.42)	(1.22)	(1.44)	(0.95)
$\%FII$				0.329***	0.220***
				(3.10)	(3.74)
$GNPARatio \times \%FII$				-5.501***	
				(-2.75)	
$ROE \times \%FII$					0.112***
					(3.04)
Bank FE	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes
R^2	0.86	0.91	0.40	0.86	0.86
Within R^2	0.06	0.13	0.01	0.09	0.07
Observations	274	153	121	274	276

t statistics in parentheses

* $p < .10$, ** $p < .05$, *** $p < .01$

Table 12: Robustness - Control Variables

Table 12 presents earlier models with richer control variables. OLS Dependent variable is log(Actual NPL/Reported NPL). In the Tobit panel, the dependent variable is log of Actual NPA - 0.15 x Incremental NPA)/Reported NPA. $\%FII$ is the percentage of bank equity shares owned by foreign institutional investors. *Remun* is the log of total remuneration awarded to a bank's CEO. *Capital* is the Tier 1 Capital Ratio. $GNPA$ is the level of gross non-performing assets scaled by total assets. *TobinQ* is bank book value divided by market value of bank. All explanatory variables are lagged by one year. Underreporting is observed in years 2016 and 2017. Columns (1), (2), and (3) present OLS results conditional on a bank reporting divergences. Columns (4) , (5), and (6) present results from a Tobit regression using the sample of all banks in 2016 and 2017. Observations are censored below by the 15% minimum GNPA required to report. Standard errors are clustered at the bank level.

	OLS		Tobit	
	(1)	(2)	(3)	(4)
$\%FII$	-0.169**	-1.006**	-0.873***	-1.683**
	(-2.28)	(-2.12)	(-2.92)	(-2.44)
$Private$	0.472**		1.401***	
	(2.70)		(3.14)	
$Private \times \%FII$	0.353*		0.968***	
	(1.93)		(2.74)	
$Remun.$		0.152**		0.131
		(2.33)		(1.46)
$Remun. \times \%FII$		0.091**		0.145**
		(2.16)		(2.46)
$Log(Assets)$	0.190**	0.056	0.333**	0.002
	(2.07)	(1.08)	(2.45)	(0.03)
$Capital$	-0.021	-0.053	-0.097	-0.091
	(-0.33)	(-1.00)	(-1.13)	(-1.52)
$GNPA$	-0.039	-0.048	-0.137*	-0.111*
	(-1.21)	(-1.46)	(-1.91)	(-1.84)
$MarketCap$	-0.098	-0.142	-0.153*	-0.158*
	(-1.18)	(-1.59)	(-1.87)	(-1.91)
$TobinQ.$	0.080	0.009	0.015	-0.040
	(1.14)	(0.14)	(0.28)	(-0.72)
Year FE	Yes	Yes	Yes	Yes
Observations	53	47	73	61
R^2	0.572	0.654		
Pseudo R^2			0.332	0.346

t statistics in parentheses

* $p < .10$, ** $p < .05$, *** $p < .01$

Table 13: Robustness - $\%DII$

Table 13 using $\%DII$ as a placebo test. OLS Dependent variable is log(Actual NPL/Reported NPL). In the Tobit panel, the dependent variable is log of Actual NPA - 0.15 x Incremental NPA)/Reported NPA. $\%FII$ and $\%DII$ are the percentage of bank equity shares owned by foreign and domestic institutional investors. *Remun* is the log of total remuneration awarded to a bank's CEO. All explanatory variables are lagged by one year. Underreporting is observed in years 2016 and 2017. Columns (1) and (2) present OLS results conditional on a bank reporting divergences. Columns (3) and (4) present results from a Tobit regression using the sample of all banks in 2016 and 2017. Observations are censored below by the 15% minimum GNPA required to report. Standard errors are clustered at the bank level.

	OLS		Tobit	
	(1)	(2)	(3)	(4)
$\%FII$	-0.034	-0.992**	-0.654**	-1.618*
	(-0.40)	(-2.40)	(-2.64)	(-1.95)
$\%DII$	0.033	-0.629	0.061	-0.146
	(1.09)	(-1.24)	(0.58)	(-0.23)
$Private$	0.102		0.856**	
	(0.42)		(2.33)	
$Private \times \%FII$	0.264***		0.838**	
	(2.75)		(2.65)	
$Private \times \%DII$	0.124		-0.077	
	(1.00)		(-0.54)	
$Remun.$		0.064*		0.022
		(1.81)		(0.26)
$Remun. \times \%FII$		0.088**		0.141*
		(2.57)		(1.99)
$Remun. \times \%DII$		0.066		0.013
		(1.35)		(0.23)
$Log(Assets)$	-0.052	-0.126*	0.069	-0.121
	(-0.51)	(-1.78)	(0.64)	(-1.27)
Year FE	Yes	Yes	Yes	Yes
Observations	53	47	73	61
R^2	0.513	0.634		
Pseudo R^2			0.203	0.213

t statistics in parentheses

* $p < .10$, ** $p < .05$, *** $p < .01$

Table 14: IV Placebo Test

Table 14 imitates the first stage of the IV regression using $\%DII$ instead of $\%FII$ as the dependent variable. The instrument, $MSCI$, is defined as 1 if the bank was included in the MSCI India domestic index in 2015 and 0 otherwise. $\%FII$, and $\%DII$ are the percentage of bank equity shares held by foreign institutional, and domestic institutional investors. $Capital$ is the Tier 1 Capital Ratio. Underreporting is observed in years 2016 and 2017. Standard errors are clustered at the bank level.

	OLS	Tobit
$MSCI$	-0.018	-0.055
	(-0.04)	(-0.13)
$Capital$	-0.051	0.039
	(-0.30)	(0.18)
$Log(Assets)$	0.508***	0.413**
	(2.95)	(2.11)
Constant	0.271	0.391**
	(1.60)	(2.32)
Year FE	Yes	Yes
Observations	53	73
R^2	0.255	0.143
F	0.002	0.017

t statistics in parentheses

* $p < .10$, ** $p < .05$, *** $p < .01$

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A Appendix

A.1 NPL Disclosure

Figure A1: YesBank NPL Disclosure

18.5.6.3 DIVERGENCE IN ASSET CLASSIFICATION AND PROVISIONING FOR NPAS – (REF DBR. BP.BC.NO. 63/ 21.04.018/2016-17 DATED APRIL 18, 2017)

₹ in millions

Sr. No.	Particulars	
1	Gross NPAs as on March 31, 2016 as reported by the Bank	7,489.81
2	Gross NPAs as on March 31, 2016 as assessed by RBI	49,256.81
3	Divergence in Gross NPAs (2-1)	41,767.00
4	Net NPAs as on March 31, 2016 as reported by the Bank	2,844.74
5	Net NPAs as on March 31, 2016 as assessed by the RBI	36,031.49
6	Divergence in Net NPAs (5-4)	33,186.75
7	Provision for NPAs as on March 31, 2016 as reported by the Bank	4,645.07
8	Provision for NPAs as on March 31, 2016 as assessed by RBI	13,225.32
9	Divergence in provisioning (8-7)	8,580.25
10	Reported Net Profit after Tax (PAT) for the year ended March 31, 2016	25,394.47
11	Adjusted (notional) Net Profit after Tax (PAT) for the year ended March 31, 2016 after taking into account the divergence in provisioning	19,783.84

The table above is in conformity with RBI circular issued on April 18, 2017 and as per approval from Board of Directors at its Board meeting held on April 19, 2017, the audited financial statements of the Bank for the year ended March 31, 2017, duly incorporates the current impact of divergences observed recently by RBI

A.2 Variable Construction

Table A1: Variable Descriptions

Variable	Description	Source
GNPA Underreporting	Log(Actual NPL/Reported NPL)	Hand Collected
Provision Underreporting	Log(Actual Provision/Reported Provisions)	Hand Collected
Remuneration	Log of Total Remuneration awarded to the CEO	Hand Collected & Prowess
GNPA	Gross Non-Performing Assets / Total Assets	RBI Statistics
Capital	Tier 1 Capital Ratio	RBI Statistics
Net Profit	Net Profits/Total Assets	RBI Statistics
Lev.	(Total Debt + Total Deposits)/Total Assets	Prowess
Tobin Q	Book Value/Market Value	Prowess
% FII	FII Shares/Total Number of Shares	Prowess
% Inst.	Inst. Shares/Total Number of Shares	Prowess
% DII	DII Shares/Total Number of Shares	Prowess
% RBI	RBI Shares/Total Number of Shares	Prowess
Average % FII	FII Shares/Number of FII Investors	Prowess
Growth	Log(Total Assets_{t}/Total $\text{Assets}_{t\text{-}1}$)	RBI Statistics
ROA	Return on Assets	RBI Statistics
ROE	Return on Equity	RBI Statistics
GNPA Ratio	Gross Non-Performing Assets / Advances	RBI Statistics
Board Size	Number of Directors on Board	Prowess
RBI Mem.	Indicator if RBI member serves on the Board	Prowess
CEO Chair	Indicator if CEO is chair of the Board	Prowess
% Outsiders	Percentage of Independent Board Members	Prowess
% Audit Board Outsiders	Percentage of Independent Members on Audit Board	Prowess

Tobit Underreporting Dependent Variable: As described in the main text, the Tobit dependent variable is the log of (Actual NPA - 0.15 x Incremental NPA)/Reported NPA. For example, in 2016, ICICI Bank reported 3.91 billion NPL and 2.49 billion incremental NPL. Actual NPL was 4.69 billion. As per the regulation, the minimum NPL ICICI Bank could report before being required to disclose is: Actual NPL minus 15% of incremental NPL or 4.3165 billion. Since ICICI Bank reported less than this, it was required to disclose the true amount. Therefore, the dependent variable for Tobit is log[(4.69 - .15 x 2.49)/ 3.91] = .099. Hypothetically, if ICICI Bank underreported exactly 15% of incremental NPL, 4.3165 billion, then this variable reduces to 0.

Shareholding Variables: All shareholding variables are annual and measured on March 31st, the end of the fiscal year for all banks in India.

A.3 Event Study

Figure A2: FII Holdings Timeline

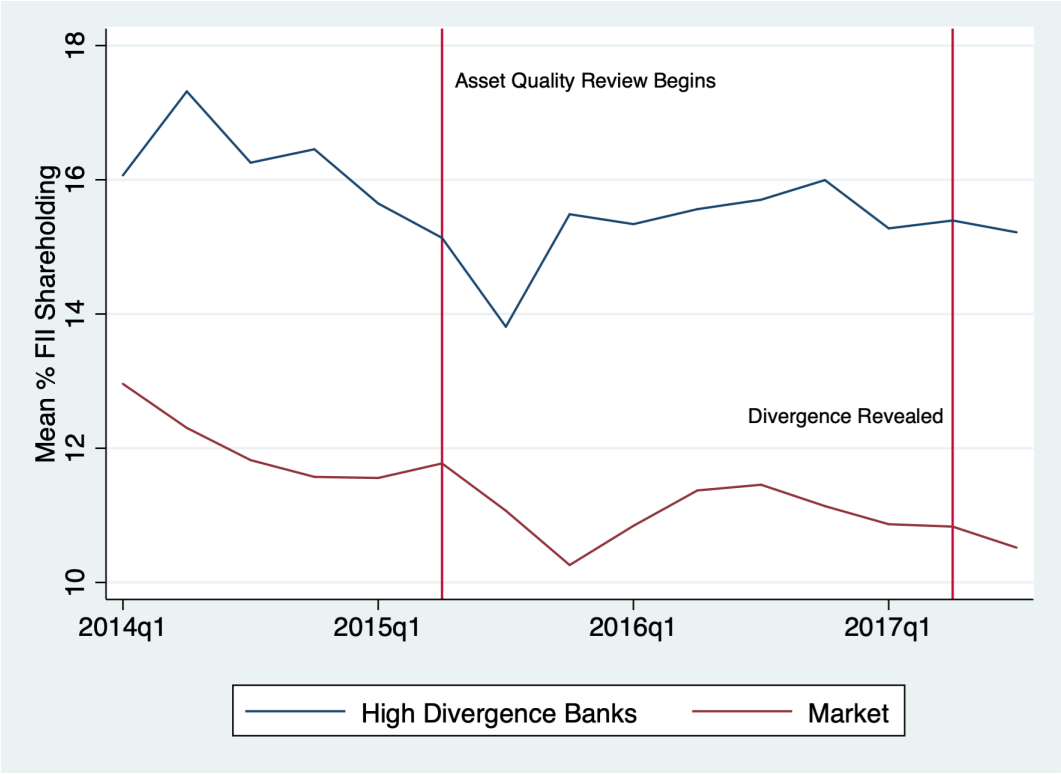

Table A2: Event Study

Table reports cumulative abnormal returns (CAR's) around announcement of bank divergences. Expected returns using the market model in the (-396,-120) estimation window. Divergences in FY2016 were announced upon the release of the 2017 annual report for all banks meeting the minimum required reporting threshold. Divergences in FY2017 were announced in the release of FY18 Q2-Q4 results (the release quarter varies by bank). Standard errors are clustered by bank.

Event Window	All Years CAR	2016 CAR	2017 CAR
(-120,120)	-0.154***	-0.151***	-0.155**
	(-3.83)	(-2.83)	(-2.66)
(-60,60)	-0.112***	-0.128***	-0.100***
	(-4.57)	(-4.03)	(-2.88)
(-30,30)	-0.055***	-0.044*	-0.064**
	(-3.32)	(-1.93)	(-2.75)
(-10,10)	-0.053***	-0.091***	-0.024
	(-4.02)	(-4.21)	(-1.42)
(-5,5)	-0.043***	-0.063***	-0.028**
	(-3.56)	(-3.11)	(-2.34)
(-1,1)	-0.010	-0.023**	-0.000
	(-1.20)	(-2.45)	(-0.02)
Observations	53	23	30

t statistics in parentheses

* $p < .10$, ** $p < .05$, *** $p < .01$