Financial misconduct, fear of prosecution and bank lending

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Abstract

In this paper, we investigate the issue and relevance of financial misconduct and fear of prosecution on the lending behaviour of Indian banks. We combine bank-level financial and prudential variables during 2008-2018 with a unique hand-collected dataset on financial misconduct and fear of prosecution. The findings indicate that, in the presence of financial misconduct, state-owned banks typically cut back on credit creation and instead increase their quantum of risk-free investment. In terms of magnitude, a 10% increase in financial misconduct lowers lending by 0.2% along with a roughly commensurate increase in investment. In terms of the channels, we find that private banks increase provisioning to maintain their credit growth, although the evidence for state-owned banks is less persuasive.

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"...Banks have gone through a slightly worrying period wherein decision making was getting difficult because of fear of 3Cs (Central Bureau of Investigation, Central Vigilance Commission, Comptroller, and Auditor General). There was concern and bona fide decisions are not being made by banks because of what they would say undue harassment, uncalled for harassment happens because of these agencies pursuing on cases."

- *Finance Minister, Government of India, December 28, 2019*

1. Introduction

No other issue has generated so much debate and discussion on India's financial sector in recent times as financial misconduct. Several instances of loan defrauding at state-owned banks over the past several years reached a crescendo when a significant loan irregularity amounting to nearly US $2 billion was detected at a leading state-owned bank in 2018. Between April 2014 and March 2018, there were nearly 25000 instances of financial misconduct at Indian lenders, aggregating to USD 16 billion, according to data published by the Indian central bank (Reserve Bank of India, 2018). As Rajan (2018) has remarked, frauds are different from loan delinquencies in that the loss is the outcome of a patently illegal action, either by the borrower or the banker. He further goes on to observe that, without any precedence of retrieval or legal actions against the culprits, the classification of an account as fraud further aggravates the severity of the issue.

The costs of such financial misconduct can be substantial. First, misconduct can damage confidence in the banking sector, which might lead depositors to explore other non-banking sources to entrust their savings (Knell and Stix, 2015). Second, financial misconduct can aggravate financial fragility and exacerbate systemic risks as it inflicts costs to the overall financial system (European Systemic Risk Board, 2015). Consistent with this argument, Koster and Pelster (2018) find that an increase in financial penalties on European banks led to a significant increase in bank systemic risk exposure. Finally, bank misconduct costs can erode capital and dampen lending capacity. According to estimates, the misconduct costs on global banks have impaired their lending capacity by nearly US$ 5 trillion (Carney, 2017).

In this paper, we examine the third aspect, that is, bank lending. To be more specific, we try to address three issues. First, does financial misconduct affect bank behaviour?

In this regard, we focus on bank lending (quantity) as well as its funding cost (price). Second, what role does fear of prosecution play in this regard? Finally, what are the channels through which misconduct affects bank lending?

Notwithstanding the compelling evidence, few studies have carefully analyzed the impact of financial misconduct on bank lending and relatedly, on funding costs. From an analytical standpoint, utilizing a sample of global banks, Sakalauskaite (2018) shows that in addition to bank size, CEO compensation plays a vital role in driving such behavior. As recently as 2017, the Financial Stability Board (FSB) published a progress report for G20 leaders detailing the work plan to reduce misconduct in the financial sector. In parallel, countries have also responded proactively in addressing financial misconduct by setting up new institutions. For example, in the US, the Consumer Financial Protection Bureau (CFPB) was created in 2011 to protect consumers against financial misconduct specifically.

The Indian banking sector provides a reasonable case study to analyse this issue for several reasons. First, during 2008-2018, the total amount involved in bank misconduct has been quite significant, equalling close to US $20 billion, or 0.09% of GDP on an annual average basis. Within overall misconduct, the amount related to loans accounted for an average of around 80% of the total across all categories, necessitating the increased focus on this issue. Second, even within this sector, it is the state-owned banks (SOBs) that have been most susceptible to such misconduct: the share of the amount involved in financial misconduct for these banks has averaged close to 80% during this period. Third, state-owned banks are subject to manifold oversight.[3] As a result, any such misconduct can be subject to vigilance and regulatory scrutiny with potential fear of prosecution. This has direct and adverse implications for the career prospects of bankers, which in turn impedes their lending decisions. For example, Banerjee et al. (2004) have noted that such fear of prosecution has the effect of lowering bank lending and that this effect is quite persistent around the vigilance activity.[4]

[3]This is popularly referred to as the 3Cs – Central Bureau of Investigation (CBI), Central Vigilance Commission (CVC) and the Comptroller and Auditor General of India (CAG). Each of these institutions have their own remit and responsibilities. The functions of the CBI and the CVC are broadly complementary in that they deal with anti-corruption activities. Within this, the CVC's domain is more limited: it exercises original jurisdictions over senior government functionaries. As compared to these, the CAG focuses on a much broader role of ensuring financial propriety; the control of corruption is subsumed within this mandate.

4 Rajan (2018) also makes the point that "Today, a variety of authorities…monitor the performance of public sector banks… It is important that we streamline and reduce the overlaps

A careful analysis on this issue has, however, not been forthcoming primarily due to paucity of consistent data on financial misconduct. To address this concern, we exploit a unique dataset. In particular, our data consists of hand-coded information on financial misconduct cases collected from *Lok Sabha* questionnaire. We employ the data from 2008-2018, which is the maximum period for which data on key variables are reported consistently. We integrate this data with bank characteristics, including proxies for the actual number of prosecutions as well as fear of prosecution measures and control for the other business cycles and unobservable bank-specific factors. The analysis suggests that financial misconduct exerts a statistically significant impact on bank behaviour. To further investigate the influence on fear of prosecution on bank lending, we hand-collect the data on stage I and stage II advice by CVC (Central Vigilance Commission) to respective state-owned banks, from the annual reports of CVC.[5] To the best of our knowledge, there is no prior study, most definitely for India, which has empirically examined the influence of financial misconduct and fear of prosecution using this dataset.

Our main findings can be summarized as follows. First, financial misconduct exerts a statistically significant and negative impact on lending by state-owned banks: a 10% increase in financial misconduct lowers lending by roughly 0.2%. Not only is there under lending, there is also an increase in deposit cost as also increased investment. Finally, a 10% increase in fear of prosecution dampens lending of state-owned banks by 0.15%.

More broadly, our analysis highlights three points. First, it emphasizes the relevance of financial misconduct in influencing bank behaviour. Second, the evidence suggests that fear of prosecution is an essential driver of bank lending. Third, the effect is manifest more starkly in the case of state-owned banks, indicating that weaknesses in internal controls and governance mechanisms are more of a concern for these banks as compared to their private peers.

The paper is organised as follows. Section 2 provides an overview of the relevant literature. Section 3 presents some background of financial misconduct in the context

between the jurisdictions of the authorities, and specify clear triggers or situations where one authority's oversight is invoked."

[5] In its judgment in 2016, the Supreme Court held that employees of private sector banks can also be held as public servants for the purpose of the Prevention of Corruption Act, 1883. Following this judgement, the CBI has been investigating financial misconduct in private banks as well. However, there is limited availability of public information on financial misconduct in these banks. As a result, this could not be examined in the analysis.

of Indian Banking. Section 4 presents the empirical strategy, including data on financial misconduct and fear of prosecution followed by summary statistics. Section 5 contains a discussion of the main results. Section 6 concludes.

2. Background and previous literature

Following the global financial crisis, a significant number of cases of financial misconduct hogged headlines in both financial and academic debates. The manipulation of the LIBOR rate by some UK banks in 2010, prosecution over insider trading by a US-based investment bank in 2012 and more recently, unlawful and fraudulent conduct by a leading US commercial bank, have made headlines. The total misconduct costs for top global banks is estimated to be US$ 320 billion in the last decade (Financial Stability Board, 2018).

Our analysis connects several important streams of literature. First, the analysis provides evidence regarding the role of incentive contracts in shaping bank financial behaviour. For example, Agarwal and Wang (2009) show that a suitably designed incentive scheme encourages loan officers to increase both the quality and quantity of lending. Also, evidence in the case of UK banks finds that misconduct provisions lead to a statistically significant decline in bank capital (Tracey and Sowerbutts, 2018). Unlike these studies, our analysis utilizes data on domestic banks for an extended period and examines its effect with financial misconduct, holding constant the institutional and macroeconomic environment. The analysis highlights the fact that bank-level factors play an essential role in driving such behaviour.

Second, the literature explores the relevance of bank ownership for financial misconduct. Cross-country studies provide evidence that higher government ownership is detrimental to bank stability (La Porta et al., 2002), although the balance of evidence differs across advanced and emerging economies (Das and Ghosh, 2006; Laeven and Levine, 2009; Barry et al., 2011; Iannotta et al., 2013; Ferri et al., 2014; Zhu and Yang, 2016; Pak, 2019). On the other hand, some studies analyse the issue of financial misconduct from the regulatory perspective. In the Indian case, Ghosh and Bagheri (2006) undertake a critical analysis of the lapse in the banking regulatory framework that led to significant financial misconduct with severe systemic consequences. In contrast, we link financial misconduct and fear of prosecution to bank ownership in order to discern possible systemic patterns and find that it is

primarily state-owned banks that are typically susceptible to financial misconduct which in turn impinges on their lending behaviour.

Finally, the paper contributes to the broader literature that highlights the relevance of governance issues in driving bank behaviour. Studies on the association between governance and bank performance are mixed: while some studies report a positive relationship (Bhagat and Black, 2002; Gompers et al., 2003; Laeven and Levine, 2009), others report the relationship to be negative (Jensen, 1993; Yermack, 1996; Hermalin and Weisbach, 2003; Adams and Mehran, 2003; Cheng, 2008). However, policy discussions of bank behaviour in recent times have focused primarily on bank lending behaviour, given its significance in fostering economic activity (Kumar, 2019). Few studies analyse the impact of governance on bank lending. Prior studies (Saunders et al., 1990; Pathan, 2009; Minton et al., 2014) have focused primarily on aggregated measures of bank riskiness. Using data on US banks, Faleye and Krishnan (2017) document that better-governed banks cut back lending to risky borrowers, especially during times when their credit requirements are more compelling. Viewed from this perspective, we contribute to the debate by quantifying the impact of financial misconduct on bank behaviour and the importance of fear as a factor in influencing such behaviour.

3. Indian banking, fear of prosecution and financial misconduct

Traditionally India has a bank-based financial system. However, the importance of non-banks has been increasing over time. The share of bank assets to GDP, which was around 50% of GDP in 1992, increased to over 90% in 2018. The commercial banking segment comprises state-owned banks (in which the government is the majority shareholder), private sector banks - both old (which are in operation before the economic reforms) and new (established after the economic reforms) and a multitude of foreign banks (FBs). Since the onset of economic reforms, the share of SOBs in overall banking asset has gradually declined from 90% in 1991 to about 65% in 2018, at an annual average of roughly 1% per annum.

Over the reform period post 1992, (real) bank assets have expanded at a compound annual rate of 10% till 2018; the growth rate of deposits and credit during the same period has been 10% and 11%, respectively. However, this growth has been uneven across bank groups: deposit and credit expansion of private banks has been much higher, of the order of 16% and 19%, respectively; the same for state-owned banks has been of the order of 9-

10%. Foreign banks have registered deposit and credit growth that is, in percentage terms, broadly similar to that for state-owned banks, although their share in overall (on-balance sheet) bank assets has hovered around 6-8% during the entire period.

In terms of balance sheet variables, the global financial crisis had little impact on the Indian banking system.[6] The total balance sheet expanded annually by an average of 14% during this period, which was supported by robust credit expansion. Across bank groups, however, while SOBs registered positive growth of both deposit and credit, private and foreign banks recorded declines in terms of both deposit and credit. Illustratively, in 2010, the balance sheet of private banks contracted by close to 8%, driven by a sharp contraction in credit (-11%), and likewise, the balance sheet of foreign banks also registered declines, although with smaller magnitude.

The post-crisis recovery has, at best, been tepid. Overall asset expansion has been around 8% during 2011-18, with private banks growing at a pace faster than other banks. However, the expansion in balance sheet variables of old private banks has been the weakest. Their asset share had shrunk from a peak of 6.7% in 2000 to 4.4% in 2018. New private banks have emerged as the biggest gainers: their share in the asset has jumped from a meager 1.4% in 1995 to nearly 24% in 2018, primarily driven by an expansion in credit.

The shrinking balance sheet size of state-owned banks in the post-crisis era can be traced to a multitude of factors. Perhaps the most significant of these is the problem of non-performing loans. It has increased from 1.2% of GDP (INR 979 billion) in 2011 to 6.2% of GDP (INR 10397 billion) in 2018, registering a compound growth of over 20% during this period. This high and rising NPLs have been the subject of inquiry of investigative agencies, particularly the CVC, which has subjected bankers to questioning regarding the genuineness of their decisions, even in case of collective decisions.[7] During the period 2008-2011, complaints against as many as 372 senior bank officers were referred to the CVC (Ministry of Finance, 2011). More importantly, during 2015-17, action was initiated against nearly 10,000 staff in the state-owned banks and 4,000 odd in other banks and

[6] Following Eichengreen and Gupta (2013), the period 2008-10 is taken as the financial crisis period.

[7] Typically, the decision on a large loan is made by a consortium of banks and is subsequently endorsed by their respective boards.

financial institutions (Ministry of Finance, 2019). Not surprisingly, therefore, this Damocles sword of prosecution has meant lending virtually coming to a standstill: overall real lending in state-owned banks has grown at a compound rate of 4.7% during 2011-18, the lowest among the bank groups.

Another equally disconcerting aspect of the Indian banking system has been the incidence of financial misconduct. In his treatise on Indian currency and finance, Keynes had remarked that: *In a country so dangerous for banking as India, it should be conducted on the safest possible principles* (Royal Economic Society, 2013). The Indian central bank came into existence in 1935, partly as a response to the bank failures in the earlier period. However, the lack of an appropriate regulatory framework posed a problem of effective regulation of the banking system. Large-scale loan losses driven by unbridled credit excesses led to the failure of a major commercial bank in August 1960 and several more in the intervening period during 1955-1965 (Reserve Bank of India, 2008).

After the bank nationalization, the government aggressively focused on strengthening the regulatory framework and gradual improvements in credit extension practices. Notwithstanding these improvements, weaknesses resurfaced when unscrupulous speculators gamed the stock market by financially abusing the banking system. Subsequently, several state-owned banks fell prey to dubious credit policies, including those in 1996 and after that in 2001.

The number of misconduct cases and the amount involved in such cases has increased significantly during the last five years (**Table 1**). What is of interest is to note that those related to credit, account for around two-fifths by number. However, in value terms, they overwhelm other misconduct categories.

Recognizing the need for proactive response, several policy measures have been undertaken over the past several years. From the financial angle, the Reserve Bank operationalized the Central Fraud Registry (CFR) in January 2016. Banks can exploit this database to analyze critical information relating to misconduct cases above INR 1 lakh, including the *modus operandi* and related issues. After that, in July 2016, the Indian central bank issued the Master Direction on Fraud documenting the details and actions to be taken by banks in case of any misconduct.

At a broader level, for enforcement of auditing standards and ensuring audit quality, the Government has established the National Financial Reporting Authority as an independent regulator. Moreover, an Advisory Board for Banking Frauds (ABBF) has been

constituted by the Central Vigilance Commission (CVC), after consultation with the Reserve Bank, to examine and recommend action for bank fraud above INR 500 million.

4. Database and empirical strategy

4.1. The Sample

To analyze misconduct, we construct a dataset for publicly listed domestic banks covering the period 2008-2018. The period is chosen based on the availability of data, as bank-level information on financial misconduct before 2008 is not reported consistently. The sample covers a total of 39 banks, including 24 state-owned, six *de novo* private (established after the economic reforms) and nine old private (which are in operation before the economic reforms) banks. These banks on average, account for 85-90% of total commercial banking sector assets during the period.

4.2. The Data

The disaggregated data on the bank balance sheet and profit and loss accounts are culled out from multiple issues of *Statistical Tables Relating to Banks in India*, a yearly publication of the Indian central bank. The financial year for banks starts from the first day of April of a particular year and ends on the last day of March of the subsequent year. Accordingly, the year 2008, the first year of the sample corresponds to the period 2007–08 (April–March) and so on.

The key variables of interest are those related to financial misconduct and prosecution.[8] Under the provisions of the *Indian Penal Code* Act of 1860, financial misconduct can include the following: misappropriation of funds, fraudulent encashment through forged instruments or manipulation of books of accounts, unauthorized credit facilities extended for reward or illegal gratification, cheating and forgery, irregularities in foreign exchange transactions or any other misconduct not categorized under the earlier headings. It involves a total number of misconduct cases with a monetary value of INR 100,000 and above as well as the monetary loss to the bank owing to the financial misconduct (i.e., the amount involved). The bank-wise information is periodically reported in the *Lok Sabha* (lower house of the Indian Parliament) when such relevant issues are raised by members. The information is hand-coded from the various *Lok Sabha* questionnaires.

[8] Misconduct cost refers to the deliberate act of omission or commission by any person, carried out in the course of a banking transaction or in the books of accounts or under computer system in banks, resulting in a wrongful gain to any person for a temporary period or otherwise, with a monetary loss to the bank (Reserve Bank of India, 2010).

The other relevant variable is the *fear of prosecution*. We capture this in terms of the number of Stage I and Stage II advice by the CVC to the bank.[9] It can be argued that any such advice opens up the possibility of further scrutiny, with adverse consequences for the career growth of the officer.

It needs to be recognized that the banking industry witnessed consolidation activity during this period. We control for this by using a dummy, which equals one for the acquirer bank in the year of the merger, else zero. As a result, the number of bank-years varies: with an average of 9.9 years of observations per bank, and we have a maximum of 386 bank-years.

Table 2 provides the variable definitions and summary statistics. Across bank-years, the average number of misconduct across bank-years was 231, involving an average amount of INR 6.96 billion per bank-year. However, this masks the vast differences across ownership: while the average amount is INR 10.2 billion for state-owned banks per bank-year, it is INR 900 million for private banks. These differences across bank ownership are statistically significant at conventional levels. About 62% of the sample banks are state-owned and the rest are private.

4.3 Empirical strategy

To analyze the impact of financial misconduct on bank behaviour, for bank i in year t, we estimate empirical specifications of the following form:

$$y_{it} = \alpha + \theta_i + \eta_t + \beta_1 BS_{it-1} + \beta_2 FMC_{it-1} + \beta_3 SOB_{it} + \gamma_1 (FMC_{it-1} * SOB_{it}) + \varepsilon_{it} \quad (1)$$

In Equation (1), y_{it} is the outcome variable of interest, which is alternately defined as either real lending, deposit cost or real investment. The independent variables comprise specific bank- (BS) variables as well as a proxy for financial misconduct (FMC), defined as the natural log of one plus fraud amount per fraud in a bank-year. Independent variables

9 Whenever cases are investigated against officers, such investigation reports are sent to the CVC through appropriate channels along with the tentative action to be taken by the Disciplinary Authorities. Depending upon the circumstances and facts of the case, CVC advises (a) initiation of criminal and/or Departmental proceedings against the concerned person; or (b) issuance of Administrative warning; or (c) closure of the case. This is referred to as Stage I advice. Upon receipt of enquiry report from the Officer, the responsible person forwards the same to the Board along with the views. The Board subsequently forwards the same to CVC along with its comments. The advice given by the CVC at this stage is known as Stage II advice. Since we do not have information on the *extent* of adverseness of the advice at either stage, we choose to club them together as a proxy for *fear of prosecution*.

are lagged one period to avoid endogeneity concerns. The lagged FMC also accounts for persistence effect (Banerjee et al., 2004).[10] SOB is an indicator variable that takes a value of 1 if the bank is state-owned bank, otherwise 0.[11] γ_1 is the coefficient of interaction between FMC and bank ownership which captures the influence of financial misconduct on the outcome of state-owned banks. θ_i represents unobserved bank-specific heterogeneity, and η_t captures time-variant factors, such as the business cycle or changes in interest rates; ε_{it} denotes the random error term.

The included bank characteristics are both stock and flow variables. On the stock side, variables include size (log of total assets - LTA) and capital adequacy ratio (CAR) as a control for funding structure. Provided bigger banks can achieve scale economies in lending, this would entail a positive coefficient on LTA. On the one hand, banks having higher equity levels might be less inclined to engage in risky activities, implying lowering the likelihood of financial misconduct. Also, competitive pressures and search for higher yields could lead banks supported by a better equity position to engage in riskier activities so that the sign on this variable could be decisive. On the flow side, we include operating expense scaled by total income ($Expn$) as a control for cost efficiency and non-interest income ratio ($NONINT$), defined as non-interest income scaled by total assets, as a control for income structure. As more efficient banks are likely to exhibit improved lending activity, the coefficient on $Expn$ is likely to be negative, and likewise, if banks with higher fee income can tolerate lower interest income (and consequently, lower lending), the coefficient on $NONINT$ would be negative.

Our coefficient of interest is γ_1: it identifies the impact of lending by state-owned banks in the presence of financial misconduct. Provided financial misconduct dampens lending (resp., raises deposit cost), the coefficient γ_1 would be negative (resp., positive). Estimated standard errors in all regressions are clustered at the bank level.

In a similar vein, in the next regression, we examine the influence of prosecution-related variables on bank lending as well as investment and also on the cost, as below.

$$y_{it} = \alpha + \theta_i + \eta_t + \alpha_1 BS_{it-1} + \alpha_2 Prosecution_{it-1} + \gamma_2 FOP_{it-1} + + \varepsilon_{it} \quad (2)$$

The bank-specific variables (BS) are the same as defined earlier. $Prosecution$ is defined as the natural log of one plus number of prosecutions per bank officer in a bank-year. Our variable of interest is fear of prosecution (FOP), and it captures the fear of

[10] We experimented with additional lags of FMC, but they were observed to be insignificant.
[11] In the model for bank-level fixed effects, we dropped the SOB indicator variable.

prosecution. It is defined as the natural log of one plus the number of stage I and stage II advice by CVC per bank officer. γ_2 is the coefficient of interest capturing the influence of fear of prosecution on bank lending. Since this data is reported only for state-owned banks, the total number of observations is lower. As earlier, estimated standard errors are clustered at the bank level.

Finally, we also examine the channels through which financial misconduct can affect bank lending. To do this, we estimate the following specification, separately for state-owned and private banks, as given by (3):

$$y_{it} = \alpha + \theta_i + \eta_t + \gamma_1 BS_{it-1} + \gamma_2 FMC_{it-1} + \gamma_3 Channel_{it-1} + \lambda_1 (FMC_{it-1} * Channel_{it-1}) + \varepsilon_{it} \quad (3)$$

Wherein, the notations are as earlier and the coefficient of interest is λ_1. This coefficient examines the importance of a particular channel on bank lending in the presence of financial misconduct.

From an economic standpoint, there are two channels through which financial misconduct can affect credit creation. First, misconduct can dampen bank risk taking and thereby slow down credit growth. Following prior literature (Agoraki et al., 2011; Lepetit and Strobel, 2015), we proxy the risk-taking channel by the bank's Z-score. Since the Z-score is positively skewed, akin to Laeven and Levine (2009), we employ the natural logarithm of one plus Z-score.[12] Secondly, financial misconduct and the resultant loan delinquencies might necessitate higher provisioning, which, in turn, can impede the ability of the bank to extend credit. We capture this channel by the ratio of loan loss provisioning to total asset.

5. Results and Discussion

The regression results are presented in **Table 3**. In column 1, the coefficient on the interaction term between FMC and SOB is negative and statistically significant with a point estimate equal to -0.045. Taken together with the coefficient of FMC, the net effect works out to be -0.022. Therefore, for state-owned banks, a 10% increase in financial misconduct lowers bank lending by roughly 0.2%.

We find that on average, financial misconduct leads to higher lending in the following year by private banks. Although it runs contrary to intuition, there are several ways to rationalise this outcome. First, private banks might be making higher provisioning, enabling

[12] Given the computation of the Z-score, two years of observations are lost from the sample.

them to expand lending even in the face of misconduct. Second, several big projects, particularly in infrastructure and related sectors, require a continuous flow of credit, which is often difficult to cut back. Third, the twin forces of competition and lending relationship demands that banks provide credit to corporates, irrespective of the challenges faced by the lender. It is also a fact that private banks are more proactive in initiating legal action against fraudsters. The suit value (as a percentage of non-performing loans) is higher for private sector banks as compared to their state-owned peers (Shrivastava and Katakam, 2018). Additionally, a major source of growth in private sector lending comes from the retail sector where the NPA ratio is lower. Hence, higher exposure to the retail sector and greater proclivity to recognize and take legal action against fraudsters may lower the influence of financial misconduct on the lending activity of the private sector banks. All of these factors could be relevant in explaining such behaviour.

Next, we explore the impact on deposit cost and find that the coefficient is positive and statistically significant at the 0.01 level. The magnitudes are not very high though: a 100% increase in financial misconduct leads to an increase in deposit cost by 0.08%. Overall therefore, financial misconduct not only dampens lending, but it also raises deposit cost.

What is, however, of interest is to note that financial misconduct not only leads to under-lending, but it also leads to over-investment. To see this, note that the coefficient on the interaction term in column 3 is positive and statistically significant. A 10% increase in financial misconduct increases investment by state-owned banks by roughly 0.15%. Faced with financial misconduct and the associated challenges, banks choose to lower lending and increase investment. This is consistent with the fact that in real terms, investment by SOBs during 2011-18 has grown at a pace that is roughly double that of credit. Our findings, therefore, add to the literature that documents how financial misconduct dampens lending and raises borrowing costs.

Among the controls, size bears a positive and statistically significant coefficient under the balance sheet items, so that bigger banks can expand credit at a faster pace. Relatedly, they also experience lower deposit costs, possibly reflecting their extensive branch network. Larger banks, at the same time, have higher investments. Similarly, well-capitalized banks can extend more significant quantum of credit since they are less affected by credit constraints, and at the same time, they incur lower deposit costs. The magnitudes are equally important as well: one percent increase in capital raises lending by roughly 2.5%, on average and reduces deposit cost by 0.001%. Banks with higher fee income (non-interest income) experience higher deposit costs, possibly reflecting their

lack of opportunities to access cheap funding. The fit of the model is good, accounting for anywhere between 66-99% of the variation in the dependent variable.

We next turn towards analyzing the impact of fear of prosecution. As discussed earlier, the multiple oversight on state-owned bankers, often with significant overlaps, subjects them to intense scrutiny. To the extent that such scrutiny impedes bank lending, the coefficient on the relevant variable would be expected to be negative and statistically significant.

In column 4 of the table, we find this exactly to be the case. More specifically, the coefficient on the FOP variable is negative and statistically significant. The point estimates suggest that a 10% increase in fear of prosecution would lower lending by roughly 0.15%, on average. This under lending phenomenon is consistent with Banerjee et al. (2004), who report similar evidence in the case of mid-sized state-owned banks, although their magnitudes were higher. The table also shows that the global financial crisis overwhelmed the fear of prosecution so much so that there was an increase in bank lending during the period (Col. 5). Interestingly, there appears to be no discernible impact of prosecution fear on either investment or the cost of deposit.

To sum up, the evidence shows that in the presence of financial misconduct, state-owned banks typically engage in under lending and instead deploy the resources by expanding their relatively risk-free portfolio (i.e., investments).

Finally, we explore the channels through which financial misconduct can affect credit creation in **Table 4**. Based on our previous discussion, column (1) of Table 4 reports the findings for risk-taking channel, while column (2) looks at the provisioning channel. A similar analysis is also done for private banks as well (columns 3 and 4).

For state-owned banks, the interaction terms in columns (1) and (2) are not statistically significant, suggesting that these factors do not appear to be relevant in explaining their lending behavior. As compared to this, in column (4), the coefficient is positive and statistically significant for private banks, so that notwithstanding financial misconduct, private banks continue to expand lending, driven by the fact that their loan loss provisioning is also high. This to an extent explains the positive loan growth for private banks despite financial misconduct, as observed earlier.

6. Concluding remarks

Several studies have explored the factors driving financial misconduct by banks, primarily in an advanced economy context. However, these studies are typically based on thin samples or small periods, substantially limiting their empirical appeal.

To address this deficiency, using information on an extended sample of banks during 2008-2018, we investigate the relevance of financial misconduct for bank behaviour. The findings indicate that in the presence of financial misconduct, banks typically seek to under lend and, instead, shore up their investment portfolio, which is relatively risk-free. This effect is predominantly observed in state-owned banks. A 10% increase in financial misconduct is accompanied by a reduction in lending by 0.2%. The decline in credit is simultaneously accompanied by an increase in investments of roughly similar magnitude (in percentage terms).

The financial misconduct also puts pressure on bank deposit costs, raising it to some extent. Contextually, we also explore the importance of fear of prosecution and find that there is a dampening impact on lending. A ten percent increase in fear of prosecution lowers lending of state-owned banks by 0.2%. Taken together, these results highlight the importance of financial misconduct more broadly in driving bank-lending behaviour. The fact that the factors affecting financial misconduct differ across bank ownership suggests an essential role for policy in addressing this challenge.

The analysis raises a couple of essential concerns. First and more generally, there is often a concern that bank lending has not been gathering pace in recent years. One factor that has perhaps bypassed the attention of policymakers could be financial misconduct. Second and relatedly, the inadequacy of monetary transmission can also be, to an extent, traced to misconduct costs since these entail a deadweight loss, and needs to be taken on board by the bank. Finally, the fact that financial misconduct is more of a challenge for state-owned banks highlights the need for revisiting their governance structures (Patel, 2019).

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Table 1: Frauds in Indian Banks (amount involved ≥ Rs. 1 lakh)

Year	Number	Amount (INR billion)	% of Credit-Related Frauds	
			Number	Amount
2013-14	4306	10.2	46.2	82.7
2014-15	4639	19.5	48.5	88.0
2015-16	4693	18.7	45.3	92.9
2016-17	5076	23.9	45.7	85.9
2017-18	5917	41.2	42.7	54.8

Source: Financial Stability Report, December 2018, RBI

Table 2: Variable definition and summary statistics

Variable	Definition	N.Obs	Mean (SD)	p.25 (p.75)
Dependent				
Credit	Log (Total credit/CPI)	364	9.87 (1.03)	9.21 (10.56)
Deposit cost	Interest paid on deposits/ (Total deposits – demand deposits)	364	0.06 (0.01)	0.06 (0.07)
Investment	Log (Investment/ CPI)	364	9.04 (1.00)	8.38 (9.75)
Independent				
LTA	Log (Total asset)	364	16.33 (1.11)	15.63 (17.03)
CAR	Capital adequacy ratio of the bank	364	13.05 (2.16)	11.63 (13.94)
Equity	Capital plus reserves to total assets	364	0.066 (0.02)	0.052 0.071
Expn	Operating expense/ Income	364	0.19 (0.04)	0.16 (0.21)
NONINT	Non-interest income/ Total asset	364	0.01 (0.004)	0.01 (0.01)
Financial misconduct (FMC)	Log(1+(Total amount involved in financial misconduct/ Number of misconduct))	364	2.27 (1.44)	1.15 (3.38)
Prosecution	Log(1+(Number of prosecution during a year/ Number of bank officers))	261	-8.61 (0.79)	-9.11 (-8.19)
Fear of prosecution (FOP)	Log(1+(Total no. of stage I and II advice to the bank)/No. of bank officers)	261	-7.74 (1.15)	-8.61 (-6.84)
Channels				
Z-score	Ln(1+Z), where Z=[(Equity/Asset)+(RoA)]/SD (RoA), where SD (RoA) is based on periods t-2, t-1 and t	325	4.014 (1.05)	3.405 (4.666)
LLP	Provision for non-performing loans/ Total asset	364	0.011 (0.004)	0.008 (0.013)
Merger	Dummy=1 for the acquirer bank in the year of the merger, else zero SBI in 2017, Kotak Mahindra in 2014 and ICICI in 2010			
Bank ownership (F_OWN)				
SOB	Dummy=1 if a bank is state-owned, else zero	24 banks		
PVT	Dummy=1 if a firm is domestic private, else zero	15 banks		
Fraud				
Number of Frauds	Number of frauds in bank-year	364	231 (1242)	21 (119)
Fraud Amount	Fraud amount (INR million) in bank-year	364	6961 (79767)	98 (2719)

Table 3: Financial misconduct, fear of prosecution and bank lending – Estimation results

Dep var	Credit	Deposit cost	Investment	Credit		Deposit cost	Investment
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
SOB	0.108**	-0.003	-0.088				
	(0.046)	(0.002)	(0.065)				
FMC * SOB	-0.045***	0.001***	0.040***				
	(0.015)	(0.0004)	(0.012)				
FMC	0.023*	-0.0002	-0.025**				
	(0.012)	(0.0003)	(0.010)				
FOP				-0.015**	-0.006	0.00003	-0.002
				(0.007)	(0.011)	(0.0003)	(0.009)
FOP*Crisis					0.071***		
					(0.021)		
Crisis					0.424**		
					(0.147)		
Controls							
LTA	0.988***	-0.004***	0.955***	0.859***	0.171***	0.014***	0.765***
	(0.013)	(0.001)	(0.024)	(0.121)	(0.038)	(0.005)	(0.188)
CAR	0.024**	-0.001***	-0.005	0.003	0.010*	-0.0001	-0.005**
	(0.009)	(0.0004)	(0.012)	(0.002)	(0.004)	(0.001)	(0.002)
Expn	0.094	-0.043***	-0.1590	0.063	-1.150*	-0.005	-0.802*
	(0.274)	(0.015)	(0.363)	(0.563)	(0.504)	(0.019)	(0.422)
Equity	-1.284	0.106*	1.148	-0.918	-5.180	0.017	1.292
	(1.089)	(0.044)	(1.492)	(1.416)	(1.444)	(0.052)	(2.150)
NONINT	5.361	0.413***	5.272	-7.288	-28.2	-0.153	8.077
	(4.446)	(0.197)	(5.689)	(5.165)	(5.73)	(0.191)	(6.270)
Prosecution				0.002	0.019	-0.001**	-0.0002
				(0.011)	(0.013)	(0.0005)	(0.009)
Merger	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Period	2008-2018	2008-2018	2008-2018	2008-2018	2008-2018	2008-2018	2008-2018
Bank FE	No	No	No	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	No	Yes	Yes
N.Obs	364	364	364	261	261	261	261
Adj. R^2	0.98	0.661	0.981	0.992	0.986	0.836	0.986

Standard Errors (clustered by bank) in brackets

***, ** and * denote statistical significance at 1, 5 and 10%, respectively

Note: The results remain almost identical for credit and deposit cost after incorporating bank–level fixed effects in model (1) and (2).

Table 4: Financial misconduct and bank lending – Channels

	State-owned banks		Private banks	
Dep var	Credit	Credit	Credit	Credit
	(1)	(2)	(3)	(4)
FMC	-0.018	0.011	-0.029	-0.054*
	(0.028)	(0.018)	(0.037)	(0.030)
Z-score	-0.01		-0.015	
	(0.021)		(0.023)	
LLP		-2.102		-21.823**
		(5.350)		(8.671)
FMC*Z-score	0.005		0.007	
	(0.008)		(0.08)	
FMC * LLP		-0.570		4.589**
		(1.447)		(2.288)
Controls	YES	YES	YES	YES
Merger	Yes	Yes	Yes	Yes
Period	2008-2018	2008-2018	2008-2018	2008-2018
Bank FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
N.Obs	213	237	112	127
Adj. R^2	0.989	0.989	0.992	0.993

Standard Errors (clustered by bank) in brackets

***, ** and * denote statistical significance at 1, 5 and 10%, respectively