The Role of Bank CEOs In Zombie Lending During A Crisis: Evidence From India

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Abstract

A well-documented pattern of bank lending during crises is allocating credit to low-quality firms at the expense of productive firms, leading to inefficient resource allocation at the macro level. I investigate the role of bank CEOs in influencing such distortions during crises, using the strictly enforced age-based retirement policy of Indian government-controlled banks. I find that banks experiencing a CEO turnover in a crisis are less likely to bail out insolvent borrowers, as the new CEO has a lower incentive to do so. Consequently, the efficiency of credit allocation improves, and the zombification of the economy decreases.

Key Words: CEO Turnover, Regulatory Forbearance, Banking Crisis

JEL Classification: H26, H25, O17, O38.

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I Introduction

One robust finding from across the world is that bank lending practices during crises, often supported by regulatory forbearance, lead to low-quality firms receiving scarce credit at the expense of productive firms (Peek and Rosengren (2005); Caballero, Hoshi and Kashyap (2008); Dam and Koetter (2012); Hoshi and Kashyap (2010); Acharya and Steffen (2015); Giannetti and Simonov (2013)). Research also shows that the presence of low-quality firms slows recovery after a crisis and distorts the transmission of counter-cyclical policy measures (Acharya, Imbierowicz, Steffen and Teichmann (2020); Acharya, Eisert, Eufinger and Hirsch (2019); Becker, Opp and Saidi (2022); Chopra, Subramanian and Tantri (2021)). Therefore, understanding the economic forces that lead to the zombification of the economy during and after a crisis is important. In this context, I ask whether a bank is run by a CEO appointed before a crisis ("old CEO") or a CEO appointed during a crisis ("new CEO") makes a difference to its lending policies and their consequences during a crisis.

The following thought experiment explains my main hypothesis. Profit-maximizing CEOs lend to some low-quality firms before the crisis. These loans have a positive net present value (NPV) at the time of issuance. An unexpected crisis follows, and low-quality borrowers are more affected than regular borrowers. Some of these low-quality firms face liquidity issues, while others face solvency issues. At the same time, concerned about the likely spillover effects of the crisis, the central bank announces a forbearance policy that allows banks to restructure loans without making provisions as required before the crisis.

Consequently, banks' reported profits are not affected by restructuring activities. Although the policy mandates banks to disclose the amount of restructuring, it does not require them to distinguish between stress due to liquidity constraints and permanent damage to business prospects.

My thesis is that the way new and old CEOs utilize this forbearance policy and lend during the crisis will likely differ. The main friction that leads to the difference in their approach comes from the labor market's use of accounting performance in evaluating CEOs. Two robust findings in the literature support this view. First, the accounting performance during a CEO's tenure significantly influences post-retirement job prospects outside the firm (Brickley, Linck and Coles (1999); Sarkar, Subramanian and Tantri (2019)). Second, CEO evaluation exercises, both internal and external, fail to separate factors outside the control of CEOs from those within their control (Bertrand and Mullainathan (2001); Jenter and Kanaan (2015)). Therefore, CEOs are punished even when their underperformance is due to macroeconomic reasons.

Given the above, old CEOs have incentives to maintain their accounting profits even during the crisis. Restructuring loans of low-quality borrowers who are insolvent is likely a negative NPV action. However, such restructuring is incentive-compatible for old CEOs, as it shields a decline in reported profits. Old CEOs may also issue fresh loans to fundamentally impaired borrowers to enable them to continue servicing existing loans. The forbearance policy supports such lending indirectly, as old CEOs have the option to restructure these fresh loans under forbearance should they go bad during their tenure.

New CEOs, however, do not benefit from postponing provisions on loans to insolvent borrowers, as eventual defaults are likely to materialize later in their tenure and

negatively impact their performance evaluation by labor markets. Therefore, they are likely to use forbearance only to restructure those low-quality loans that face temporary liquidity issues. Hence, the proportion of low-quality loans restructured by new CEOs is likely to be lower than that by old CEOs. For similar reasons, extending fresh credit to low-quality borrowers is also expected to decline under new CEOs.

The empirical setting for this study is the lending and restructuring policies followed by Indian government-controlled banks (GCBs) during the Global Financial Crisis (GFC). The Indian Central Bank (Reserve Bank of India, RBI) announced a forbearance policy in response to the Global Financial Crisis (GFC). This policy allowed banks to restructure loans without classifying them as nonperforming assets (NPAs). Previously, the regulator required banks to classify restructured assets as NPAs and create provisions. Thus, unlike the pre-crisis period, restructuring loans under forbearance did not adversely impact bank profits. Banks only had to disclose the amount of restructuring. Further, 11 of the 27 government-controlled banks (GCBs) experienced a CEO change during the crisis due to the age-based retirement policy. Thus, I have a set of similar banks that were similarly impacted by the crisis but differed exogenously in terms of CEO turnover. Hence, I can use this setting to study the impact of CEO turnover on lending during a crisis.

To test my hypotheses, I use (i) loan-level data of secured loans maintained by the Ministry of Corporate Affairs (MCA), (ii) financial variables provided by the Center for Monitoring Indian Economy (CMIE), and (iii) hand-collected data on CEO turnovers in GCBs. The loans examined are among the largest corporate loans in India. The loan size is relevant because the bank CEO is typically the final approving authority for such loans.

Organizing data at a firm-bank-quarter level for bank-firm pairs with a banking

relationship, I ask whether GCBs that experience a CEO change during the crisis ("treated" banks) are less likely to issue fresh loans to or restructure existing loans of low-quality borrowers during the period between the CEO change and the end of the crisis. I define low quality based on firms' financials before the crisis. The purpose is to avoid considering firms temporarily impacted by crisis-driven liquidity shocks as low-quality borrowers. I consider borrowing firms with an interest coverage ratio of less than one in the year immediately preceding the GFC to be low-quality borrowers.

I find that the treated GCBs are 1.1 percentage points (pp) less likely than control GCBs to lend to low-quality borrowers. The decline of 1.1 pp represents a meaningful 28.9% reduction in the probability of a loan between a bank and a low-quality firm in a quarter. Similarly, the treated banks are 29.6% less likely than control banks to restructure loans of low-quality borrowers. The results reflect the differential treatment of low-quality borrowers by the old and new CEOs.

However, for the rest of the analysis, I also bring in a comparison with regular (other than low-quality) borrowers for two reasons. First, it is possible that the old CEOs treat all borrowers, and not just low-quality borrowers, differently than new CEOs. Second, it is important to account for time-varying bank-level factors that may influence lending and restructuring decisions. When I look at the differential treatment of low-quality and regular borrowers by treated and control banks, the economic magnitude expands to 2.38 pp. In other words, the difference in the propensity to lend to low-quality and regular borrowers decreases by 2.38 pp after a CEO turnover. The decline of 2.38 pp represents a meaningful 61.94% reduction in the probability of a loan between a bank and a low-quality firm in a quarter. I find similar results with respect to restructuring as well.

I conduct two tests to examine the thesis that the lending and restructuring practices of old CEOs with respect to low-quality borrowers are indeed distortionary and do not represent the use of superior information. First, using the fact that the RBI withdrew forbearance for future restructuring and announced an asset quality review (AQR) (Chopra et al. (2021)) to identify fundamentally impaired loans in the existing portfolio of banks, I examine the difference between the audit's estimate of required provisions and the bank's estimate. If my thesis is correct, the difference should be higher for banks where old CEOs continued during the GFC. I find the expected result.

Second, I examine firm-level investment growth. I find that firms that borrowed from new CEOs during the GFC experienced higher investment growth than those that borrowed from old CEOs. The results suggest that the restructuring and lending done by old CEOs during the GFC were not directed at temporarily liquidity-constrained borrowers with poor accounting numbers during the crisis. Liquidity-constrained borrowers would have increased investments in response to additional loans and restructuring.

I provide additional evidence supporting my thesis that old CEOs' inclination to avoid creating provisions relating to past low-quality loans leads to lending distortions. First, I expect to find no significant difference in how old and new CEOs treat past low-quality borrowers during normal times. This is because the expected default rate of low-quality borrowers is unlikely to increase significantly during normal times. Therefore, even the new CEOs are likely to continue lending to such borrowers. Second, even during a crisis, a new CEO of a capital-constrained bank is likely to postpone recognition of loss similar to an old CEO. This is because not doing so could threaten the bank's solvency and lead to career concerns even for the new CEO. I find evidence consistent with the above

hypotheses. Finally, I find that maintaining good accounting records helps obtain post-retirement placements.

The paper contributes to the literature that examines lending during crises when forbearance policies are implemented. Kane (1989) show that the savings and loan crisis in the US was exacerbated due to forbearance. Several studies have examined the banking crisis in Japan and detected lending distortions (Peek and Rosengren (2005); Hoshi and Kashyap (2010); Giannetti and Simonov (2013)). Other studies that examine the causes and the impact of the GFC find lending distortions in the US and the EU (Duchin and Sosyura (2014); Calderon and Schaeck (2016); Hett and Schmidt (2017); Acharya, Lenzu and Wang (2021); Blattner, Farinha and Rebelo (2023); Becker et al. (2022)).

This paper differs from the extant literature on bank lending during a crisis regarding the origin of lending distortions and the type of lending distortion. In previous studies, the origin of lending distortions is the undercapitalization of banks: undercapitalized banks, when allowed to operate due to forbearance policies during a crisis, engage in risk-shifting by lending to low-quality, risky borrowers. I show that bank CEO incentives can also lead to distortionary lending behavior. The desire to maintain good accounting performance during their tenure motivates bank CEOs to respond to sudden increases in likely loan defaults during a crisis in a distortionary manner. New CEOs who take over during the crisis show a lower tendency to engage in such lending practices.

Further, lending distortions in my setting include both evergreening and restructuring under forbearance. This is because the forbearance policy implanted in India allowed banks to restructure loans without creating provisions. In most extant settings, there is no explicit forbearance on the creation of provisioning on restructured loans.

Forbearance takes the form of regulators looking the other way and not enforcing existing regulations in spirit. Therefore, lending distortions occur in the form of evergreening and informal restructuring arrangements (Caballero et al. (2008)).

I also contribute to the literature that examines the consequences of CEO turnover in banks. Several hypotheses on the likely impact of CEO turnovers exist. First, the "big bath" hypothesis predicts that the new CEOs "window-dress" books in the transitional quarter to create a lower base for their assessment (Pourciau (1993); Strong and Meyer (1987); Elliott, Hanna and Shaw (1991); DeAngelo and DeAngelo (1989); Weisbach (1995)). Second, as per the "truth-telling" hypothesis, the incoming CEO attempts to reveal the true state of affairs of the bank by uncovering the evergreening of loans and creating provisions (Hertzberg, Liberti and Paravisini (2010)). As per the "personal risk management" hypothesis(Amihud and Lev (1981); Sarkar et al. (2019)), the incoming CEOs increase provisions and reduce lending to minimize personal costs from negative outcomes due to the predecessor's actions. Finally, the "quiet life" hypothesis posits CEOs may reduce the level of activity towards the end of their tenure and become less active (Bertrand and Mullainathan (2003); Koetter, Kolari and Spierdijk (2012); Gormley, Gupta and Jha (2018)).

This paper contributes to the above literature in three ways. First, the extant literature studies how CEO turnovers impact lending in general. By contrast, I use CEO turnovers to study how differences in CEO incentives impact lending and restructuring during a crisis. Second, the lending distortions in the extant literature are tied to the CEO's tenure: CEOs at the beginning of their term lend differently than those at the end. I study a situation where the incentives of CEOs who took charge before the crisis and

continued to operate during the crisis (old CEOs) and those who took charge during the crisis (new CEOs) differ with respect to lending and restructuring decisions during a crisis. I show that the former are more likely to engage in distortionary behavior.

Finally, the use of age-based CEO turnover addresses concerns relating to the endogeneity of CEO turnover. This is a major identification hurdle in the extant literature. In most settings, using conventional age-based cutoffs to identify exogenous CEO turnovers could pose identification challenges because they may represent forced retirements disguised as voluntary (Schwartz-Ziv and Weisbach (2013); Jenter and Lewellen (2021); Liebersohn and Packard (2019)).

II Institutional Background

A Banking in India

The banking industry in India includes government-controlled banks (GCBs), private-sector banks, foreign banks, and regional banks organized as cooperatives. Government-controlled banks account for more than 66% of the outstanding loans (Bhue, Prabhala and Tantri (2015)). Out of the 27 government-controlled banks that existed during my sample period, 21 were listed before the GFC. The State Bank of India was the first government-controlled bank to be listed, in 1993. The other banks were listed subsequently.

B Age-Based CEO Retirement Policy

The Government of India is the majority shareholder of GCBs and retains the power to appoint or remove key management personnel. The CEO of a GCB is designated as the managing director and chairperson of the board. GCBs follow a strictly enforced age-based retirement policy for CEOs, with a mandatory retirement age of 60 years. This 60-year retirement rule originates from a policy framed by the Department of Public Enterprises, Government of India.[1] Sarkar et al. (2019) find that performance plays no role in determining the timing of retirement.

The appointment of GCB CEOs is also rule-based. The executive directors of GCBs are placed in a pool from which a government-appointed committee selects the CEOs. Seniority is the primary criterion for promotion. Even entry into GCBs as officers is determined through a standardized exam. Thus, it is reasonable to assume that, on average, the prospective CEO candidates are likely to have similar educational and professional backgrounds.

C The Impact of GFC on India and Regulatory Forbearance

The Indian economy grew at a healthy real rate of close to 8% per annum during the five years before the GFC. However, the onset of the GFC slowed down economic activity. India's growth dropped from a real rate of over 8% in 2007-08 to around 3% in 2008-09.[2] Figure 1 plots the year-on-year growth rate in real GDP. Unlike developed countries, India did not experience a recession. However, the growth rate of real GDP fell

[1] Source: https://dpe.gov.in/sites/default/files/R-54%20%28Unsigned%29.pdf

[2] The Indian financial year is between April and March.

significantly in 2008-09, followed by a quick recovery. The growth rate did not fall below 5% after that. Thus, it is reasonable to say that the overall macro-level impact coincided with the official timing of the GFC.

Figure 2 plots the growth in real output of different industries. These are industrial sectors covered by the official index of industrial production. The region to the left of the first vertical line represents the pre-crisis period. Industries grew at a high rate and had a relatively low standard deviation between them. The region between the two vertical lines represents the period of the GFC. The growth rate plummets for almost all industries during this period. Finally, the region beyond the second vertical line represents the post-crisis period. Notice that there is a significant divergence in growth rates across industries during this period. While some industries recovered to their pre-crisis levels, others continued to experience negative growth rates in real output.

In August 2008, the RBI announced a forbearance policy under which banks were allowed to classify restructured loans as standard assets. This was done to address the likely spillover effects of the GFC. Before the announcement, restructuring of loans automatically led to the classification of a loan as a "sub-standard" (or an NPA) asset and the creation of additional provisions. Thus, the forbearance policy significantly reduced the burden of provisioning on restructured loans. Banks only had to disclose the proportion of loans restructured. The forbearance policy was continued for seven years, plausibly under political pressure (Mannil, Nishesh and Tantri (2024)).

D Asset Quality Review

With a change in leadership at both the central bank and the government, the forbearance policy was withdrawn effective April 1, 2015. By ending forbearance, the RBI declared that all future restructuring transactions would require provisioning based on income recognition norms that prevailed before the crisis. Further, the RBI ordered a detailed asset quality review (AQR) to examine loans issued and restructurings conducted during the forbearance period.

The RBI stated that the purpose of the AQR was to unearth banks' actual level of NPAs.[3] The RBI sent a team of auditors to all banks for this purpose. The auditors examined both restructured loans and new loans issued during the crisis and determined the appropriate level of provisioning required based on their judgment of whether these loans were permanently impaired. The auditors used information privy to them, identified specific loans as bad, and instructed banks to create additional provisions for such loans. The exact information used by the RBI was not made public. However, the RBI indicated that the types of information used include loan performance with other lenders and the health of borrowing firms (Chopra et al. (2021)).

At the end of the exercise, the RBI asked banks to disclose only the aggregate provisions required at the bank level and not provisions on a loan-by-loan basis. The RBI required banks to disclose the divergence between the audit findings and the actual provisioning made in cases where the divergence exceeded 15% of the actual provisions. The RBI did not disclose the exact formula used to prescribe additional provisions.

[3]The RBI Governor's speech explaining the rationale of AQR is here. https://www.rbi.org.in/scripts/BS_SpeechesView.aspx?Id=992

A reader may wonder about the connection between restructuring under forbearance and audit divergence, given that banks were required to make public disclosures about restructuring even during the forbearance period. Two points are noteworthy here. First, banks were required to disclose only the aggregate amount of loans restructured at a bank level. Second, based on the information on total restructuring at a bank level, it was impossible to identify the specific loans restructured and whether the beneficiary firms were liquidity-constrained or permanently impaired at the time of restructuring. One can only conclude that some of the additional provisions (and divergence) arose from new loans issued during the crisis and some from restructuring transactions made during the crisis. To the extent that some of the additional provisions are due to restructuring transactions, there is a link between forbearance and divergence. It is reasonable to infer that the auditors recommended higher provisioning in cases where their estimate of expected loss was greater than that implied by the provisioning made by the banks.

III Data

I have created my main dataset using the register of secured loans maintained by the Ministry of Corporate Affairs (MCA). The dataset contains information about the identity of the borrower and lender, the loan amount, the date on which a loan is registered with the MCA, the restructuring of loans, and the date on which the loan is closed. I obtain information about the financial variables of banks and firms from the Prowess database maintained by the Center for Monitoring the Indian Economy (CMIE). I merge the two datasets using a unique firm identification number.

I do not have information about the exact nature of collateral used. However, I learned from bankers that, in most cases, the collateral is typically land. Despite this, borrowers who were fundamentally impaired during the crisis had a high chance of default for two reasons. First, property prices fell by up to 30% in major Indian cities.[4] Second, and more importantly, despite having strong de jure creditor rights laws, the recovery rate from collateral remained below 30% in India (Chakraborty, Kallapur, Mahapatro and Tantri (2020)). Further, there was no creditor-in-control bankruptcy law in India during my sample period, and borrowers exploited loopholes in the bankruptcy framework prevailing at the time to evade strict action by creditors. Thus, even when a loan was fully collateralized, banks would recover only a small proportion of the loan if they declared it an NPA and proceeded with the recovery process. Therefore, old CEOs were incentivized to avoid recognizing low-quality loans as NPAs and starting the recovery process, even when the loans were fully secured.

A Sample Construction

In Table 1, I present the sample construction details. The main sample spans six quarters, starting from the last quarter of the financial year 2007-08 (Q4: 2007-08) and ending in the first quarter of the financial year 2009-10 (Q1: 2009-10). These six quarters represent the GFC period as defined by the NBER. The average tenure of bank CEOs is approximately 3.2 years. I collect information about CEO tenures and their biographies from the respective bank websites. Using the above data, I identify banks that experienced

[4]Source: https://economictimes.indiatimes.com/wealth/personal-finance-news/real-estate-market-down-apt-time-for-your-dream-home/articleshow/4352911.cms?from=mdr https://economictimes.indiatimes.com/wealth/personal-finance-news/housing-prices-in-delhi-mumbai-at-2008-peak-level-jll/articleshow/7126784.cms?from=mdr

a CEO turnover during the crisis and the timing of these turnovers. As shown in Table 1, 11 of the 27 GCBs experienced CEO turnovers during the crisis period.[5]

I begin my dataset with 13,957 existing bank-firm relationships at the end of the year 2006-07. These relationships involve 9,132 firms belonging to 520 industries, identified based on NIC 5-digit classification. I consider all loans issued after the year 2002-03 and outstanding as of the end of 2006-07. I start with 2002-03 because significant banking reforms were implemented in that year (Vig (2013); Tantri (2020)). In total, there are 83,742 firm-bank-quarter observations in the initial sample. As shown in Table 1, of the 9,132 firms, information about the interest coverage ratio as of the year 2006-07 is available for 4,758 firms. Therefore, I am left with 50,712 firm-bank-quarter observations with non-missing information. Of these 4,758 firms, 594 have an interest coverage ratio of less than one. Banks issued fresh loans to 1,413 firms during the sample period.

To verify whether the retirement rule is strictly implemented, I hand-collected data on the age distribution of the CEOs of the treated and control banks. Out of a total of 27 CEOs, I could obtain this information for 8 CEOs from the treated group and 13 from the control group. In all 8 cases belonging to the treated group, the bank CEOs retired at the age of 60. I also found that none of the 13 CEOs in the control group would have reached the age of 60 during the GFC.

[5]In total, I find 12 CEO changes. One of them is a movement from a subsidiary of the State Bank of India to the State Bank of India. I do not consider it as a CEO turnover.

B Summary Statistics

I present the summary statistics in Table 2. Table A1 in the online appendix defines all the variables. In Panel A of Table 2, I present the summary statistics for bank-level variables. The reported accounting numbers of banks appear healthy, with an average NPA rate of around 2% and average capital adequacy significantly higher than the Basel norms. However, the AQR resulted in additional provisioning of around 4% of total income. In Panel B, I present summary statistics for borrowing firm-level variables used in the paper. My borrower quality measure, based on the interest coverage ratio, classifies nearly 12% of firms as low-quality. In Panel C, I summarize the industry-level variable. Finally, in Panel D, I present the summary statistics for bank-firm-level variables, which I use as controls in my regressions. I also summarize other key variables: the probability of a loan between a bank and a firm in a quarter and the probability of restructuring. The quarterly restructuring (new loan) indicator takes on the value of one in 2% (5%) of all bank-firm-quarter observations. The indicator variable representing a new loan (restructuring transactions) for low-quality firms takes the value of 4% (2%).

I provide a detailed loan-level breakdown in Table A1 of the online appendix. Out of the total 16,427 existing loans, 1,344 were restructured, and 1,931 were repaid within my sample period. Out of the 3,242 loans issued during my sample period, 329 loans were restructured, and 203 were repaid within my sample period. Unfortunately, due to data limitations, I cannot determine what proportion of the remaining outstanding loans are NPAs (non-performing assets).

IV Lending and Loan Restructuring During Crisis

A Main Result

As mentioned in the Introduction, I exploit the age-based CEO turnover in Indian GCBs to assess the impact of bank CEOs in shaping lending policies during a crisis when forbearance policies are in place. The underlying assumption is that no other endogenous factor influences bank CEO turnover. In particular, I examine the difference between old and new CEOs' propensity to either issue a new loan or restructure an existing loan to a low-quality borrower during the crisis period. The difference in this propensity provides a measure of lending distortion caused by bank CEOs.

Specifically, I estimate the following regression equation:

$$\begin{aligned} Y_{\text{ijt}} &= \alpha + \beta_1 * CEO\_Change_{jt} * LowQuality\_Firm_i \\ &\quad + \beta_2 * X_{ijT} + \gamma_{iT} + \theta_{jt} + \delta_{ij} + \epsilon_{ijt} \end{aligned} \tag{1}$$

The data are organized at a firm i, bank j, and (year) quarter t level. The data span a period of six quarters, as described in Table 1. The dependent variable represents different types of lending outcomes in different tests. CEO_Change_{jt} is an indicator variable that takes the value of one for bank (year) quarters managed by a CEO whose tenure starts during the crisis and zero otherwise. $LowQuality\_Firm_i$ is an indicator variable that takes the value of one if the firm under consideration has an interest coverage

ratio of less than one in the year 2006-07 (a year before the crisis) and zero otherwise.

γ_{iT} represents firm x year fixed effects.[6] θ_{jt} represents bank x (year) quarter fixed effects. These sets of fixed effects absorb other time-varying factors operating at the firm and bank levels. δ_{ij} represents firm x bank fixed effects that account for factors related to the pre-existing relationship between the firm and the bank under consideration that are time-invariant. X_{ijT} consists of a vector of the following firm-bank-year-level control variables: the average tenure of past loans, the total number of loans issued in the last five years, and the outstanding loan amount between the firm-bank pair in the immediate previous year, divided by the firm's total assets in the immediate previous year. These variables account for the strength of bank-firm relationships that may vary with time and influence lending decisions. The standard errors are clustered at the borrower industry (NIC 5-digit) level and adjusted for heteroskedasticity.

I present the results in Table 3. I include firm x year fixed effects in all columns, bank fixed effects in columns 1 and 4, bank x (year) quarter fixed effects in columns 2, 3, 5, and 6, bank x firm fixed effects in columns 3 and 6. Further, I include bank-firm-year-level control variables in all six columns. In columns 1, 2, and 3, the dependent variable is an indicator that takes the value of one if the bank issues a new loan to the borrower and zero otherwise. In columns 4 to 6, the dependent variable is an indicator that takes the value of one if the bank restructures a loan made to the borrower and zero otherwise.

Consider the results presented in column 1 (for lending) and column 4 (for restructuring). The combined value of the CEO Change and CEO Change x Low-quality

[6]Note that I have multiple loans within a quarter in less than 1.5% of bank-firm pairs. Therefore, I cannot include firm x (year) quarter fixed effects. Also, I use the notation T (t) to denote a year (year-quarter).

firm terms shows the overall difference in lending (restructuring) between old and new CEOs with respect to low-quality firms. Specifically, I test whether CEO Change + CEO Change x Low-quality firm < 0. A negative coefficient would mean that the new CEOs are less likely to lend (or restructure loans of) low-quality firms. The value of the combined co-efficient in column 1 (4) is -1.1 (-0.5) percentage points, and the co-efficient is statistically indistinguishable from zero. As noted in Table 2, the unconditional probability of a bank issuing a loan to low-quality borrower (or restructuring a low-quality loan) in a quarter is close to 3.8% (1.8%). Therefore, the result is also economically meaningful as it represents 28.9% (29.6%) of the unconditional probability of a low-quality borrower receiving a loan (restructuring deal).

The results show that the new CEOs are less likely to lend to or restructure loans of low-quality borrowers. However, I bring in the additional margin of comparing low-quality and regular firms (other than low-quality) for two reasons. First, there is a possibility that old CEOs generally are more inclined to restructure or lend during the crisis as they are more experienced and have better information about the borrowers. A comparison between low-quality and normal borrowers helps me examine whether the tendency is disproportionately higher for pre-existing low-quality borrowers. Second, a closely related point is the need to absorb time-varying bank-level factors that may influence lending by using bank x (year) quarter fixed effects. These fixed effects absorb the overall difference in lending between old and new CEOs. Therefore, we can only estimate the differential treatment of low-quality and regular borrowers by old and new CEOs.

Given the above, for subsequent analysis, I focus on the interaction between the indicator variables CEO_Change_{jt} and $LowQuality\_Firm_i$. Notice that the relevant

coefficient is negative and statistically distinguishable from zero in both columns—the value of the coefficient in column 3 is -2.38 pp. As noted in Table 2, the unconditional probability of a bank issuing a loan to low-quality borrower in a quarter is 3.8%. Therefore, the reduced lending to low-quality borrowers represents a meaningful decline of 62.6%.

Similarly, the value of the coefficient in column 6 is -2.59 pp and it is statistically different from zero. As noted in Table 2, the unconditional probability of a loan being restructured between a bank and a low-quality firm in a quarter is 1.8%. Therefore, the reduced propensity to restructure loans due to a CEO turnover represents a meaningful decline of close to 143.8%.

The results are in line with the hypothesis that old CEOs are likely to use forbearance to avoid creating provisions on loans issued to existing low-quality borrowers. The new CEOs who take over after the retirement of old CEOs are less likely to engage in such practices.[7]

B Robustness

1 Identification Pre-requisites

To address concerns regarding pre-existing trends, I examine whether banks that experience a CEO turnover differ in terms of lending to low-quality firms even before the CEO turnover. To this end, I include indicator variables representing the (year) quarters before the CEO turnover and their interaction with the variable representing lending to low-quality firms in equation 1. I adjust the sample period to ensure that all CEO turnover

[7]In section VIII of the online appendix, I discuss the eventual status of low-quality loans based on whether an old or a new CEO handled those loans. I find that new CEOs are more likely to initiate recovery proceedings on such loans.

events have sufficient pre-period data. For banks experiencing a CEO turnover, I extend the pre-event period to five quarters before the CEO turnover. For other banks, the sample selection remains as in Table 3. I present the results in Table A3 of the online appendix. The organization of the Table mimics that of Table 3. The coefficients of all interaction terms involving pre-CEO change periods and lending to low-quality firms are statistically indistinguishable from zero. The coefficient of the interaction term representing the post-CEO change period and lending to low-quality firms remains negative. I find similar results when using restructuring as the dependent variable. Thus, it is unlikely that my results are a continuation of pre-existing trends.[8]

2 Comparing Normal and Crisis Times

Our thesis is that the behavior of old and new CEOs is likely to diverge with respect to lending to past low-quality borrowers only during a crisis when the default rates of past low-quality loans are likely to spike, and not during good times. During good times, even new CEOs are likely to continue lending to such firms and benefit from the continuation of good accounting performance. I test this thesis by estimating the following regression equation, which considers both normal and crisis periods together:

[8]I also verify whether the banks that experience CEO turnover are similar to those that do not. Table A4 of the online appendix shows that banks that experienced a CEO turnover during the GFC and other banks are not observably different based on pre-crisis observable characteristics.

$$
\begin{aligned}
Y_{\text{ijt}} \;=\; & \alpha + \beta_1 * CEO\_Change_{jt} * LowQuality\_Firm_{it} * Crisis_t \\
& + \beta_2 * CEO\_Change_{jt} * LowQuality\_Firm_{it} \\
& + \beta_3 * X_{ijT} + \gamma_{iT} + \theta_{jt} + \delta_{ij} + \epsilon_{ijt} \qquad (2)
\end{aligned}
$$

The dependent variable is an indicator that represents a new loan in some cases and a restructuring transaction in others. The sample spans a period of 18 quarters, starting from the last quarter of the year 2004-05. The first 12 quarters represent the normal period, and the last 6 quarters represent the crisis period. Low-quality firm is an indicator that takes the value of one if the firm under consideration has an interest coverage ratio of less than one, and zero otherwise. I use reported numbers for the year 2004-05 (2006-07) to define the variable during the normal (crisis) period. All other terms have the same meaning as in equation 1.

I present the results in columns 1 and 2 of Table 4. The dependent variable in column 1 (2) is an indicator representing a new loan (restructuring transaction). I include bank x (year) quarter fixed effects, firm x year fixed effects, bank x firm fixed effects and bank-firm-year-level control variables listed in equation 1 in both columns.

Notice that the interaction term between indicator variables representing CEO change and low-quality firms has a coefficient that is not statistically distinguishable from zero. In other words, during normal times, there is no significant difference between the old and the new CEOs in their treatment of existing low-quality firms. However, the triple interaction term shows a 4.82 (2.49) percentage point decline in lending to low-quality

borrowers (restructuring of past loans of low-quality borrowers) by the new CEOs during the crisis period. The results are economically meaningful given the average levels of the variables reported in Table 2. The findings align with my main thesis regarding the behavior of bank CEOs during a crisis.

3 Extended Period - Post-GFC Analysis

Given that the forbearance continued until April 2015, it is interesting to examine how the old and new CEOs behaved after the GFC. A caveat is in order before examining the results for the extended period. As shown in Figure 1, the overall economic growth rate did not collapse during the post-GFC slow growth period as it did during the GFC. However, as shown in Figure 2, there was significant divergence at a sectoral level. Some sectors, such as infrastructure, continued to perform poorly even after the GFC. Conversely, some sectors experienced substantial positive growth. This contrasts with the GFC period, when most sectors experienced negative revenue growth. Therefore, a test involving the post-GFC period needs to distinguish between industries that continued to struggle and those that recovered. This distinction is important because low-quality borrowers who remained fundamentally impaired after the crisis are more likely to be found in industries that continued to face difficulties even after the GFC. In other words, defining a crisis at an industry level is appropriate for tests involving the extended period.

I estimate the following regression equation:

$$
\begin{aligned}
Y_{\text{ijt}} \;=\; & \alpha + \beta_1 * CEO\_Change_{jt} * LowQuality\_Firm_i * Ind\_Crisis_{it} \\
& + \beta_2 * CEO\_Change_{jt} * LowQuality\_Firm_i + \beta_3 * CEO\_Change_{jt} * Ind\_Crisis_{it} \\
& + \beta_4 * X_{ijT} + \gamma_{it} + \theta_{jt} + \delta_{ij} + \epsilon_{ijt} \qquad (3)
\end{aligned}
$$

Ind_Crisis_{it} is an indicator variable that takes the value of one when at least 50% of firms in an industry are loss-making and zero otherwise. All other terms have the same meaning as in equation 1.

I present the results in columns 3 and 4 of Table 4. The organization of these columns is similar to that of columns 1 and 2. My focus is on the triple interaction term. In line with my hypothesis, new CEOs are incrementally less likely to lend to (or restructure loans of) low-quality borrowers belonging to industries in crisis. Thus, my results hold even when I extend the data beyond the GFC and consider an extended period of economic slowdown in India.[9]

4 External Validation Using COVID Crisis

I use the forbearance announced during the COVID crisis to conduct a test in the spirit of external validation. The central bank announced an asset recognition standstill (forbearance) that lasted between March 2020 and August 2020. Five GCBs experienced an age-based CEO turnover during the three calendar quarters in which the forbearance

[9]In the same spirit, I conduct two placebo tests using loans from other non-crisis periods. I present the results in Table A5 of the online appendix. Expectedly, I do not see any difference in lending to low-quality borrowers or restructuring based on whether an old or a new CEO is in charge.

was in force. I estimate a regression equation similar to equation 1. The results are presented in Table A6 of the online appendix. In line with my main results, lending to (or restructuring loans of) low-quality firms is lower during bank quarters managed by a new CEO who took over during the crisis.[10]

5 Other Robustness Tests

I conduct two additional robustness tests. First, it may be argued that old CEOs possibly charged higher interest rates commensurate with the additional risk on low-quality loans made during the crisis. In that case, it would not be appropriate to call incremental low-quality lending by old CEOs a distortion. To address this concern, I examine whether borrowers who borrowed from old CEOs during the crisis experienced an increase in their interest costs. The results, presented in Table A7 of the online appendix, show that borrowers' interest costs do not change differently based on whether they borrow from an old or a new CEO. As expected, low-quality firms, in general, pay a higher interest rate. Second, I examine whether my results are affected by three cases of missing age data. As noted in Section III, I do not have information on the age of three CEOs who stepped down during the crisis. The concern is that these CEO turnovers might be due to reasons unrelated to age, which could impact my results. The results in Table A8 of the online appendix show that my findings remain robust even when I exclude these three CEOs from the data.

[10]The coefficient of the interaction term becomes statistically insignificant when I include bank x firm fixed effects in columns 3 and 6. One possible reason for this is the lack of sufficient variation within bank-firm relationships, as there were only five CEO turnovers and three quarters.

V Impaired vs Liquidity Constrained Borrowers:

Our thesis is that, during a crisis, some low-quality loans issued during the pre-crisis period become fundamentally impaired. Old CEOs have incentives to avoid recognizing losses on such loans by evergreening them with fresh loans or restructuring under the forbearance policy. New CEOs generally do not have an incentive to engage in such practices. Thus, differences in incentives between the two types of CEOs induce lending distortions.

However, readers may worry that the low-quality borrowers I consider fundamentally impaired are, in fact, temporarily liquidity-constrained. Further, old CEOs might be able to distinguish between liquidity-constrained borrowers and fundamentally impaired borrowers using soft information. Therefore, old CEOs' decisions to renew or restructure such loans may be justified from a bank profitability perspective. In other words, the concern could be that new CEOs are not preventing a distortion but rather causing one by rejecting efficient lending decisions based on soft information, available to old CEOs. I conduct two tests to address this concern.

A The Asset Quality Review Revelations

The first test is based on the AQR described in Section D. I use the AQR findings to test my thesis that CEO turnover during the crisis reduced lending to low-quality borrowers, not to liquidity-constrained firms. The main identifying assumption is that attempts to avoid the creation of provisions on past low-quality loans are likely to result in

higher audit divergence. The test assumes that the RBI auditors can detect permanently impaired borrowers who were either evergreened or restructured by banks.

Suppose old CEOs were renewing loans to liquidity-constrained borrowers and new CEOs cut off credit to such borrowers. In that case, I should see a lower level of divergence in banks that did not experience a CEO turnover during the GFC. In contrast, if old CEOs attempted to avoid provisioning on impaired loans and new CEOs cleaned up the bank balance sheet during the crisis, the chances of the RBI audit finding additional bad loans are higher in cases where old CEOs continued during the GFC.

To test the above thesis, I estimate the following regression equation:

$$Y_{\mathrm{jT}} = \alpha + \beta_1 * Banks\_With\_CEO\_Turnover_j + \beta_2 * X_{jT} + \gamma_T + \epsilon_{jT} \quad (4)$$

The data span the period between 2016-17 and 2018-19, the years during which the AQR results were reported. I organize the data at the bank-year level. The dependent variable is the ratio of the divergence between the provisioning required by the RBI and the provisioning made by the bank to the bank's total income. The RBI reported bank-wise audit divergences for each of the three years. The explanatory variable of interest- $Banks\_With\_CEO\_Turnover_j$ is an indicator variable that takes the value of one for banks that underwent a CEO change during the crisis period and zero otherwise. The natural logarithm of total interest income, the profit-to-income ratio, and the gross NPA rate are the control variables included in X_{jT}. γ_T represents year fixed effects.

I present the results in Table 5. In column 1, I consider only those banks for which I

have data on audit divergence and drop the rest. In column 2, I consider all available observations by imputing zeros in cases where information about divergence is not available.[11]

The results presented in column 1 show that the coefficient related to the CEO change indicator variable is negative and has a value of 1.45. As shown in Table 2, the average gross NPA rate before the crisis was 1.8%. Therefore, the coefficient represents an economically meaningful 80.55% of the gross NPA rate. The results align with my thesis that old CEOs engaged in hiding the bad performance of past low-quality loans, and the lending distortions reduced with a change in bank leadership during crises.

Given the time lag between forbearance and the AQR, it is reasonable to expect the banks to clean up their books, anticipating adverse findings in the AQR.[12] This raises concerns about the validity of using AQR divergences to test low-quality lending during forbearance.

In this regard, note that, as I describe subsequently in Section A, capital constraints at the bank level could prevent even new CEOs from cleaning up the books. The problem may worsen over time with increased use of forbearance. Therefore, it is possible that, even after CEO turnover, some fundamentally bad loans continued to be carried on the bank balance sheet. Some could be restructured loans, while others could be evergreened loans through repeated issuance of new loans.

Additionally, I find results in the cross-section: banks with old CEOs continuing

[11]This is reasonable as banks with less than 15% divergence were not required to disclose. However, I cannot precisely distinguish between observations with missing data and those with less than 15% divergence.

[12]Note that the first AQR was announced in August 2015, much before the banks finalized their books of accounts for the year 2015-16. Thus, banks knew about AQR before finalising their books of accounts. This was true for subsequent years as well.

during the GFC continued to carry more bad assets and were thus more exposed by the AQR compared to banks that experienced a CEO turnover. Therefore, the result I find is the residual of the low-quality loans left in books despite any subsequent cleaning efforts by banks.[13]

B Impact on Borrowing Firms

I next examine firm investments. My thesis is that new CEOs have no incentive to avoid creating provisions for low-quality loans that are fundamentally impaired. Therefore, low-quality firms that receive loans from new CEOs during the crisis are likely to be liquidity-constrained, not fundamentally impaired. Liquidity-constrained firms, unlike fundamentally impaired firms, are likely to increase investments when they receive additional credit. I estimate the following regression equation to test the above thesis:

$$\begin{aligned} Y_{\text{iT}} &= \alpha + \beta_1 * Exposure\_To\_CEO\_Changed\_Banks\_iT * Low\_Quality\_Firm_i + \beta_2 * X_{iT} \\ &\quad + \theta_i + \gamma_T + \epsilon_{iT} \end{aligned} \tag{5}$$

I organize the data at the firm-year level since I have information about investments only at that level. I consider the years 2007-08, 2008-09, and 2009-10 as crisis years, as my quarterly data span these three years. The sample includes only those firms that received a loan during the crisis. The dependent variable is the natural logarithm of the gross

[13] A reader may be interested in knowing the association between the type of CEOs who disbursed a loan and the eventual loan outcome after the AQR. Unfortunately, I do not have outcomes at a loan level. Within a small sample of loans for which I have outcomes, I find that the loan recovery rate is higher for low-quality loans issued by new CEOs than similar loans issued by old CEOs. I have included a detailed discussion in Section IX of the online appendix.

additions to assets in the year, as defined in Table A1 of the online appendix. The explanatory variable is the interaction between the total value of loans borrowed by the firm from CEO-changed banks as a percentage of its total value of loans borrowed in a year, and the indicator variable representing low-quality firms, defined as in Table A1 of the online appendix. A bank that experiences a CEO turnover is considered a CEO-changed bank from the year in which the CEO turnover happens. The natural logarithm of total income, the natural logarithm of total assets, and profit after tax as a percentage of income are firm-year-level controls included in X_{iT}. $\theta_i(\gamma_T)$ represents firm (year) fixed effects. The errors are clustered at the industry level and adjusted for heteroskedasticity.

I present the results in Table 6. In column 1, I find a significant increase in investments for firms exposed to the new CEO. The differential growth in investments is close to 1% for firms exposed to new CEOs. The economic magnitude appears reasonable given the median investment growth during the sample period of 4.5%. In column 2, I use percentage growth in profit before depreciation, interest, taxes, and amortization (PBIDTA) as the dependent variable. The interaction term shows that among firms with an interest coverage ratio of less than one, those more exposed to new CEOs exhibit higher growth in profits. In columns 3 and 4, I estimate the same test using the pre-crisis period sample defined in Section 2. I do not expect to find a difference between the type of borrowers receiving loans from old and new CEOs during normal times. As expected, I find that the interaction term has a coefficient that is not distinguishable from zero. Overall, the results are in line with my thesis.

VI Evidence on the Mechanism:

I provide additional evidence in support of the hypothesis that the incentives of bank CEOs drive my results. My main evidence is based on the premise that when dealing with past low-quality borrowers who are fundamentally impaired during the crisis, the incentives of old and new CEOs diverge. To strengthen my claim, I look at situations where there is a convergence between the incentives of the two types of CEOs and examine whether their behavior converges. I also look at a situation where the divergence in incentives is likely to be higher. Finally, I highlight one possible way in which good accounting performance benefits bank CEOs, to explain why CEOs want to maintain good accounting performance.

A CEO Turnover and Bank Capital:

The incentives of old and new CEOs are likely to converge when the bank under consideration has low levels of capital. In other words, in this case, even the new CEO may want to avoid creating provisions relating to past low-quality loans experiencing fundamental issues during the crisis. A sudden increase in loan defaults could further reduce the level of capital and threaten the bank's existence. Motivated by career concerns, even new CEOs could extend new loans to (and restructure loans of) existing low-quality borrowers facing long-term solvency issues.

To test the above hypothesis, I first identify banks that are below the average in terms of their capital adequacy ratio at the beginning of my sample period. I then augment equation 1 with a triple interaction between terms representing CEO turnover,

low capital, and low-quality borrowers. I present the results in columns 1 to 3 of Table 7. The table shows that the tendency of new CEOs to cut off funding to low-quality borrowers reduces substantially when the bank under consideration is not well-capitalized. The result shows that incremental lending to low-quality borrowers during crises is a choice made by bank CEOs based on their incentives.[14]

In columns 4 to 6 of the table, I look at restructuring. Here, I do not find a convergence between the old and new CEOs in terms of lending to low-quality borrowers during the GFC. In fact, the coefficient of interest continues to be negative (although not significant in a statistical sense), indicating the lower tendency of new CEOs to restructure low-quality loans. One plausible reason is that, although restructuring saves capital, it needs to be disclosed. It is easier for capital markets to detect restructuring than evergreening of loans. Thus, while restructuring may save the bank from breaching capital adequacy requirements, it may not prevent negative reactions from capital markets and could make fresh issues of capital difficult.[15]

As I discuss subsequently in Section B, old CEOs are likely to worry more about accounting performance, as the post-retirement labor market weighs accounting performance more heavily than stock price performance during their tenure. Therefore, old CEOs are likely to restructure low-quality loans during a crisis despite the disclosure of such restructuring. In contrast, new CEOs may worry about the implications of such disclosures on the cost of capital and capital raising, especially in banks with lower capital

[14]Note that the coefficient of the triple interaction term in column 3 misses the conventional significance level by a small margin. However, the economic magnitude of the coefficient remains very close to the economic magnitude in columns 1 and 2.

[15]In Section X, I discuss the possible reasons behind CEOs using restructuring under forbearance in the case of some low-quality borrowers and issuing fresh loans in others.

levels. Therefore, they may not restructure as much as old CEOs when the bank's capital levels are lower. Thus, it is possible that new CEOs of low-capital banks may converge with old CEOs in terms of evergreening but not restructuring.

B Post-Retirement Career Concerns

Apart from maintaining their current competitive performance, post-retirement career options could also motivate bank CEOs to maintain good accounting performance during their tenure (Brickley et al. (1999)). Therefore, I examine the evidence relating to the relationship between accounting performance and post-retirement career.

I hand-collect information about post-career directorships and regulatory appointments obtained by 63 bank CEOs who operated between 1997-98 and 2012-13. Post-retirement career options primarily come in the form of board memberships and regulatory appointments. I regress an indicator variable representing post-career placement on an indicator variable that takes the value of one if the annualized growth in profits during the CEO's tenure is above the median for all CEOs. I present the results in Table 8. In column 1, I find that CEOs who outperform others in terms of profit growth during their tenure have a more than 40% higher chance of obtaining a post-retirement placement. I find similar results in column 2, where I exclude the crisis period.

A reader may worry that the use of accounting profits to assess post-retirement career opportunities is not appropriate, as accounting numbers are impacted by restructuring done under forbearance. Nonetheless, I use accounting numbers for three reasons. First, prior research (Brickley et al. (1999); Sarkar et al. (2019)) shows that

accounting performance during a CEO's tenure explains post-retirement job opportunities better than stock returns. Second, although market participants knew the total amount of restructuring, they did not have sufficient public information to distinguish between borrowers who were liquidity-constrained and those who were permanently impaired. Therefore, it is unlikely that stock prices reflect the true state better than the reported accounting numbers. Finally, several other factors — ranging from lack of liquidity to concerns about the efficiency of stock prices — could reduce the weight placed on stock market prices by the post-retirement labor market.

Nevertheless, for robustness, I proceed to examine the association between post-retirement placements, stock returns during a CEO's tenure, and accounting performance during a CEO's tenure together. I have post-retirement position data for CEOs from 21 banks, resulting in 64 observations in Table 8. Further, 18 out of the 21 bank stocks are listed.

Additionally, 15 banks were listed after the beginning of the sample period for the test (1997-98 to 2012-13). Finally, some of the listed stocks are also extremely illiquid. Therefore, after accounting for listing dates and imposing a filter that a stock should be traded on at least 240 out of 252 trading days in India, my sample is reduced to 8 banks and only 24 observations.

Given the limited number of observations, I conduct a univariate test and report the results in Table A10 of the online appendix. The dependent variable in column 1 is the same as the dependent variable used in Table 8. Column 1 shows that accounting profit growth is significantly higher for CEOs who obtained a post-retirement placement than for those who did not.

In column 2, I conduct a similar comparison using stock returns. Here, the dependent variable is an indicator that takes the value of one if the market-adjusted stock returns of a bank during a CEO's tenure exceed the median market-adjusted stock returns for all banks during the same period, and zero otherwise. I use the widely tracked Nifty 50 as the market benchmark. Column 2 shows that abnormal stock returns are not significantly different between CEOs who obtained a post-retirement placement and those who did not. The result is consistent with the extant findings referred to above. Thus, it appears that post-retirement labor markets consider accounting performance rather than stock market performance.

Given the above result, it is reasonable to infer that one possible reason for old CEOs to lend to and restructure loans of existing low-quality borrowers is their desire to maintain good accounting performance. In the absence of such practices, the old CEOs would have had to retire with poor accounting performance due to old low-quality loans defaulting.

I acknowledge that in many countries, the performance incentives for bank CEOs might be much stronger than those in India. I also acknowledge that the possibility of changes in current pay and the threat of job losses are stronger incentives than post-retirement career options. However, as Jenter and Kanaan (2015) show, accounting performance during the tenure of a CEO has a significant influence on career outcomes in developed markets as well. Given the above, it is reasonable to characterize my findings from India as a lower bound for the distortion driven by CEOs' career concerns.

VII Conclusion

I examine whether a bank CEO who assumed office before or during the crisis, manages the bank differently during the crisis, and whether this difference influences the bank's lending behavior and the eventual real consequences of lending. The economic setting for my study is provided by the GFC. I recognize that CEO turnover during a crisis could be caused by factors that influence lending practices. Therefore, I use the age-based retirement policy followed by Indian government-owned banks for identification.

I find that banks that experience a CEO turnover during the GFC are less likely to extend loans to low-quality firms after the change of guard. Further, I find that a change in the bank CEO is associated with a lower tendency to restructure loans of borrowers facing fundamental shocks. I argue that these results are because old CEOs used the forbearance policies announced during the crisis to avoid creating provisions for low-quality loans made during normal times and also extending fresh loans to such borrowers. Because new CEOs are not responsible for these loans, their incentives and actions differ from those of old CEOs. Therefore, they are less likely to postpone the creation of provisions on existing low-quality loans.

I provide suggestive evidence that aligns with my thesis that the incentives the two types of bank CEOs face drive the results. Further, I show that a reduction in lending distortions due to a change in the guard at the bank during a crisis positively impacts the flow of credit to liquidity-constrained firms.

A limitation of my study is that I cannot precisely identify those low-quality

borrowing firms that suffer from fundamental issues. However, my firm-level analysis and other tests support the thesis that old CEOs are more likely to support those low-quality borrowers who suffer fundamental impairment during the crisis. I acknowledge that even normal borrowers may suffer these shocks. However, my assumption is that the susceptibility of low-quality borrowers to shocks is likely to be significantly higher. Therefore, I keep normal borrowers in the comparison group.

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Figure 1: GDP Growth

The figure plots the real growth rate in GDP of India over time. The horizontal axis denotes financial years whereas the vertical axis represents the real GDP growth rate.

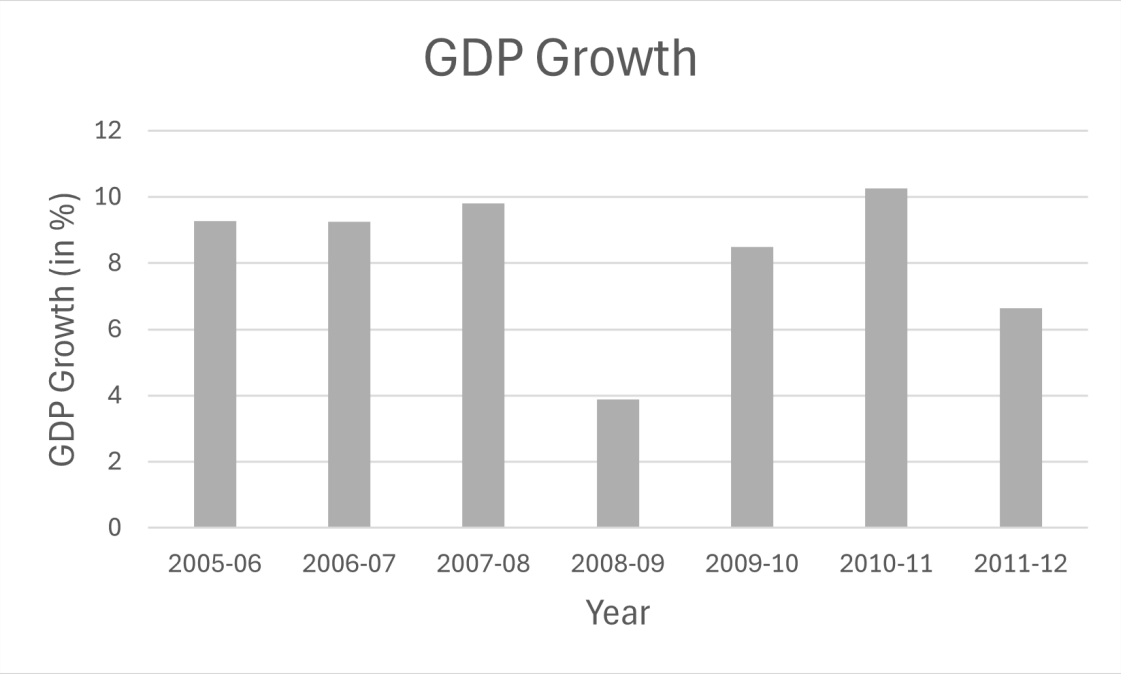

Figure 2: Industry Level Divergence

The figure plots the growth rate in output of different industries that are a part of the index of industrial production (IIP) over time. The growth rate is inflation adjusted. The data are from the official index of industrial production. The first (second) vertical line represents the beginning (end) of GFC.

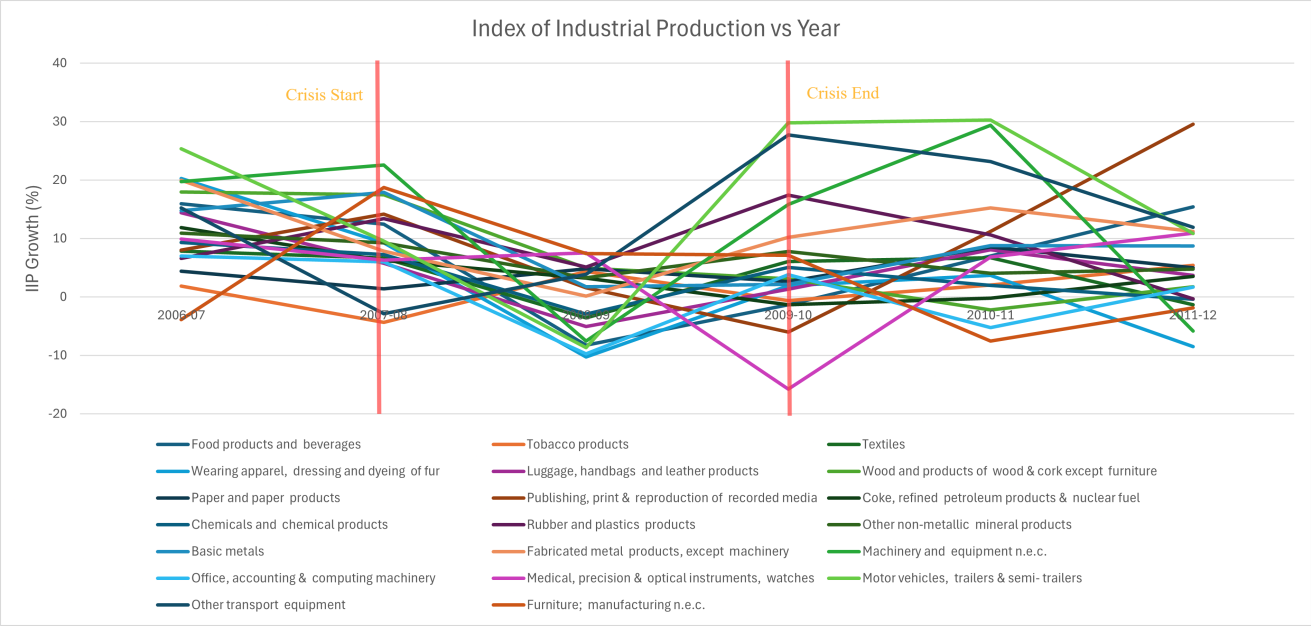

Table 1: Sample Construction

The table presents the sample construction details. The sample period is limited to the period of the global financial crisis.

Sample Construction	
Sample Period	Q4 of FY 2007-2008 to Q1 of FY 2009-2010
Number of Government Controlled Banks (GCBs)	27
Number of GCBs which had a CEO change	11
Average tenure of CEO in sample(in Years)	3.16
Number of firms which borrowed from GCBs	9,132
Number of bank-firm combination	13,957
Number of observations in the initial sample	83,742
Number of firms in the merged dataset (CMIE and MCA) having non-missing interest coverage ratio value	4,758
Number of industries in the merged dataset (NIC 5 Digit)	520
Number of firms having interest coverage ratio value less than 1	594
Number of observations in final sample (non-missing interest coverage ratio value)	50,712
Number of firms which obtained at least one loan during the crisis period	1,413

Table 2: Summary Statistics

The table presents the summary statistics of the key variables examined in the paper. I provide the number of observations, mean, minimum, median, maximum, and standard deviations of all key variables. INR stands for Indian Rupees.

Summary Statistics							
Variable	Observations	Level	Minimum	Median	Maximum	Mean	Standard Deviation
Panel A: Bank Characteristics							
CEO change	162	Bank-Quarter	0	0	1	0.27	0.45
Log(Income) (INR Million)	156	Bank-Quarter	9.80	11.20	13.68	11.32	0.72
Profitability (%)	156	Bank-Quarter	2.88	10.48	17.01	10.17	3.07
Gross NPA Rate (%)	156	Bank-Quarter	0.63	1.70	4.52	1.80	0.67
Divergence in provisioning/Income (%)	59	Bank-Year	0.48	2.63	10.39	3.39	2.44
Low Capital Dummy	27	Bank	0	0	1	0.48	0.51
Post Retirement Placement	64	Bank-Year	0	1	1	0.53	0.50
High Profit Growth	64	Bank-Year	0	0.50	1	0.50	0.50
Abnormal Market Return	24	Bank-Year	0	0.50	1	0.50	0.51
Banks with CEO turnover	108	Bank-Year	0	0.00	1	0.41	0.49
Panel B: Firm Characteristics							
Low Quality Firms Dummy	4758	Firm	0	0	1	0.12	0.33
Log(Gross total additions to fixed assets)	2,967	Firm-Year	0.10	4.66	13.03	4.65	2.20
Percentage change in PBDITA (1-year)	3,697	Firm-Year	-85.10	15.77	145.83	20.22	54.60
Exposure to CEO changed bank (%)	3,899	Firm-Year	0	0	100.00	29.45	42.46
Log(Income) (INR Million)	3,897	Firm-Year	0.18	7.72	14.21	7.64	1.76
Profit After Tax/ Income (%)	3,897	Firm-Year	-14.55	3.27	21.84	4.17	7.92
Log(Total Assets) (INR Million)	3,899	Firm-Year	1.95	7.94	14.72	7.93	1.79
Interest Rate (%)	5,286	Firm-Year	1.39	10.56	59.38	12.46	10.04
Panel C: Industry Characteristics							
Industry Crisis (Dummy)	4,160	Industry-Year	0	0	1	0.14	0.35
Panel D: Firm-Bank Characteristics							
Loan Given Dummy	50,712	Firm-Bank-Quarter	0	0	1	0.05	0.22
Loan Given Dummy (Low-quality borrower)	5,544	Firm-Bank-Quarter	0	0	1	0.04	0.19
Restructuring Dummy	50,712	Firm-Bank-Quarter	0	0	1	0.02	0.14
Restructuring Dummy (Low-quality borrower)	5,544	Firm-Bank-Quarter	0	0	1	0.02	0.13
Average Loan Duration of Previous Loans (in Years)	25,214	Firm-Bank-Year	0	8	23	8.08	4.15
Number of Loans Issued in the Last 5 years	25,214	Firm-Bank-Year	0	0	95	0.46	1.63
Outstanding Amount in the Immediately Previous Year/ Total Assets of Firm (%)	22,373	Firm-Bank-Year	0	17.84	1210961.00	139.05	8136.46

Table 3: The Impact of CEO Turnover On Lending and Restructuring

The table examines the association between the entry of a new bank CEO and lending to low-quality firms. A firm with an interest coverage ratio of less than one in the pre-crisis year of 2006-07 is considered low-quality. The data are organized at a firm-bank-quarter level, starting with all bank-firm relationships existing at the beginning of the year 2007-08. The data span a period of six quarters between the last quarter of the year 2007-08 and the first quarter of the year 2009-10. The dependent variable in columns 1 to 3 is an indicator variable that takes the value of one if the bank under consideration provides a new loan to the firm under consideration and zero otherwise. The dependent variable in columns 4 to 6 is an indicator variable that takes the value of one if the bank-firm pair is involved in a restructuring transaction during the quarter under consideration. CEO change is an indicator variable that takes the value of one from the quarter in which the bank under consideration experiences a CEO change: it takes the value of zero for quarters before the change and for banks that do not experience a CEO change during my sample period. The average tenure of past loans, total number of loans issued in the last five years, and the outstanding amount between firm-bank pair in the immediately previous year divided by the total assets of the firm in the immediately previous year are firm-bank-year level controls used in all columns. Fixed effects are used as mentioned in respective columns. I cluster the errors at the borrower industry level and adjust them for heteroscedasticity. *, **, and *** represent 10%, 5%, and 1% levels of significance.

	1	2	3	4	5	6
Dependent Variables	Loan Dummy			Restructuring		
CEO change x Low-quality firm	-0.0326***	-0.0321***	-0.0238**	-0.0135**	-0.0144**	-0.0259**
	[0.0102]	[0.0104]	[0.0117]	[0.0061]	[0.0061]	[0.0106]
CEO change	0.0215***			0.0081***		
	[0.0045]			[0.0027]		
Observations	39,363	39,363	39,030	39,363	39,363	39,030
R-squared	0.2331	0.2380	0.3540	0.2341	0.2371	0.3101
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Bank Fixed Effects	Yes	No	No	Yes	No	No
Bank x Quarter Fixed Effects	No	Yes	Yes	No	Yes	Yes
Firm x Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Bank-Firm Fixed Effects	No	No	Yes	No	No	Yes

Table 4: The Impact of CEO Turnover On Lending and Restructuring: Pre vs Post Crisis & Extended Period

The table examines the association between the entry of a new bank CEO and lending to low-quality firms. The data are organized at a firm-bank-quarter level, starting with all bank-firm relationships existing at the beginning (ending) of the year 2007-08 (2003-04) for the crisis and post-crisis (pre-crisis) period. The data span a period of eighteen (twenty-nine) quarters between the last quarter of the year 2004-05 (2007-08) and the first quarter (last quarter) of the year 2009-10 (2014-15) for columns 1 and 2 (3 and 4). The dependent variable in columns 1 and 3 is an indicator variable that takes the value of one if the bank under consideration provides a new loan to the firm under consideration and zero otherwise. The dependent variable in columns 2 and 4 is an indicator variable that takes the value of one if the bank-firm pair is involved in a restructuring transaction during the quarter under consideration and zero otherwise. CEO change is an indicator variable that takes the value of one from the quarter in which the bank under consideration experiences a CEO change: it takes the value of zero for quarters before the change and for banks that do not experience a CEO change during my sample period. Crisis is a dummy variable that is set to one during the specified crisis periods (Q4 of 2007-08 to Q1 of 2009-10) and zero for pre-crisis periods (Q4 of 2004-05 to Q3 of 2007-08), and zero otherwise. Industry Crisis is a dummy variable that is set to one when at least half of the firms of an industry are loss-making in that year and zero otherwise. A firm with an interest coverage ratio of less than one in the pre-crisis year of 2006-07 (2003-04) is considered low-quality in the crisis or post-crisis (pre-crisis) period. Low-quality firm takes the value of one in those cases, and zero otherwise. The average loan tenure, the total number of loans in the last five years, and the outstanding amount between firm-bank pair in the immediately previous year divided by the total assets of the firm in the immediately previous year are firm-bank-year level controls used in all columns. Fixed effects are used as mentioned in the columns. I cluster the errors at the borrower industry level and adjust them for heteroscedasticity. *, **, and *** represent 10%, 5%, and 1% levels of significance.

	1	2	3	4
Dependent Variables	Loan Dummy	Restructuring	Loan Dummy	Restructuring
	Pre-Crisis vs Crisis period		Extended Period	
CEO change x Low-quality firm x Crisis	-0.0482**	-0.0249*		
	[0.0189]	[0.0127]		
CEO change x Low-quality firm x Industry Crisis			-0.0426*	-0.0152*
			[0.0235]	[0.0077]
CEO change x Low-quality firm	0.0162	0.0059	-0.0006	-0.0168
	[0.0162]	[0.0082]	[0.0126]	[0.0103]
CEO change x Industry Crisis			0.0061	-0.0011
			[0.0073]	[0.0035]
Observations	86,663	86,663	172,351	172,351
R-squared	0.3115	0.2726	0.2654	0.2001
Controls	Yes	Yes	Yes	Yes
Bank-Quarter Fixed Effects	Yes	Yes	Yes	Yes
Firm x Year Fixed Effects	Yes	Yes	Yes	Yes
Bank-Firm Fixed Effects	Yes	Yes	Yes	Yes

Table 5: Asset Quality Review Revelations

The table examines the association between CEO turnover and AQR audit divergences. The data are at a bank year level and span four years between 2016-17 and 2019-20, the years during which the AQR results were released. The dependent variable is the divergence in provisioning as a percentage of the bank's total interest income. In column 2, bank-year-level observations with missing data on provisions are with a value of zero. The main explanatory variable- Banks with CEO Turnover- is an indicator variable that takes the value of one for banks that faced CEO turnover during the GFC and zero otherwise. The natural logarithm of total interest income, profitability (%), and Gross NPA rate (%) are used as control variables. Year-fixed effects are used in all columns. *, **, and *** represent 10%, 5%, and 1% levels of significance.

	1	2
Dependent Variable	Divergence in provisioning/Income (%)	
Banks With CEO Turnover	-1.4519**	-1.5259***
	[0.6139]	[0.5210]
Observations	55	71
R-squared	0.3517	0.3939
Controls	Yes	Yes
Year Fixed Effects	Yes	Yes

Table 6: CEO Turnover and Firm Performance During Crisis and Pre-Crisis

The table examines the association between the exposure to banks experiencing CEO change and growth in firms' investment and profits. The data are organized at a firm-year level. The sample is restricted to firms that received a loan in that particular year. The dependent variable is the natural logarithm of gross total additions to fixed assets during the year for columns 1 and 3 and the percentage change over 1 year in PBDITA for columns 2 and 4. A firm with an interest coverage ratio of less than one in the pre-crisis year of 2006-2007 (2003-2004) is considered low-quality for columns 1 and 2 (3 and 4). The explanatory variable Exposure to CEO changed bank (%) is the ratio between the total value of loans borrowed by the firm from CEO changed banks and the total value of loans borrowed in a year. The data span a period of 3 years between 2007-2008 and 2009-2010 (2004-2005 and 2006-2007) for columns 1 and 2 (3 and 4). The natural logarithm of total income, natural logarithm of total assets, and profit after tax as a percentage of income are firm-year level controls used in all columns. I include firm and year-fixed effects in all columns. I cluster the errors at an industry level and adjust them for heteroscedasticity. *, **, and *** represent 10%, 5%, and 1% levels of significance.

	1	2	3	4
Dependent Variables	Log(Gross total additions to fixed assets)	% change in PBDITA	Log(Gross total additions to fixed assets)	% change in PBDITA
	Crisis Period		Pre-Crisis Period	
Exposure to CEO changed bank (%) x Low-quality firm	0.0087**	0.5380**	-0.0114	-0.1453
	[0.0043]	[0.2260]	[0.0103]	[0.2025]
Exposure to CEO changed bank (%)	0.0001	0.0631	-0.0043	-0.0161
	[0.0012]	[0.0402]	[0.0032]	[0.0307]
Observations	1,578	2,429	212	2,033
R-squared	0.8416	0.5510	0.8606	0.5697
Controls	Yes	Yes	Yes	Yes
Firm Fixed Effects	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes

Table 7: CEO Turnover and Lending Distortion For Low Capital Banks

The table examines the association between the entry of a new bank CEO and lending to low-quality firms. A firm with an interest coverage ratio of less than one in the pre-crisis year of 2006-07 is considered low-quality. The data are organized at a firm-bank-quarter level, starting with all bank-firm relationships existing at the beginning of the year 2007-08. The data span a period of six quarters between the last quarter of the year 2007-08 and the first quarter of the year 2009-10. The dependent variable in columns 1 to 3 is an indicator variable that takes the value of one if the bank under consideration provides a new loan to the firm under consideration and zero otherwise. In columns 4 to 6, the dependent variable is an indicator variable that takes the value of one if the bank-firm pair is involved in a restructuring transaction during the quarter under consideration and zero otherwise. CEO change is an indicator variable that takes the value of one from the quarter in which the bank under consideration experiences a CEO change: it takes the value of zero for quarters before the change and for banks that do not experience a CEO change during my sample period. Low Capital is an indicator variable that takes the value of one if the bank's capital adequacy ratio is lower than the average capital adequacy ratio of all banks in the sample; otherwise, it takes the value of zero. The average loan tenure, the total number of loans in the last five years, and the outstanding amount between firm-bank pair in the immediately previous year divided by the total assets of the firm in the immediately previous year are firm-bank-year level controls used in all columns. Fixed effects are used as mentioned in the columns. I cluster the errors at the borrower industry level and adjust them for heteroscedasticity. *, **, and *** represent 10%, 5%, and 1% levels of significance.

	1	2	3	4	5	6
Dependent Variables	Loan Dummy			Restructuring		
CEO change x Low-quality firm x Low Capital	0.0364**	0.0413**	0.0316	-0.0071	-0.0069	-0.0109
	[0.0167]	[0.0169]	[0.0219]	[0.0131]	[0.0130]	[0.0205]
CEO change x Low-quality firm	-0.0546***	-0.0565***	-0.0408***	-0.0117	-0.0128	-0.0200
	[0.0135]	[0.0137]	[0.0150]	[0.0080]	[0.0080]	[0.0154]
Low-quality firm x Low Capital	0.0065	0.0059		0.0101	0.0104	
	[0.0081]	[0.0083]		[0.0075]	[0.0075]	
CEO change x Low Capital	-0.0182**			0.0078		
	[0.0089]			[0.0053]		
CEO change	0.0317***			0.0040		
	[0.0070]			[0.0042]		
Observations	39,363	39,363	39,030	39,363	39,363	39,030
R-squared	0.2332	0.2381	0.3540	0.2341	0.2372	0.3101
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Bank Fixed Effects	Yes	No	No	Yes	No	Yes
Bank-Quarter Fixed Effects	No	Yes	Yes	No	Yes	Yes
Firm x Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Bank x Firm Fixed Effects	No	No	Yes	No	No	Yes

Table 8: Post-Retirement Job Prospects of CEOs

The table compares the association between the performance of the Bank during a CEO's tenure and their post-retirement job prospects. The data are organized at a bank-CEO level. The data span years between 1997-98 to 2012-13 (1997-98 to 2006-07) in column 1 (2). The dependent variable–Post Retirement Placement–is an indicator variable that takes the value of one if the CEO under consideration ever finds a board directorship or a regulatory position after retirement and zero otherwise. The explanatory variable—High-Profit Growth—is an indicator variable that takes the value of one if the annualized growth in profits during the tenure of the CEO under consideration is more than the median for all CEOs; it takes the value of zero otherwise. Bank and year fixed effects are included in all columns.

	1	2
Dependent Variable	Post Retirement Placement	
High Profit Growth	0.4088**	0.6148***
	[2.4743]	[3.1537]
Observations	63	47
R-squared	0.5194	0.6539
Bank Fixed Effects	Yes	Yes
Year Fixed Effects	Yes	Yes

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Table A1: Variable Definition

The following table provides variable definitions of variables used in the paper.

Variable	Definition	No of observations
Panel A: Bank Characteristics		
CEO change	An indicator variable that takes the value of one from the quarter in which the bank under consideration experiences a CEO change and zero otherwise	162
Log(Income) (INR)	Natural logarithm of total interest income	156
Profitability (%)	Profits after tax as a percentage of total interest income	156
Gross NPA Rate	Gross Non-Performing Assets as a percentage of Total loans and advances	156
Divergence in provisioning/Income (%)	The difference between bank-reported provisions and provisions as per audit findings as a percentage of total income	59
Low Capital Dummy	An indicator variable that takes the value of one if the capital adequacy ratio of the bank is lower than the average capital adequacy ratio of all banks in the sample and zero otherwise	27
Post Retirement Placement	An indicator variable that takes the value of one if the CEO under consideration ever finds a board directorship or a regulatory position after retirement and zero otherwise	64
High Profit Growth	An indicator variable that takes the value of one if the annualized growth in profits during the tenure of the CEO under consideration is more than the median for all CEOs and zero otherwise	64
Abnormal Market Return	An indicator variable that takes the value of one if the market-adjusted return of the bank's stock during the tenure of the CEO under consideration is more than the median for all CEOs for the same period; it takes the value of zero otherwise.	24
Banks with CEO turnover	Aan indicator variable that takes the value of one for banks that faced CEO turnover during the GFC and zero otherwise.	108
Panel B: Firm Characteristics		
Low Quality Firms Dummy	A dummy variable that takes the value of one if the firm's interest coverage ratio is less than one in 2006-07 and zero otherwise.	4,758
Log(Gross total additions to fixed assets)	Natural logarithm of gross total additions to fixed assets for the given year	2,967
Percentage PBDITA	Annual percentage change in profits before depreciation, interest, tax and amortisation of the firm	3,697
Exposure to CEO changed bank (%)	The total value of loans borrowed by the firm from CEO changed banks as a percentage of its total value of loans borrowed in a year	3,899
Log(Income)	Natural logarithm of total income	3,897
Profit After Tax/ Income (%)	Profits after tax as a percentage of total income	3,897
Log(Total Assets)	Natural logarithm of total assets	3,899
Interest Rate (%)	Interest outgo as a percentage of outstanding debt	5,286
Panel C: Industry Characteristics		
Industry Crisis (Dummy)	It is a dummy variable that is set to one when at least half of the firms of an industry are loss-making in that year and zero otherwise	4,160
Panel D: Firm-Bank Characteristics		
Loan Given Dummy	An indicator variable that takes the value of one if the bank under consideration provides a new loan to the firm under consideration in the quarter and zero otherwise	50,712
Loan Given Dummy (Low-Quality Borrower)	An indicator variable that takes the value of one if the bank under consideration provides a new loan to a low-quality firm under consideration in the quarter and zero otherwise	5,544
Restructuring Dummy	An indicator variable that takes the value of one if the bank-firm pair is involved in a restructuring transaction during the quarter under consideration	47,712
Restructuring Dummy (Low-Quality Borrower)	An indicator variable that takes the value of one if the bank-firm pair is involved in a restructuring transaction during the quarter under consideration and the borrower is a low-quality borrower	5,544
Average Loan Duration of Previous Loans (in Years)	Simple average of loan duration of past loans for firm-bank pair under consideration	25,214
Number of Loans Issued in the Last 5 years	Number of loans issued by the bank under consideration to the firm under consideration in the last 5 years	25,214
Outstanding Loan Amount in Immediately Previous Year/ Total Assets of Firm (%)	Outstanding loan amount between firm-bank pair in immediately previous year as a percentage of total assets of the firm in immediately previous year	22,373

Table A2: Loan Level Information

The following table provides the eventual status of existing loans in column 1 and new loans issued during the sample period in column 2.

	1	2
Variable	Existing	New
Number of loans	16,427	3,242
Number of loans restructured	1,344	329
Number of loans repaid	1,931	203
Number of loans remaining	14,496	3,039

Table A3: CEO Turnover and Lending Distortion- Test of Pre-Trends

The table examines whether pre-existing trends impact the association between the entry of a new bank CEO and lending to low-quality firms. A firm with an interest coverage ratio of less than one in the pre-crisis year of 2006-07 is considered low-quality. The sample is limited to quarter-years such that for each bank experiencing a CEO change there are five quarters included in the sample prior to the quarter of the CEO turnover, allowing for an evaluation of pre-trends. In the first three columns, the dependent variable is an indicator variable that takes the value of one if the bank under consideration provides a new loan to the firm under consideration and zero otherwise. The dependent variable in columns 4 to 6 is an indicator variable that takes the value of one if the bank-firm pair is involved in a restructuring transaction during the quarter under consideration. Pre 3 (Pre 4)(Pre 5) is an indicator variable that takes the value of one for bank-quarter, which is 3 (4)(5) quarters before the quarter in which the new CEO takes over. For all other quarters, it takes the value of zero. Two quarters before the quarter of the CEO turnover are in the base. CEO change is an indicator variable that takes the value of one from the quarter in which the bank under consideration experiences a CEO change: it takes the value of zero for quarters before the change and for banks that do not experience a CEO change during my sample period. The average loan tenure, the total number of loans in the last 5 years, and the outstanding amount between the firm-bank pair in the immediately previous year divided by the total assets of the firm in the immediately previous year are firm-bank-year level control variables used in all columns. Fixed effects are used as mentioned in the columns. I cluster the errors at the borrower industry level and adjust them for heteroscedasticity. *, **, and *** represent 10%, 5%, and 1% levels of significance.

	1	2	3	4	5	6
Dependent Variables	Loan Dummy			Restructuring		
CEO change x Low-quality firm	-0.0329***	-0.0320***	-0.0199*	-0.0133**	-0.0141**	-0.0273***
	[0.0101]	[0.0104]	[0.0110]	[0.0062]	[0.0061]	[0.0097]
Pre 3 x Low-quality firm	-0.0079	0.0026	0.0113	0.0116	0.0166	0.0082
	[0.0152]	[0.0160]	[0.0163]	[0.0146]	[0.0153]	[0.0150]
Pre 4 x Low-quality firm	-0.0130	-0.0041	0.0045	-0.0009	0.0005	-0.0081
	[0.0125]	[0.0135]	[0.0136]	[0.0129]	[0.0137]	[0.0142]
Pre 5 x Low-quality firm	-0.0109	-0.0018	0.0051	-0.0005	0.0054	-0.0027
	[0.0149]	[0.0166]	[0.0168]	[0.0110]	[0.0114]	[0.0138]
CEO change	0.0229***			0.0079***		
	[0.0046]			[0.0024]		
Observations	66,737	66,737	66,674	66,737	66,737	66,674
R-squared	0.2047	0.2094	0.2931	0.2003	0.2042	0.2481
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Bank Fixed Effects	Yes	No	No	Yes	No	No
Bank x Quarter Fixed Effects	No	Yes	Yes	No	Yes	Yes
Firm x Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Bank-Firm Fixed Effects	No	No	Yes	No	No	Yes

Table A4: Comparing Treated and Control Banks

In this table, I compare the treated and control banks based on several operational and financial variables. Banks that experience a CEO turnover event during the crisis are considered treated. The values of the variables considered are based on financial statements for the years 2004-05 to 2006-07.

	1	2	3
Variables	Control	Treated	T-stat
Log(Total Income)	10.63	10.66	0.19
Profit After Tax/Total Income	8.32	8.25	-0.35
Capital Adequacy Ratio	12.16	12.47	1.04
Loan growth	0.69	0.90	0.36
Gross NPA /Total Loans and Advances	0.04	0.04	0.63

Table A5: CEO Turnover and Lending Distortion: Placebo

The table examines the association between the entry of a new bank CEO and lending to low-quality firms. A firm with an interest coverage ratio of less than one in the year 2004-05 (2002-03) is considered low-quality in Panel A (B). The data are organized at a firm-bank-quarter level, starting with all bank-firm relationships existing at the beginning of the year 2005-06 (2002-03) in Panel A (B). The data span a period of six quarters between the last quarter of the year 2005-06 (2002-03) and the first quarter of the year 2007-08 (2005-06) in Panel A (B). The dependent variable in columns 1 to 3 is an indicator variable that takes the value of one if the bank under consideration provides a new loan to the firm under consideration and zero otherwise. The dependent variable in columns 4 to 6 is an indicator variable that takes the value of one if the bank-firm pair is involved in a restructuring transaction during the quarter under consideration. CEO change is an indicator variable that takes the value of one from the quarter in which the bank under consideration experiences a CEO change: it takes the value of zero for quarters before the change and for banks that do not experience a CEO change during my sample period. The average tenure of past loans, the total number of loans issued in the last five years, and the outstanding amount between firm-bank pair in the immediately previous year divided by the firm's total assets in the immediately previous year are firm-bank-year level controls used in all columns. Fixed effects are used as mentioned in respective columns. I cluster the errors at the borrower industry level and adjust them for heteroscedasticity. *, **, and *** represent 10%, 5%, and 1% levels of significance.

Panel A: Placebo 1

	1	2	3	4	5	6
Dependent Variables	Loan Dummy			Restructuring		
CEO change x Low-quality firm	-0.0008	0.0009	0.0329	-0.0012	-0.0021	0.0045
	[0.0167]	[0.0166]	[0.0224]	[0.0071]	[0.0071]	[0.0158]
CEO change	0.0178**			0.0046		
	[0.0080]			[0.0046]		
Observations	28,118	28,118	27,991	28,118	28,118	27,991
R-squared	0.2316	0.2371	0.3395	0.2230	0.2274	0.2903

Panel B: Placebo 2

Dependent Variables	Loan Dummy			Restructuring		
CEO change x Low-quality firm	0.0099	0.0096	0.0124	0.0001	0.0011	-0.0060
	[0.0105]	[0.0107]	[0.0145]	[0.0084]	[0.0087]	[0.0107]
CEO change	0.0023			0.0071*		
	[0.0079]			[0.0041]		
Observations	18,278	18,278	18,183	18,278	18,278	18,183
R-squared	0.2482	0.2543	0.3499	0.2374	0.2451	0.3108
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Bank Fixed Effects	Yes	No	No	Yes	No	No
Bank x Quarter Fixed Effects	No	Yes	Yes	No	Yes	Yes
Firm x Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Bank-Firm Fixed Effects	No	No	Yes	No	No	Yes

Table A6: External Validation

The table examines the association between CEO turnover and lending to low-quality firms during the Covid crisis. The data are at a bank-firm-quarter year level and span 9 months between January 2020 - September 2020. In columns 1 to 3, the dependent variable is an indicator variable that takes the value of one if a low-quality borrower receives a loan from a bank during the quarter under consideration and zero otherwise. In columns 4 to 6, the dependent variable is an indicator variable that takes the value of one if the bank-firm pair is involved in a restructuring transaction during the quarter under consideration and zero otherwise. A firm with an average interest coverage ratio of less than one in the pre-crisis years of 2017-18 and 2018-19 is considered low-quality. All other terms have the same meaning assigned to them in Table 3. The average loan tenure, the total number of loans in the last five years, and the outstanding amount between the firm-bank pair in the immediately preceding year divided by the firm's total assets in the immediately preceding year are firm-bank-year level controls used in all columns. Fixed effects are used as mentioned in the columns. I cluster the errors at the industry level and adjust them for heteroscedasticity. *, **, and *** represent 10%, 5%, and 1% levels of significance.

	1	2	3	4	5	6
Dependent Variables	Loan Dummy			Restructuring		
CEO change x Low-quality firm	-0.0175*	-0.0198**	-0.0045	-0.0100**	-0.0106**	-0.0007
	[0.0094]	[0.0099]	[0.0042]	[0.0043]	[0.0046]	[0.0012]
CEO change	0.0234***			0.0034		
	[0.0061]			[0.0073]		
Observations	5,365	5,365	3,774	5,365	5,365	3,774
R-squared	0.3194	0.3332	0.7380	0.4400	0.4466	0.7697
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Bank Fixed Effects	Yes	No	No	Yes	No	No
Bank-Quarter Fixed Effects	No	Yes	Yes	No	Yes	Yes
Firm x Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Bank x Firm Fixed Effects	No	No	Yes	No	No	Yes

Table A7: CEO Change and Interest Rates

The table examines the association between the entry of a new bank CEO and interest rates charged to low-quality firms. The sample is restricted to firms that have borrowed from either old CEOs or new CEOs in the crisis period. The sample is further restricted to firm years where bank loans constitute over 75% of total borrowings. A firm with an interest coverage ratio of less than one during the pre-crisis year of 2006-07 is considered low-quality. Treated firm is an indicator variable that takes the value of one if the firm has borrowed only from new CEOs; otherwise, it takes the value of zero. The data are organized at a firm-year level. The data span a period of 3 years between 2007-08 and 2009-10. The dependent variable is the effective interest rate charged to the firm. The natural logarithm of total income, the natural logarithm of total assets, and the ratio of profit after tax by income are firm-year-level controls used in all columns. Fixed effects are used as mentioned in the columns. I cluster the errors at the industry level and adjust them for heteroscedasticity. *, **, and *** represent 10%, 5%, and 1% levels of significance.

	1	2
Dependent Variable	Interest Rate (%)	
Treated firm X Low-Quality firm	0.0167	-0.0432
	[1.5835]	[1.5296]
Treated firm	0.6735	0.6131
	[0.4533]	[0.4332]
Low-Quality firm	1.9187**	1.4442*
	[0.7994]	[0.8048]
Observations	3,933	3,911
R-squared	0.0056	0.0227
Controls	No	Yes
Year Fixed Effects	Yes	Yes

Table A8: CEO Turnover and Lending Distortion: Banks with Data On CEO Age

The table examines the association between the entry of a new bank CEO and lending to low-quality firms. The sample is restricted to banks for which I have information about the age of the outgoing CEO in cases of a CEO change. A firm with an interest coverage ratio of less than one in the pre-crisis year of 2006-07 is considered low-quality. The data are organized at a firm-bank-quarter level, starting with all bank-firm relationships existing at the beginning of the year 2007-08. The data span a period of six quarters between the last quarter of the year 2007-08 and the first quarter of the year 2009-10. The dependent variable in columns 1 to 3 is an indicator variable that takes the value of one if the bank under consideration provides a new loan to the firm under consideration and zero otherwise. The dependent variable in columns 4 to 6 is an indicator variable that takes the value of one if the bank-firm pair is involved in a restructuring transaction during the quarter under consideration. CEO change is an indicator variable that takes the value of one from the quarter in which the bank under consideration experiences a CEO change: it takes the value of zero for quarters before the change and for banks that do not experience a CEO change during my sample period. The average loan tenure, the total number of loans in the last 5 years, and the outstanding amount between firm-bank pair in the immediately previous year divided by the firm's total assets in the immediately previous year are firm-bank-year level controls used in all columns. Fixed effects are used as mentioned in the columns. I cluster the errors at the borrower industry level and adjust them for heteroscedasticity. *, **, and *** represent 10%, 5%, and 1% levels of significance.

	1	2	3	4	5	6
Dependent Variables	Loan Dummy			Restructuring		
CEO change x Low-quality firm	-0.0319***	-0.0318***	-0.0291**	-0.0138*	-0.0151**	-0.0321***
	[0.0112]	[0.0114]	[0.0127]	[0.0071]	[0.0072]	[0.0115]
CEO change	0.0179***			0.0065**		
	[0.0056]			[0.0030]		
Observations	37,523	37,523	37,058	37,523	37,523	37,058
R-squared	0.2392	0.2438	0.3599	0.2382	0.2410	0.3140
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Bank Fixed Effects	Yes	No	No	Yes	No	No
Bank x Quarter Fixed Effects	No	Yes	Yes	No	Yes	Yes
Firm x Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Bank-Firm Fixed Effects	No	No	Yes	No	No	Yes

Table A10: Accounting vs Market Performance

The table compares the accounting and market performance of banks led by CEOs who secure a board directorship or regulatory position after retirement with those whose CEOs do not attain such roles. High Profit Growth—is an indicator variable that takes the value of one if the annualized growth in profits during the tenure of the CEO under consideration is more than the median for all CEOs during the same period; it takes the value of zero otherwise. Abnormal Market Return is an indicator variable that takes the value of one if the market-adjusted return of the bank's stock during the tenure of the CEO under consideration is more than the median for all CEOs for the same period; it takes the value of zero otherwise. I present the average values of the indicator variables in this table. I use Nifty-50 as the benchmark index.

	High Profit Growth	Abnormal Market Return
No significant Position	0.222	0.444
Board directorship or Regulatory position	0.600	0.500
Difference	0.378	0.056
T-Stat	0.078*	0.813

VIII How Are Low Quality Loans Treated By New CEOs?

Here, I investigate what happens to low-quality loans that get passed on to new CEOs. Recall that new CEOs are less likely to either restructure or evergreen (by issuing new loans) such loans. I hypothesize that such loans are likely to show a higher tendency to default and eventually turn into NPAs if they are not rescued. Unfortunately, I do not have data on whether a loan turned into an NPA and the recovery rate conditional on a loan being classified as an NPA. However, I obtained data on whether a bank has initiated loan recovery proceedings against a borrower in a court of law and the year (quarter) in which the proceedings are initiated. I obtained this information from TrasUnion CIBIL-the largest credit bureau in India. Initiating a recovery procedure is one way of terminating

a loan. Using the above data, I examine whether new CEOs are more likely to initiate recovery proceedings against low-quality borrowers.

I estimate the following regression equation.

$$\begin{aligned} Y_{\text{ijk}} &= \alpha + \beta_1 * CEO\_Change_j * LowQuality\_Firm_i \\ &\quad + \beta_2 * X_{ij} + \gamma_i + \theta_j + \epsilon_{ijk} \end{aligned} \tag{6}$$

The data are organized at a bank-firm-CEO type level. CEO type here refers to old and new CEOs. Thus, a bank-firm pair will have one or two observations based on whether or not the bank under consideration experienced a CEO change during the crisis. I organize the data at a bank-firm-CEO type level as the CIBIL data on recovery proceedings is at a bank-firm level, not a loan level.

The dependent variable is an indicator variable that takes the value of one if the bank initiates a loan recovery proceeding against the firm when the CEO type under consideration is in charge or the bank designates the borrower as a willful defaulter. I consider the CIBIL data up to June 30, 2012, the quarter by which all CEOs in charge during the crisis retired. I include bank and firm fixed effects in all columns. I also include the control variables included in equation 1 of the paper. Since this is a cross-sectional test, I use the average value of the control variables during the last year of the crisis (2009-10).

I present the results in Table A11. I focus on the coefficient of the interaction term between low-quality firms and new CEOs. I find that the new CEOs are 1.72% more likely to initiate a legal proceeding against a low-quality borrower when compared to normal

borrowers than the old CEOs in a difference-in-differences sense. The result is economically meaningful given the unconditional probability of 1.01% of a legal proceeding between a borrower and a bank and the conditional probability of 3.35% based on the borrower being of low quality.

The results show that the new CEOs tend to close low-quality loans by trying to recover as much as possible rather than extending or restructuring them. However, unfortunately, as I have explained above, the evidence is about only one of the ways in which a loan can be terminated.

Table A11: Eventual Performance of Low Quality Loans

This table examines the association between the eventual performance of loans to low-quality borrowers and the entry of a new bank CEO. A firm with an interest coverage ratio of less than one in the pre-crisis year of 2006-2007 is considered a low-quality firm. The data are organized at a firm-bank level, starting with all bank-firm relationships existing at the beginning of the year 2007-2008. The dependent variable in Column 1 is a binary indicator that equals one if the firm under consideration is undergoing a recovery proceeding initiated by the bank under consideration, as reported in the CIBIL data, or was classified as a wilful defaulter by the bank. I consider the data up to 30 June 2012 (the quarter by which all new CEOs from banks that experienced a CEO change during the crisis period had retired). The dependent variable in Column 2 is a binary indicator that equals one if the firm is undergoing a recovery proceeding initiated by the bank under consideration. CEO change is a binary indicator variable that equals one for banks that experienced a CEO change during the crisis period and zero otherwise. The firm-bank level controls used in all columns include the average tenure of past loans, the total number of loans issued in the last five years, and the outstanding loan amount between the firm-bank pair in the immediate previous year divided by the firm's total assets in the same year. These variables are calculated with reference to the year 2009-2010, the last year of the crisis. Fixed effects are used as mentioned in respective columns. I cluster the errors at the borrower industry level and adjust them for heteroscedasticity. *, **, and *** represent 10%, 5%, and 1% levels of significance.

	1	2
Dependent Variable	Default (CIBIL or Wilful)	Default (CIBIL)
CEO change x Low-quality firm	0.0172*	0.0051*
	[0.0103]	[0.0030]
Observations	4,259	4,259
R-squared	0.6305	0.6122
Controls	Yes	Yes
Bank Fixed Effects	Yes	Yes
Firm Fixed Effects	Yes	Yes

IX What Happened To Restructured Loans Eventually?

I recognize that a reader would be interested in knowing what happened to restructured loans that were carried up to AQR. I carefully studied all the publicly available documents on AQR and also got in touch with central bank officials and some bankers to learn more about the exact process followed.

In this context, it is also noteworthy that the central bank and the federal government introduced several measures to address the NPA issue after learning about it due to the AQR. For instance, the government announced a new creditor-in-control bankruptcy regime starting in 2016 (Chakraborty, Kallapur, Mahapatro and Tantri (2022)). The central bank, on its part, issued several regulations intending to clear legacy bad loans. One of them studied by Kulkarni, Ritadhi, Vij and Waldock (2019) required banks to form a committee of creditors immediately on default and decide collectively. Given these confounding interventions in the post-AQR period, it is very hard to attribute any lending outcome in the post-AQR period to the quality of lending made during GFC. However, it is reasonable to attribute the additional provisioning required by the central bank to the quality of lending and restructuring during the crisis, as this was determined based on past lending and before other interventions described above.

Nevertheless, I have analyzed one anecdotal evidence. I obtained data on the largest 12 defaulting firms that the central bank specifically identified and asked banks to initiate bankruptcy proceedings. The popular press dubbed these borrowing firms as the "dirty

dozen." These loans accounted for 25% of all outstanding NPAs. I have data on their eventual recovery rates because these loans were settled through the new bankruptcy process. Out of these firms, firms that borrowed exclusively from old CEOs during the crisis had a recovery rate of 8.7%, whereas firms that borrowed from new CEOs had a recovery rate of 26.8%. This suggests that even among extremely low-quality loans, those made by new CEOs had a higher recovery rate. However, I recognize that it is not possible to generalize based on anecdotal evidence.

X Restructuring Vs New Loans

As described in the Introduction, I find that the old CEOs use two ways of postponing loss recognition on loans to borrowers facing fundamental issues during a crisis. The first is to extend additional loans to troubled borrowers. This plausibly helps the borrowers continue their operations and service existing loans. The second way is restructuring loans of troubled borrowers under forbearance. Restructuring involves actions such as the extension of tenure, providing a moratorium, changing interest rates, taking haircuts, and other ways of changing loan terms. I have discussed the incentives of old CEOs to engage in such rescues of troubled borrowers when compared to new CEOs. However, questions may remain about the choice of these two methods. I discuss issues relating to the same here.

The first question is why do old CEOs issue new loans to rescue troubled borrowers when they have an option of restructuring under forbearance, which was allowed and encouraged by the central bank. There could be two reasons. First, in some cases, it may

not be sufficient just to restructure a loan to help the firm survive. Consider a fundamentally insolvent firm that owes money to other non-bank creditors for whom forbearance was not applicable. In that case, mere restructuring may not be sufficient to keep the borrower afloat. New loans may have to be issued to help the borrowers to make payments to other lenders. Second, restructuring transactions have to be disclosed separately, even when there is forbearance. Thus, using fresh loans to bail out borrowers makes the transactions more opaque than restructuring. While it is true that, on average, post-retirement job market placements are based on recorded accounting performance, there could be segments in those markets that may look beyond the reported numbers and discount the performance achieved due to forbearance. Lending fresh loans to troubled borrowers is likely to escape additional scrutiny in those markets as well.

Further, there could be questions about the connection between fresh lending to troubled borrowers and forbearance. Fresh loans to troubled borrowers can be made and can achieve their purpose of preventing immediate default on existing loans even when there is no forbearance. However, forbearance allows an extra layer of protection. The old CEOs are likely to have this comfort that should the new loans to troubled borrowers go bad immediately, they can use the forbearance window and restructure and thus avoid recognition of default immediately. Therefore, it is advantageous to use the fresh lending route to save troubled borrowers under forbearance.

Finally, a caveat is on order. While I can list the costs and benefits of using the two methods discussed above, I cannot precisely verify what drives the choice between restructuring and fresh lending. Also, I cannot arrive at the relative importance of the two methods.