Career Incentives and Employee Productivity in State-Owned Enterprises: Evidence from India

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Abstract

State-owned enterprises (SOEs) are large and important organizations in many economies but suffer from low labour productivity IMF (2020). Can SOEs improve their labour by enhancing career concerns for their employees? We show that exogenous change in opportunities to influence career progression significantly improves the performance of employees of state-owned banks in India. In particular, we find that when banking employees get more exposure to senior management, who can influence their promotion decisions, they increase credit expansion on both intensive and extensive margins. Further, this expansion happens through increased productivity, and not costly factors such as liberal screening, lower interest rates or higher resource allocation. Our results show that reforms in performance review processes, which allow workers to signal effort to supervisors in state-owned firms, may yield substantial productivity gains.

JEL Codes: J33, M51, M54, D24 **Keywords:** Career concerns, State-owned enterprises, Firm productivity

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1 Introduction

State-owned enterprises (SOEs) are often large and important organizations in many economies but suffer from various inefficiencies such as low labour productivity (IMF, 2020). While private-sector firms use monetary incentives or promotions to improve worker's effort, SOEs rarely offer bonuses based on subjective performance evaluations. This leaves SOEs only promotions or career motives to incentivize their employees.

Can career concerns be a strong motive to improve SOE employees? SOEs usually have a single port of entry and minimal lateral hiring, which make career concerns for existing employees a strong motivator. However, contract termination is rare in SOEs, which puts a floor on the downside risk for the employees. Further, even non-performing employees may achieve career growth, although with some delay in promotion. These factors would reduce the power of incentives generated by career concerns within SOEs. Thus, *prima facie*, the effect of career concerns on SOE employees is ambiguous. If career concerns are indeed effective in SOEs, then SOEs can improve their labour productivity by improving their review processes, which would further have enormous welfare implications.

In this paper, we study the role of career motives in a novel setting of Indian public sector banks. Studying within firm incentive structures in SOEs is a challenging task for several reasons. First, finding exogenous variation in incentives within firms is hard; hence most studies rely on conducting experiments within firms, which may be difficult to implement for the researchers. Secondly, SOEs have fewer incentives and are also more reluctant to share within-firm data compared to private firms, which are constantly looking to improve their productivity because of market competition. We overcome these challenges by using within-firm granular data from Indian banks and exploiting a natural experiment that induces exogenous variation in employees' ability to demonstrate higher effort and productivity to supervisors.

We analyze the Lead Bank Scheme of India to answer our questions. This scheme was started in 1969 to improve credit access to priority sectors such as agriculture, small businesses and marginalized sections of society.[1] Under this scheme, each district is assigned one state-owned bank (also called public sector bank) to promote Lead Bank Scheme outreach to these priority sectors in that district. This bank is called the lead bank for that district, and its activities are managed by the mid-management level employee, whom we call the lead banker (he). To monitor the lead banks of a state, the Reserve Bank of India appoints another state-owned bank at the state level. These banks are called the

[1] We discuss priority sector lending in greater detail in section 2.

convener banks, and their task is to review the performance of the lead bankers in every district in that state. Thus, there are some districts where the same bank acts as both the lead bank and the convener bank. We refer to these lead banks as 'aligned'; otherwise they are referred to as 'non-aligned'.

The review of Lead Banks occurs through quarterly meetings which are headed by the CEO (she) of the convener bank. In aligned districts, the CEO of the bank can observe the output of her own employees, while in non-aligned districts, the lead banker's output is reviewed by the CEO of a different bank. Institutional arrangements in Indian sector banks make such interactions with own CEO and senior management crucial for promotions and career advancements. Specifically, each employee in the bank receives confidential performance appraisal reports from his supervisors. At the time of promotion evaluations, a committee takes the decision on whether or not to promote the employee based on these reports and an interview with the employee. However, Khandelwal (2010) finds that nearly 80 - 90% of the appraisees get 'excellent' ratings. This leniency bias (Prendergast, 1999) renders these reports useless for separating performers from non-performers. Our discussions with former bank officials suggest that recommendations by senior officers and the discretion of supervisors in the form of informal oral recommendations become critical in evaluation by the committee. Further, since promotions at the middle management level are not automatic, and only a fraction of employees get promoted at a time, these recommendations are extremely valuable for early promotion. Apart from promotions, the employees in the banks also look to enhance their careers by getting appointed in coveted locations and departments for which they again rely on informal recommendations from senior managers in their bank.

We hypothesize that an aligned lead banker will have a higher incentive to demonstrate his effort and productivity to the CEO of his own bank. But a non-aligned lead banker has no such opportunity. Thus, the alignment of a district determines the employee's motive to enhance his career through better performance (Holmstrom, 1999). We exploit exogenous change in *alignment* to study how variation in career concerns affects the performance of the employees. Alignment of a lead bank changes mainly due to the splitting of old states in which case the newly formed states get new convener banks. Importantly, Lead Banks do not change in our sample. Thus, all variation in alignment change comes from administrative or political factors at the state, which are unlikely to be influenced by or correlated with the district-level performance of banks. Our granular dataset allows us to use a specification with a rich set of fixed effects such as district-time fixed effects to control for district-level time-varying characteristics such as local demand (this

is analogous to using firm-time fixed effects in Khwaja and Mian (2008)), bank-time fixed effects to control for bank-level time-varying characteristics, and bank-district fixed effect to control for, among other factors, the appointment of a particular bank as lead bank in that district.

We expect the impact of alignment to be the highest in rural areas, and in particular, agriculture, since the focus of priority sector lending is toward the agricultural sector.[2] Further, since agriculture lending comprises only 7% of urban lending, we expect no impact of alignment on urban areas. Consistent with this reasoning, the results show an average increase of 35% in the amount of loans and an increase of 30% in the number of loans by aligned lead banks relative to other banks in rural areas. Sector-wise analysis also confirms that most of the increase is driven by agricultural credit, and not industry, personal and trade. There is no corresponding increase for the urban markets, as expected.

Our conjecture is that after alignment change, the lead banker would exert higher effort, which may occur by pushing his subordinate loans officers to reach out to more borrowers and disburse more credit. If loan officers are indeed working harder, then their average productivity should increase. We find that in rural areas, for aligned banks, credit amount per loan officer increases by 32% and number of accounts per loan officer increases by 28%. We then test whether other factors that could drive credit, such as lower lending rates, liberal screening of borrowers or number of loan officers also change for aligned lead banks. We find no change in Weighted Average Lending Rate (WALR), ratio of non-performing assets (NPAs) and total number of district-level loan officers. Thus, the increase in credit supply occurs mostly through an improved effort by banking officers of the district.

To further test the effort channel, we study the impact of competition by private banks on lending by aligned banks. Poaching new customers or expanding to new ones may be difficult if the competitor is a private bank, which are more productive relative to state-owned banks. Thus, marginal returns of exerting effort may be lower if the market share of the private banks is higher. We test this by including the interaction of alignment indicator with the market share of private banks in our bank-district level regressions. Increase in rural lending by the aligned banks and productivity of employees is lower in the districts with higher market share of private banks. This result provides further evidence that the increase in lending by the aligned banks is coming from the effort channel.

We then study if the increase in credit by the aligned lead banks translates to an increase

[2] 45% of all priority sector loans are earmarked toward the agricultural sector.

in total credit at the district level. We find an increase in total supply of credit in the aligned districts both at the intensive margin and extensive margin. This suggest that aligned lead banks are not just poaching old customers of existing banks but also giving credit to new customers. Sector-wise split suggests an increase in credit in all sectors. No significant change occurs for urban areas.

Finally, we conduct additional tests to check the robustness of our results. First, we rule out pre-trends in credit disbursal by aligned lead banks. As an alternative identification strategy, we compare treated lead banks against non-treated lead banks from other districts to find expected increase in credit disbursal by treated lead banks. We then look at the impact of alignment on non-lead banks and find no increase in credit as expected. As a placebo test, we study how deposits change because of alignment of lead banks, and find no evidence of increase in deposits. This is expected since deposit generation is beyond the scope of the Lead Bank scheme.

Our paper makes several contributions to the literature. First, we contribute to the empirical literature which studies the impact of career concerns on productivity of employees within organizations. The existing literature has analyzed the impact of career concerns for bureaucrats (Bertrand et al., 2020; Karachiwalla and Park, 2017) and employees in private firms Manthei et al. (2023). Bertrand et al. (2020) show that bureaucratic leaders may be incentivized by glittering prizes which come in the form of last career promotion making them the top bureaucrats in the country. Karachiwalla and Park (2017) show that higher wage increases for promotion are associated with better performance of teachers in government schools in China. Ours is the first study to show that career concerns can be effective incentives for SOE employees.

We also contribute to the literature on the productivity of SOEs. Most of the current literature has focused on the impact of privatization on the productivity of SOEs (Barberis et al., 1996; Estrin and Pelletier, 2018; Gupta, 2005; Hsieh and Song, 2015). However, privatization is an arduous reform and faces several political constraints. Instead, management reforms may serve as an alternative to improve SOE performance without a change in ownership, because the latter may also change the socially oriented objectives that the SOEs pursue rather than just profit maximization. Among these reforms, Kala (2023) shows the importance of giving managers of SOEs in India more autonomy in creating higher value. Our paper provides empirical evidence that better performance review processes, motives for career advancements and better levers at influencing own prospects may indeed be very effective in improving employee productivity. While our study is focused on banks, the issue of low employee productivity and poor incentives

for employees plague most SOEs. Thus, our paper is also important in the specific context of India where SOEs form a large part of the economy and employ many workers.[3] State-owned banks alone employed about eight hundred thousand employees in 2019 as per the economic survey of India. Improving employee productivity in SOEs can thus have an enormous impact on social welfare.

The subject of credit inclusion for poor and marginalised sections in India has received considerable attention. Lead Bank Scheme itself originated during the social banking period with the aim of extending credit to under-represented sections. We add to the exiting literature on credit inclusion (Burgess and Pande, 2005; Burgess et al., 2005; Cole, 2009) by studying the Lead Bank Scheme and show that improving incentives of bank employees can improve credit delivery to priority sectors.

The rest of the paper is as follows. Section 2 discusses the Lead Bank scheme in India and describes the institutional setting. Section 3 describes the data. Section 4 discusses our identification strategy and section 6 discusses the results. In section 6, we conduct several robustness tests and section 7 concludes.

2 Institutional details and lead bank scheme

Indian banking sector comprises of a mix of private banks and state-owned or government-owned banks banks (also called public sector banks).[4] These banks usually have a national presence and are quite large in terms of their asset size. Both private banks and state-owned banks are listed on stock markets, but the state-owned banks are mostly owned by the government. On the other hand government usually do not have any direct ownership in the private banks.

2.1 Lead Bank Scheme

The Lead Bank Scheme was introduced in 1969 to address geographic disparity in credit availability in India. The Reserve Bank of India (RBI) was concerned that commercial banks did not have adequate presence in rural areas and lacked rural orientation (Gadgil, 1969). To address this concern, RBI adopted a service area approach where one state-

[3] As per Kala (2023), SOEs employed over 1.14 million people in the year 2009.

[4] There are also some other types of banks such as cooperative banks and regional rural banks, but these banks form a very small fraction total bank credit.

owned bank in each district was assigned the role to promote credit supply to priority sectors in that district. This commercial bank is known as the Lead Bank of the district. The lead banks assign dedicated personnel at the district level whom we refer to the Lead Bank manager or Lead Banker to oversee the activities of the lead bank scheme in their districts. These lead bank managers are middle-management level employees with about 15-20 years of experience.

In order to monitor the activities of lead banks, RBI appointed another state owned bank for each state 1977. This bank is known as the Convener Bank of the state. The convener bank of a state monitors the lead banks of all the districts in that state by conducting quarterly meetings with the lead bank managers. These meetings are headed by the CEO of the convener bank. In the absence of the CEO, these meetings are headed by another senior manager of the bank. The convener bank of a state and all the lead banks of districts in the state collectively form the State-Level Bankers' Committee (SLBC). In the year 2016, the final year of our sample, there were 26 banks which were assigned the responsibility of lead banks for all the districts in India and 18 banks which were assigned the responsibility of convener banks for the different states in India.

This institutional set up implies that their are some districts for which the lead and convener banks are same which we call as aligned districts; else the districts are referred to as non-aligned.

2.2 Activities of lead banks

The main role of the lead banks is to promote lending to priority sectors in their respective districts (RBI, 2021). As per RBI's regulations, 40% of each bank's Adjusted Net Bank Credit is reserved for priority sectors which include sectors such as agriculture, micro, small and medium enterprises, housing and education (Banerjee et al., 2004). Of the total priority sector loans, agricultural sector receives 45%, while 18% is reserved for micro enterprises (RBI, 2022). In addition, 30% of the priority sector loans should be given to weaker sections of the society.

For the execution of the lead bank scheme, each lead bank in consultation with other financial institutions in that district prepares an annual credit plan. The job of the lead bankers is to implementation of these credit plans. All banks operating in a district have to meet respective credit allocation targets. However, the lead banker only has his own sub-ordinates and resources at his disposal to achieve these targets. The loan officers are entry-level employees who follow the directions of the lead banker.

The lead banker also coordinates with other banks and local bureaucrats and politicians to promote socially beneficial activities such as digital payments and financial literacy. For example, the lead banks in the state of Odisha organized credit *melas* in 6 districts in October 2019 (Odisha, 2019), where bank employees conducted programs on financial literacy. Lead bankers also interact closely with high ranking government officials through various fora and inform government agents about the institutional and infrastructural bottlenecks faced by banks in credit supply and financial inclusion.

2.3 Appointment of lead banks and convener banks

RBI has adopted the following criteria in choosing a bank as a Lead Bank of a given district (RBI, 1972).

- Number of branches of the bank—The bank which has higher number of branches in the district receives priority in being appointed as Lead Bank of the district.
- Resources of the bank in the district—For resources, assets and liabilities are taken into account while selecting a Lead Bank for a district.
- Contiguity of districts with the same Lead Bank—RBI tries to take into account the proximity of districts while assigning leads banks as it may help the banks in their operation.

In a nutshell, typically the banks with the largest market share in the district is appointed the lead bank.

For selecting a Convener Bank, RBI considers the regional orientation of the bank. For example, when the state of Telangana was formed out of Andhra Pradesh in 2014, its convenership was allotted to State Bank of Hyderabad which had strong presence in Telangana, whereas Andhra Bank was retained as the Convener Bank of Andhra Pradesh. Map of districts and state tagged by their Lead and Convener Bank, respectively, can be found here.

Thus, Lead and Convener Bank appointment is not driven by district-level demand factors but mostly by supply-side capabilities of the bank.

2.4 Impact of alignment on career concerns of lead bankers

The officers in the state-owned banks are selected through competitive exams and these jobs are highly coveted as they pay well and have high career stability.[5] The banks usually have only one port of entry, observe low exit rate and exhibit rare or non-existent lateral entries.

The lead banker in a district is a mid-management level employee of the lead bank. These lead bankers have experience of 15-20 years and are engaged specifically for Lead Bank Scheme activities. Thus these bankers have climbed the organization ladder for more than 15 years and are very unlikely to exit the organization. Since bonuses are limited, the incentives for these employees come from promotions and appointments in coveted locations and departments within the bank.

The appraisal process in these banks is as follows. The supervisor of each employee writes an annual confidential performance appraisal report for the employee. In some cases, the supervisor may also write an appraisal report for a particular task assigned to the employee. When the employee is up for promotion, a committee takes the decision on whether or not to promote the employee based on these reports and an interview with the employee. The promotions at the middle and senior management level are not automatic and only a fraction of employee get promoted in the first shot. At the middle management level, only about one third of the employees may get promoted in their first attempt. The remaining employees have to wait for one or more years for their promotion.

A key challenge in the appraisal process is that the appraisal reports and ratings suffer from a high leniency bias (Prendergast, 1999). As per the Khandelwal Committee Report, 80 - 90% of the appraisees get an 'excellent' rating (Khandelwal, 2010) and this bias renders these reports ineffective for screening performers from non-performers. In such instances, informal oral recommendations and the discretion of senior officers, at the request of the employee, are utilized to decide on promotion decisions. Because only a fraction of employees get promoted at a time, these recommendations are extremely valuable for early promotion. Apart from promotions, the employees in the banks also look to get appointed in coveted locations and departments for which they again rely on informal recommendations from senior managers in their bank.

As discussed above, the leads bankers at the district level are monitored by the CEO

[5] Our sample is from 1999 to 2016. Hence the lead bankers in the period of our sample would have been as hired as entry-level officers in an era when the Indian economy was still quite socialist in nature and jobs in state-owned enterprises considered amongst the best jobs in India.

(or occasionally a very senior manager) of the convener bank of the state through SLBC meetings which are held quarterly. Thus the aligned lead bankers get to demonstrate performance and productivity to the CEO of his own bank whereas the non-aligned lead bankers interact with the CEO of a different bank. These review meetings are an opportunity for the aligned lead bankers to impress the CEO of his own bank with his performance. A good impression on the CEO and any recommendation by her can go a long way in enhancing the career of the lead bankers. Thus, being aligned gives the lead bankers an opportunity to enhance his career through his performance.

Based on the above arguments, our key hypothesis is that aligned lead bankers will perform better than non-aligned lead bankers. This hypothesis may not hold true because of several reasons. First, the power of incentives may not be high enough as the CEO will not fire the non-performers limiting the down side risk for such employees. Secondly, while the non-performers may not get promoted immediately, they generally will also get promoted albeit with some delay. Finally, the aligned lead bankers instead of becoming more productive, may engage in unproductive influence activities such as "buttering up" the CEO (De Janvry et al., 2023; Milgrom and Roberts, 1988; Milgrom, 1988) to garner his favours. This final countervailing force may in fact make the aligned lead bankers less productive.

3 Data and Summary Statistics

We use Basic Statistical Returns (BSR) Data of the Reserve Bank of India. This dataset provides branch-level credit and deposit statistics of scheduled commercial banks and regional rural banks in India from 1999-2016.[6] Since our treatment is at the bank-district-year level, we consider bank-district-year as the unit of observation for our analysis. We observe the number of accounts and the total amount of loans or credit outstanding in a given year by each branch across sectors (agricultural, industry, transport, professional services, trade, etc.) and population centers (rural, semi-urban, urban and metropolitan).[7] We can also observe metrics of asset quality such as weighted average lending rates (WALR) and ratio of non-performing assets (NPA). We will club semi-urban, urban and metropolitan branches together and call them urban branches. We conduct our analysis

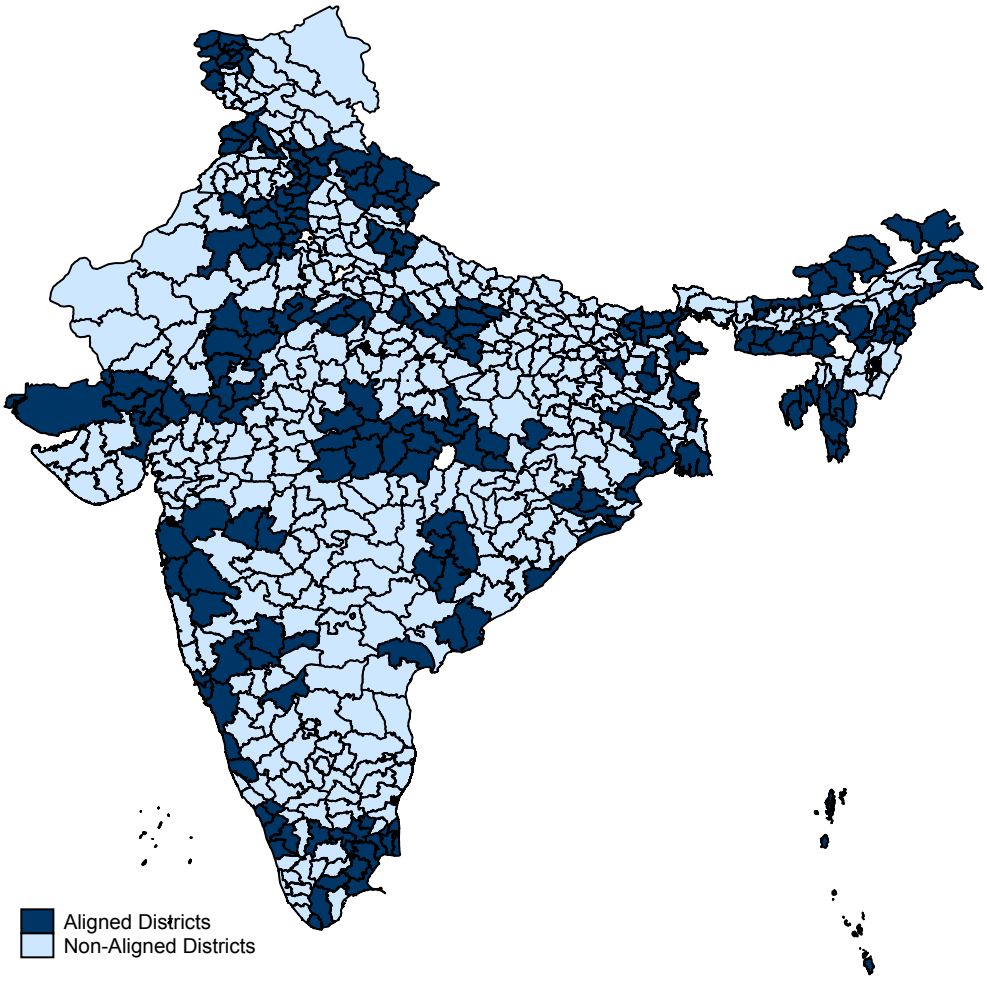
[6] In India the financial year starts on 1st April and ends on 31st March. So we have annual data from March 31, 1999, to March 31, 2016.

[7] According to RBI, rural areas are defined as centres with a population of less than 10,000. Similarly, semi-urban areas are those with population between 10,000 and 100,000, urban areas are those with population between 100,000 to 1 million and metropolitan areas are those with population of more than 1 million.

separately for rural and urban branches for reasons which will be discussed below.

We develop the panel data on alignment by collecting information on Leads and Conveners from websites of various SLBCs. In order to track changes in Leads and Conveners across years, we collect the notifications for Lead Bank Scheme available from RBI's website. Around 44% of districts are aligned. Figure 1 shows the map of districts in India tagged by their status of alignment in the year 2011.

Figure 1: Districts by Alignment



We first look at the distribution of lending by four major sectors- agriculture, industry, personal and trade - in rural and urban branches (Table 1). In rural areas, agricultural lending comprises of 53% (72%) of total amount (accounts) of credit. Contrarily, in urban areas, agricultural lending comprises only of 8% (29%) of total amount (accounts) credit. Industry loans form a larger share in urban areas (45%) than in rural areas (7%).

Table 2 shows the average loan size in urban and rural areas. As expected, average loan

Table 1: Sectoral Share- Mean (in %)

	(1) Agri	(2) Industry	(3) Personal	(4) Trade
Panel A: Credit				
Rural	53.28	7.05	16.84	15.72
Urban	7.94	44.58	16.34	9.42
Panel B: Accounts				
Rural	72.37	1.96	12.61	6.13
Urban	29.39	3.24	51.59	5.54

This table calculates each sector's credit share as a % of total credit in Panel A for both Rural and Urban subsamples. Panel B reports the share in terms of number of accounts.

size is much larger in urban areas than rural areas. More importantly, even for agricultural sector, urban loans are more than twice the average size of agricultural rural loans.

Table 2: Average Loan Size

	(1) Total	(2) Agri	(3) Industry	(4) Personal	(5) Trade
Rural	70.4	57.6	129.2	89.7	123.4
Urban	416.4	128.7	4719.2	139.3	636.1

Average loan size for all loans is calculated by regions - Rural & Urban in column 1, and then it is further segregated by the various sectors- Agriculture, Industry, Personal and Trade.Note that this number is in INR thousands.

The above statistics suggest that lead bankers will focus mostly on rural areas than urban areas for the following reasons. The main objective of a lead bank is to give out more priority sector loans, which refer to lending to agriculture, micro, small and medium enterprises, housing, education, export, etc. However, agriculture receives 45% of priority sector loans, while 20% is reserved for small industrial units. In addition, within these sectors, attention is paid to financially excluded and weaker sections of society, which are primarily located in rural areas. Since agricultural credit comprises 53% loans in rural areas and only 8% loans in urban areas, it is natural that the lead banker will focus on rural areas. Hence we expect that as lead banks become aligned, they will give more credit in rural areas than in urban areas.

Table 3 provides the share of credit that the lead banks provide in rural and urban areas. We see that in rural (urban) area leads banks have a markets share of 35.6% (27.1%). This is consistent with the selection of Lead Banks reflecting supply-side orientation of the bank and indicates the capacity of Lead Banks to influence credit delivery in the district.

Table 3: Lead Banks Share- Mean (in %)

	(1) Total	(2) Agri	(3) Industry	(4) Personal	(5) Trade
Panel A: Credit					
Rural	35.6	35.3	35.5	35.5	35.1
Urban	27.1	27.9	26.8	26.7	25.3
Panel B: Accounts					
Rural	32.4	33.1	30.5	32.5	30.9
Urban	26.4	28.4	25.5	26.0	24.5

Lead Banks' average lending share in terms of Credit Amount (Panel A) and Credit Account (Panel B) is reported by regions and sectors.

Finally, table 4 and 5 provides the summary statistics of the important variables separately for aligned lead banks, non-aligned lead banks and non-lead banks. On overage the leads banks are much larger than non-lead banks as they lend more and also has higher number of branches. The WALR is quite similar for the lead and non-lead banks. But the non-lead banks have lower NPA ratio. This is because private banks are non-lead banks and they have lower NPA.

Table 4: Summary Statistics for Rural Area

	(1) Aligned Lead	(2) Non-Aligned Lead	(3) Non-Lead
Credit (INR million)	1047.8 (1792.1)	1172.5 (1702.3)	413.8 (1596.0)
Accounts	13236.6 (16764.8)	16725.1 (17127.3)	5953.0 (13033.4)
Loan Officers	27.83 (25.40)	31.78 (25.78)	12.34 (19.68)
WALR	11.82 (1.688)	11.78 (1.678)	11.82 (2.694)
NPA ratio	0.0763 (0.115)	0.0811 (0.114)	0.0709 (0.132)
Branches	13.31 (11.24)	14.79 (10.77)	6.231 (10.01)

The table reports summary statistics for different subsamples - 1. Lead Banks in Aligned Districts , 2. Lead Banks in Non-Aligned districts , and 3. Non-Lead Banks. Note that the variable Credit is reported in INR millions.

Table 5: Summary Statistics for Urban Area

	(1) Aligned Lead	(2) Non-Aligned Lead	(3) Non-Lead
Credit	2466.7	7444.0	2384.3
(INR million)	(5744.5)	(52795.8)	(21984.9)
Accounts	12550.9	15686.5	5669.0
	(19825.3)	(21564.1)	(103702.6)
Loan Officers	39.70	62.28	24.34
	(48.03)	(195.4)	(139.4)
WALR	12.14	12.30	12.40
	(1.838)	(1.690)	(2.503)
NPA ratio	0.0773	0.0792	0.0647
	(0.115)	(0.112)	(0.126)
Branches	9.247	12.25	4.198
	(12.10)	(17.89)	(8.415)

The table reports summary statistics for different subsamples - 1. Lead Banks in Aligned Districts , 2. Lead Banks in Non-Aligned districts , and 3. Non-Lead Banks. Note that the variable Credit is reported in INR millions.

4 Empirical Strategy

Our data is rich enough to allow several empirical specifications. We choose the following which, we believe, allows for the most rigour and interpretability to estimate the impact of alignment on a bank within a district.

$$y_{bdt} = \beta.1\{\text{AlignedLead}\}_{bdt} + \phi_{bt} + \phi_{dt} + \phi_{bd} + \epsilon_{bdt} \tag{1}$$

where, y_{bdt} is our dependent variable for bank b in district d in year t. $1\{AlignedLead\}_{bdt}$ is an indicator which takes value 1 if the lead bank b in district d is aligned in the year t; i.e. the Convener bank is the same as Lead in that district for that year.

Credit market related outcomes of a bank in a given district can be influenced by large number of factors, such as demand and supply for credit, temporal changes within a bank or variation in capacity across banks in the market. We include bank-year, ϕ_{bt}, district-year, ϕ_{dt}, and bank-district, ϕ_{bd}, fixed effects. Inclusion of bank-year dummies addresses time-varying changes for a bank such as organizational changes, lending strategies or bank capital. District-year effects can account for time-varying local demand and supply factors, which can influence credit markets. District-year effects also absorb endogeneity of a district being aligned. Assignment of a bank as the Lead of a district depends on the pre-existing supply-side capacity of the bank in that region. To account for time-invariant resource differentials across banks within the local market, we include bank-district fixed effects. Since Lead banks did not change in the time period of our observations, bank-district effects also account for endogeneity in Lead bank selection.

4.1 Identification

In equation 1, the coefficient on $1\{\text{AlignedLead}\}_{bdt}$, β, measures the impact of alignment on credit outcomes of a bank in a district. Identification of this impact requires alignment indicator and the unobserved error term, ϵ_{bdt}, to be uncorrelated; i.e. $E(1\{\text{AlignedLead}\}_{bdt}).$ $\epsilon_{bdt} = 0$ However, the estimate of β would be biased if the change in alignment of a lead bank was influenced by unobservable bank-district-time factors. Thus, it is important to study the reasons for change in alignment.

In the time period of our study, change in alignment occurs due to the following reasons:

1. Formation of a New State—When a new state is formed, it may be assigned a differ-

ent Convener compared to the mother state. In such cases, the alignment status of districts in new state may change. For the period of this study, four new states were formed—Chattisgarh, Jharkhand, Uttarakhand and Telangana. Each of these states received a new Convener.

2. Change in Convenership of a State—RBI also changed convenership for Manipur in 2004 from Union Bank of India to State Bank of India.

In total there are 58 districts which change alignment. Out of these 58 districts, there were 44 districts which changed to aligned from non-aligned and 14 districts which changed to non-aligned from aligned.

For the estimate of β in equation 1 to be biased, residual bank-district-year components should influence state-level changes. It seems highly unlikely that a banking unit within a district leads to a change at the state-level. Further, most Lead Banks once appointed do not change and have remained the same since inception of the Lead Bank Scheme.[8] Inclusion of district-year and bank-districts effect account for these factors. Thus, what changes for the Lead Banks is only the opportunity to communicate with own CEO. The indicator for alignment of Lead Bank in a district is, thus, independent of residual component ϵ_{bdt}. Nevertheless, we also conduct robustness checks to lend weight to our estimation.

5 Results

5.1 Comparing Lead Banks against other banks within districts

As discussed above, priority sector lending is oriented toward rural markets. Thus, we present results separately for rural and urban areas.

Lead-Bank Performance in Rural Markets Panel A of table 6 shows the impact on credit disbursal in rural branches of Lead Banks under equation 1. Column (1) shows that the total credit disbursed by Lead Banks increases by 0.299 log points after alignment. We dis-aggregate the impact across four main sectors which constitute 91% of total credit market in rural branches.

[8]Some Lead Banks changed due to merger of banks. However, those cases were not responsible for alignment change since the Convener bank of that district was neither of the two merging banks; i.e. alignment remained 0 before and after merger.

Table 6: Bank-District Impact (Only Rural)

	(1) Total	(2) Agri	(3) Industry	(4) Personal	(5) Trade
Panel A: Log (1+Credit)					
$AlignedLead_{bdt}$	0.299***	0.290**	0.337*	0.136	-0.120
	(0.09)	(0.12)	(0.18)	(0.13)	(0.22)
Observations	83101	83101	83101	83101	83101
R-Squared	0.932	0.885	0.787	0.889	0.808
Panel B: Log(1+NOAC)					
$AlignedLead_{bdt}$	0.263***	0.235**	0.298***	0.175*	-0.060
	(0.08)	(0.10)	(0.11)	(0.10)	(0.12)
Observations	83101	83101	83101	83101	83101
R-Squared	0.949	0.926	0.870	0.910	0.890

Sample restricted to rural areas. Sample is trimmed at 1 and 99 percentile to remove the effect of outliers. Each specification controls for bank-district, bank-year and district-year fixed effects. Standard errors are clustered at the bank-district level. ***/**/* denote significance at the 1/5/10 percent level, respectively.

For the agricultural sector (column 2), the coefficient on Aligned Lead Bank is 0.290 with a standard error of 0.12—rural agricultural credit by a Lead Bank increases by 33% after it becomes aligned. Lending for industry also increases by 0.337 log points though the effect is only significant at 10% level. No effect appears for Personal and Trade loans.[9]

Panel B of table 6 shows the impact of alignment on the opening of new accounts in rural areas by Lead Banks. The total number of new accounts increases by 0.263 log points after a Lead Bank becomes aligned. This effect translates into nearly 30%. We also find a significantly positive increase in new accounts for agriculture, industry and personal sectors.

[9]Our choice of clustering standard errors at district level follows from Abadie et al. (2017). Results remain statistically similar if we cluster standard errors within bank-district strata.

Lead Bank Performance in Urban Markets Though PSL covers the needs of urban areas, PSL-oriented sectors such as agriculture occupy a smaller proportion in urban areas. For eg; agriculture credit comprises only 7% share in overall disbursal in urban branches. Thus, we expect a small or no impact on urban credit markets. Table 7 shows the results of Lead Bank performance in urban markets. No significant increase occurs for either total credit disbursal or new accounts of Lead Banks in urban areas after alignment.

Table 7: Bank-District Impact (Only Urban)

	(1) Total	(2) Agri	(3) Industry	(4) Personal	(5) Trade
Panel A: Log (1+Credit)					
$AlignedLead_{bdt}$	0.075	-0.005	-0.025	-0.133	0.052
	(0.08)	(0.16)	(0.17)	(0.09)	(0.13)
Observations	179906	179906	179906	179906	179906
R-Squared	0.921	0.834	0.865	0.904	0.853
Panel B: Log(1+NOAC)					
$AlignedLead_{bdt}$	0.037	0.051	0.142	-0.106	0.030
	(0.08)	(0.13)	(0.10)	(0.07)	(0.08)
Observations	179906	179906	179906	179906	179906
R-Squared	0.931	0.887	0.868	0.919	0.885

Sample restricted to urban areas. Sample is trimmed at 1 and 99 percentile to remove the effect of outliers. Each specification controls for bank-district, bank-year and district-year fixed effects. Standard errors are clustered at the district level. ***/**/* denote significance at the 1/5/10 percent level, respectively.

5.2 Mechanisms

Next we examine the channel that led to increase in credit in rural areas.

5.2.1 Employee Productivity

If our hypothesis is true, then lead banker would work harder and push the loans officers to reach out to more borrowers and disburse more credit. We should then see an increase in productivity of the loans officers in the aligned lead banks. We use two metrics of productivity—ratio of total lending and loan officers, and ratio of total credit accounts and loan officers. Column (1) shows the results for log of ratio of credit and loan officers. The coefficient in column (1) is 0.285 with a standard error of 0.08. Column (2) reports that the corresponding impact on log ratio of number of accounts and loan officers is 24.9%, which is significant at 1% level. These coefficients are very close to those in credit regressions (see table 6), suggesting that almost the entire increase in credit may be driven by increase in loan officer productivity.

5.2.2 Lending Rates

Lower lending rates may also increase credit uptake as opposed to higher effort on the part of loan officers. Column (3) reports the impact on Weighted Average Lending Rate (WALR). The coefficient is -0.051 which is very small and is statistically insignificant.

5.2.3 Effort substitution

While loan officers may increase effort in prospecting for new loans, they might simultaneously also reduce effort in screening or monitoring the loans to increase credit uptake. This will affect the asset quality and the level of non-performing assets. To detect this, we use ratio of Non-Performing Assets (NPAs) as a dependent variable in Column (4). NPAs remain nearly unchanged after the bank becomes aligned, suggesting that loan officers are not reducing their effort in screening or monitoring the loans.

5.2.4 Loan Officers

Finally, in column (5), we report the impact on total number of loan officers appointed in Lead Banks after alignment. The coefficient is 0.014 and the effect is insignificant. This result rules out allotment of more resources to banks after alignment change.

5.2.5 Competition from Private Banks

Another method to test our hypothesis of higher effort would be to check whether the impact of alignment decreases when facing more efficient competitors. This is because any residual demand in the market may already have been fulfilled by the more efficient banks. So the marginal benefit of effort would be lower in such markets resulting in lower effort in equilibrium, which would further reduce any credit increase because of alignment. Given that private sector banks in India are more productive (Sensarma, 2006), in districts with higher share of rural credit provided by private banks, the effect of alignment should be lower. We use the following specification for this hypothesis:

$$y_{bdt} = \beta.1\{\text{Aligned Lead Bank}\}_{bdt} + \gamma.1\{\text{Aligned Lead Bank}\}_{bdt} \times \%\text{Pvt.Rural Credit} + \phi_{bt} + \phi_{dt} + \phi_{bd} + \epsilon_{bdt} \quad (2)$$

Table 8 shows the results for log of credit, log of accounts, log of credit per loan officers and log of account per loan officers in columns (1), (2), (3) and (4) respectively. Across all specifications, the coefficient on Aligned Lead Bank indicator remains significant and positive. However, the interaction of Aligned Lead Bank indicator and share of private sector rural credit is significantly negative.

A one percent increase in share of private banks in rural credit attenuates the increase in total credit, total credit per loan officers, total accounts and total accounts per loan officers by 1.9%, 1.4%, 1.6% and 1.1%, respectively. Another implication of this result is the presence of slack or unmet demand in credit markets in India, which is lower when competition from private bank increases.

Table 8: Alignment Effect in Markets with Efficient Competitor

	Log(Cr)	Log(N)	Log(Cr/LO)	Log(N/LO)
$AlignedLead_{bdt}$	0.311***	0.271***	0.310***	0.271***
	(0.09)	(0.08)	(0.08)	(0.06)
$AlignedLead_{bdt} \times$	-0.019***	-0.014***	-0.016***	-0.011***
% Rural Lending by Pvt.	(0.01)	(0.00)	(0.00)	(0.00)
Observations	83101	83101	82997	82997

Sample restricted to rural areas. Sample is trimmed at 1 and 99 percentile to remove outliers. Each specification controls for bank-district, bank-year and district-year fixed effects. Following Abadie et al. (2017), standard errors are clustered at the bank-district level. ***/**/* denote significance at the 1/5/10 percent level, respectively. Log(Cr), Log(N), Log(N/LO) represents Log(Credit), Log(1+NoACs) and Log(1+NoACs/LO) repsectively.

5.3 District-level Impact

Does alignment of Lead Banks also impact aggregate market outcomes at the district-level? Lead Banks constitute the biggest banking firms in their respective districts, with branch share of nearly 20-25%. Thus, an increase in Lead Bank productivity may have broader impact as well. To test for aggregate impact in the district, we use the following specification:

$$y_{dt} = \beta.1\{\text{AlignedDist}\}_{dt} + \phi_d + \phi_t + \phi_{st} + \epsilon_{dt} \tag{3}$$

$1\{\text{AlignedDist}\}_{dt}$ is the indicator which takes value 1 if district d is aligned at time t, and 0 otherwise. We include district, year and state-year fixed effects. The coefficient on $1\{\text{AlignedDist}\}_{dt}$ indicates the impact on y_{dt} when the district becomes aligned. We are unable to include district-year effects since it is perfectly correlated with $1\{\text{AlignedDist}\}_{dt}$. While this may not be a concern if the alignment change of a district is uncorrelated with time-varying demand for credit, we acknowledge the absence of controls for demand for banking services may produce biased results.[10]

[10]Such a control was possible in equation 1 through the inclusion of district-year effects.

District-level Rural Impact Panel A of table 9 provides the impact on district-level credit disbursal after the district becomes aligned. Total credit disbursal in the district improves by 0.320 log points with a statistically significant impact at 1% level across all sectors. Panel B shows similar results for accounts as well. The total number of accounts increased by 0.207 log points at the district-level with the corresponding impact for agriculture, industry, personal and trade sectors at 0.184, 0.307, 0.287 and 0.117 log points, respectively.

Table 9: District-Level Impact (Only Rural)

	(1) Total	(2) Agri	(3) Industry	(4) Personal	(5) Trade
Panel A: Log (1+Credit)					
$AlignedDist_{dt}$	0.320**	0.208**	0.487**	0.391	0.267**
	(0.14)	(0.10)	(0.19)	(0.24)	(0.12)
Observations	10590	10590	10590	10590	10590
R-Squared	0.970	0.969	0.860	0.950	0.897
Panel B: Log(1+NOAC)					
	Total	Agri	Industry	Personal	Trade
$AlignedDist_{dt}$	0.207***	0.184***	0.307***	0.287*	0.117**
	(0.07)	(0.06)	(0.10)	(0.17)	(0.06)
Observations	10590	10590	10590	10590	10590
R-Squared	0.970	0.967	0.869	0.919	0.933

Sample restricted to rural areas. Sample is trimmed at 1 and 99 percentile to remove outliers. Each specification controls district, year and state-year fixed effects. We include coefficients on district-year fixed effects from equation 1 as proxy for time-varying demand for financial services in the district. Following Abadie et al. (2017), standard errors are clustered at the district level. ***/**/* denote significance at the 1/5/10 percent level, respectively.

As noted above, these effects may be biased without controlling for time-varying demand at the district level, which may explain the high magnitude of the coefficients.

District-level Urban Impact We also test for the corresponding equilibrium impact in urban markets. Table 10 provides the results. Similar to what we observed for bank-district effects, we find no district-level impact on higher credit disbursal or number of new accounts as shown in Panels A and B, respectively.

Table 10: District-Level Impact (Only Urban)

	(1) Total	(2) Agri	(3) Industry	(4) Personal	(5) Trade
Panel A: Log (1+Credit)					
$AlignedDist_{dt}$	0.007	0.010	0.047	-0.124	-0.160
	(0.03)	(0.08)	(0.07)	(0.12)	(0.17)
Observations	10241	10241	10241	10241	10241
R-Squared	0.987	0.971	0.966	0.984	0.968
Panel B: Log(1+NOAC)					
	Total	Agri	Industry	Personal	Trade
$AlignedDist_{dt}$	-0.009	0.078	0.043	-0.123	-0.124
	(0.03)	(0.08)	(0.06)	(0.13)	(0.18)
Observations	10241	10241	10241	10241	10241
R-Squared	0.980	0.967	0.925	0.975	0.947

Sample restricted to urban areas. Sample is trimmed at 1 and 99 percentile to remove outliers. Each specification controls district, year and state-year fixed effects. We include coefficients on district-year fixed effects from equation 1 as proxy for time-varying demand for financial services in the district. Following Abadie et al. (2017), standard errors are clustered at the district level. ***/**/* denote significance at the 1/5/10 percent level, respectively.

6 Robustness Checks

Our identification assumption is that the unobserved bank-district-year effects do not influence the alignment of districts or its change. Since the change in alignment occurs due to state-level factors such as the formation of new states, which are plausibly exogenous to local-level factors, we believe that the estimation strategy has credibility. Thus, local-level factors are unlikely to influence alignment. To further validate our results, we provide some robustness checks in this section.

6.1 Pre-Trends in Credit Variables

Pre-existing trends in credit disbursal or account generation may confound our results. Such a trend may occur for various reasons. Lead Bank personnel could have anticipated the change in alignment, or there could be coinciding unobservable factors unrelated to the alignment change which introduce a pre-trend in credit markets. We test this concern by using the following specification:

$$\begin{aligned} y_{bdt} \;=\; & \beta_{-1}\text{Before}^{-1} * 1\{\text{Lead}\}_{bdt} + \beta_0\text{Before}^{0} * 1\{\text{Lead}\}_{bdt} + \\ & \beta_{+1}\text{After}^{+}1 * 1\{\text{Lead}\}_{bdt} + \phi_{bt} + \phi_{dt} + \phi_{bd} + \epsilon_{bdt}. \end{aligned} \tag{4}$$

We replace the $AlignedLead_{bdt}$ dummy in equation 1 with three dummy variables - $Before^0$, $Before^{-1}$ and $After^{+1}$, which, take value 1 for the year of alignment change, exactly one year before the year of alignment change and for all years after the year of alignment change respectively, and 0 otherwise. We interact these variables with the indicator for the lead bank. β_{-1}, β_0 and β_1, therefore, estimate the impact one year before, the year of and the years after alignment change, relative to the years before alignment change. If $\beta_{-1} > 0$, the our results are biased upwards.

Table 11 presents the results for equation 4 with log of credit amount disbursed as y_{bdt}. β_{-1} remains statistically insignificant across all columns, indicating that credit disbursal for any sector by Lead Banks immediately before alignment change was not different from the years prior to that. Importantly, we also find β_0 to be statistically indistinguishable from 0, which indicates that the impact of alignment does not occur instantly. There may be two possible reasons for this. First, some changes in alignment may have occurred in the middle of the year, and so there is not enough time to see the impact in the same year. Secondly, it may take time for the lead banker to push his loan officers to disburse more credit.

Table 11: Pre-Trend Analysis for Amount (Only Rural)

	(1) Total	(2) Agri	(3) Industry	(4) Personal	(5) Trade
$Before^{-1}$	0.024	0.133	-0.052	-0.081	0.086
	(0.08)	(0.12)	(0.18)	(0.10)	(0.17)
$Before^{0}$	0.115	0.103	0.093	-0.064	0.153
	(0.09)	(0.13)	(0.24)	(0.11)	(0.24)
$After^{+}1$	0.291***	0.268*	0.196	0.174	-0.347
	(0.10)	(0.14)	(0.21)	(0.14)	(0.27)
Observations	83394	83394	83394	83394	83394
R-Squared	0.939	0.890	0.786	0.892	0.810

Sample restricted to rural areas. Sample is trimmed at 1 and 99 percentile to remove outliers. Each specification controls for bank-district, bank-year and district-year fixed effects. Following Abadie et al. (2017), standard errors are clustered at the bank-district level. ***/**/* denote significance at the 1/5/10 percent level, respectively.

In table 12, we use log of accounts as the dependent variable for equation 4. We find β_{-1} insignificant for the number of total, agricultural and industry accounts. For personal and trade sectors, there exist some pre-trends but the effect is negative.

Table 12: Pre-Trend Analysis for Accounts (Only Rural)

	(1) Total	(2) Agri	(3) Industry	(4) Personal	(5) Trade
$Before^{-1}$	-0.003	0.104	-0.021	-0.178**	-0.161*
	(0.07)	(0.09)	(0.12)	(0.08)	(0.09)
$Before^{0}$	0.107	0.115	0.130	-0.107	-0.077
	(0.07)	(0.10)	(0.14)	(0.09)	(0.14)
$After^{+1}$	0.273***	0.263**	0.237**	0.186*	-0.232*
	(0.08)	(0.11)	(0.11)	(0.11)	(0.13)
Observations	83394	83394	83394	83394	83394
R-Squared	0.953	0.929	0.871	0.911	0.890

Sample restricted to rural areas. Sample is trimmed at 1 and 99 percentile to remove outliers. Each specification controls for bank-district, bank-year and district-year fixed effects. Following Abadie et al. (2017), standard errors are clustered at the bank-district level. ***/**/* denote significance at the 1/5/10 percent level, respectively.

6.2 Comparison of Lead Banks across districts

Specification in equation 1 provides the impact on Lead Banks with respect to all other banks within districts which received the treatment of alignment change. As an alternative strategy, we compare treated Lead Banks against Lead Banks in other districts. The Lead Banks in other districts did not change alignment, i.e. they were either aligned or non-aligned throughout our sample. Thus, all the other Lead Banks serve as a control group for the treated Lead Banks. Panel A and B of table 13 provides the results on credit and amount for this quasi-experiment. We restrict our sample to rural areas and control for district, state-year and bank-year effects.[11]

Table 13: Comparison of Lead Banks across districts

	(1) Total	(2) Agri	(3) Industry	(4) Personal	(5) Trade
Panel A: Log (1+Credit)					
$AlignedDist_{dt}$	0.124**	0.142*	-0.065	0.034	0.076
	(0.06)	(0.08)	(0.16)	(0.07)	(0.12)
Observations	10207	10207	10207	10207	10207
R-Squared	0.958	0.951	0.793	0.892	0.823
Panel B: Log(1+NOAC)					
$AlignedDist_{dt}$	0.113***	0.118**	0.096	0.102*	0.077
	(0.04)	(0.06)	(0.09)	(0.06)	(0.09)
Observations	10207	10207	10207	10207	10207
R-Squared	0.955	0.940	0.844	0.880	0.871

Sample restricted to Lead Banks in rural areas. Each specification controls for district, year, state-year and bank-year fixed effects. Standard errors are clustered at the bank-district level. ***/**/* denote significance at the 1/5/10 percent level, respectively.

Consistent with our hypothesis, we find that the Lead Banks increase total credit disbursal by 0.124 log points and agricultural credit by 0.142 log points. Trade sector loans have statistically strong results as well. For total number of accounts and agricultural accounts, we see an increase of 0.113 and 0.118 log points, respectively.

[11] This specification has similar concerns as in equation 4; i.e. we are unable to control district-year effects since they will be perfectly collinear with the treatment variable. This will not be a concern as long as unobserved temporal demand is uncorrelated with change in alignment status.

6.3 Comparison of Non-Lead Banks across districts

Non-lead banks do not attend quarterly meetings, and thus do not have the opportunity to communicate even if own CEO is attending. Thus, we expect these banks to not experience any effect due to alignment change. To test that, we restrict our sample to non-lead bank district observations, and compare non-lead banks of districts where alignment changes against non-lead banks of other districts. We regress credit and accounts on the alignment indicator for the district. Table 14 shows the results for amount and accounts for non-lead banks.

Table 14: Comparison of Non-Lead Banks across districts

	(1) Total	(2) Agri	(3) Industry	(4) Personal	(5) Trade
Panel A: Log (1+Credit)					
$AlignedDist_{dt}$	-0.016	-0.025	0.135	0.033	0.235
	(0.07)	(0.11)	(0.15)	(0.09)	(0.15)
Observations	73221	73221	73221	73221	73221
R-Squared	0.909	0.856	0.737	0.863	0.766
Panel B: Log(1+NOAC)					
	Total	Agri	Industry	Personal	Trade
$AlignedDist_{dt}$	-0.064	-0.018	-0.035	-0.028	0.034
	(0.06)	(0.08)	(0.09)	(0.08)	(0.08)
Observations	73221	73221	73221	73221	73221
R-Squared	0.929	0.903	0.833	0.886	0.860

Sample restricted to non-lead banks in rural areas. Each specification controls for bank-district, bank-year and state-year fixed effects. Standard errors are clustered at the district level. ***/**/* denote significance at the 1/5/10 percent level, respectively.

Each regression controls for district, state-year and bank-year fixed effects. As expected, we see null effects in every regression. These results also rule out any negative spillover on the competitors in the market.

6.4 Impact on Deposits

Credit delivery is the main goal under the Lead Bank Scheme. As a placebo check, we look at whether the deposits get affected too. Table 15 shows that the deposits remain unaffected due to the change in alignment.

Table 15: Deposits - Bank District (Only rural)

	(1) Log(Deposits Amount)	(2) Log(Deposit Accounts)
$AlignedLead_{bdt}$	-0.063	-0.008
	(0.06)	(0.05)
Observations	83019	83019
R-Squared	0.962	0.964

Standard errors in parentheses.Each specification controls for bank-year,district-year and bank-district fixed effects. $^{*}\ p < 0.1$, $^{**}\ p < 0.05$, $^{***}\ p < 0.01$

This is unsurprising since Lead Bank personnel are unlikely to exert effort in mobilizing fund intake.

7 Conclusion

SOEs across the world are plagued with low productivity. While several scholars argue for privatization as a panacea to this issue, political compulsions and costly legal process in ownership transfer make this solution difficult to implement. In contrast, the evidence on administrative and management reforms in SOEs is scant due to a lack of adequate research design or data.

In this paper, we show that public sector employees may significantly increase effort when given the opportunity to strongly signal their productivity to supervisors, who can influence promotion and transfer decisions. We analyze the Lead Bank Scheme of the RBI, which aims at expanding district-level credit oriented toward some priority sectors. Under this scheme, RBI assigns plan implementation responsibilities to employees of one bank in each district, known as Lead Bank. Lead Bank personnel of a state convey the problems and challenges faced in their tasks in quarterly meetings. RBI assigns the responsibility of overseeing and conducting these meetings to the CEO of another bank, known as the Convener of the state. In some districts, where Lead and Convener banks

are same, therefore, Lead Bank personnel are reviewed by own CEO. We define the districts where Lead and Convener belong to the same bank, as aligned districts. Discretion and informal oral recommendations by senior management plays a crucial role in promotion and transfer decisions. Aligned lead bankers, therefore, have a higher incentive to signal effort and productivity.

To empirically test this theory, we exploit exogenous changes in the alignment status of a Lead Bank. We use the BSR data from RBI to observe credit disbursal from banks. At the bank-district level i.e. the level of intervention of the Lead Bank Scheme, credit inclusion in rural areas increase by 0.299 and 0.263 log points at the intensive and extensive margin, respectively. Further, consistent with the sectoral focus of the priority sector lending, most of the credit expansion occurs in the agricultural sector. We test for various drivers of credit markets. While productivity metrics of credit and accounts per loan officers improve after change in alignment, other drivers which may affect supply of credit, such as lending rates, asset quality, and the total number of loan officers, remain unchanged. These tests validate our hypothesis that when the lead banker is able to communicate with the CEO, he exerts more effort and pushes the loans officers to give out more credit.

Our results also provide interesting implications regarding the banking industry in India. Good management practices can improve the performance of firms in developing countries (Bloom et al., 2010). The banking industry in India has also received attention from this debate (Khandelwal, 2010). Broadly, our results suggest that if banks can provide more levers for employees to demonstrate effort in a manner that affects their promotions, productivity is likely to increase. However, the net benefit would require balancing these productivity gains against the cost of instituting such a review mechanism, which is beyond the scope of the paper. Understanding this trade-off holistically may provide valuable insights into organization design of banks in India.

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