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Financing and Productivity: Evidence from Indian Manufacturing Industry

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Abstract: India grows rapidly in recent years, not to mention its high-technology industry. What are secrets behind this fast-growing situation? This paper intends to find the answer using a firm-level panel data in India and examine the loan-productivity relationship via both contemporaneous and lagged models. I find positive and statistically significant results that loans play an important role in firms' performances.

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1. Introduction

A healthy financial structure and a strong financing system are important factors to a nation's growth. In most developed countries, the financial system not only supports national economic growth but also buttresses individuals' investment. On the contrary, developing countries do not have stable financial systems that make people in these areas remain poor, especially for those low-income economies. (GNI per capita is less than $1,025)[1] India is an exception among these countries for it has a relative strong financial system, which allows this nation grow faster. The GDP growth rate is 7.6% and the manufacturing growth rate is 9.3% in 2015. The former is 3 times higher than the United States and Euro, while, the latter is 2 times higher than these 2 areas. This paper narrows down the research scope, which examines the relationship between banking services (lending) in the financial system and manufacturing productivities in India.

Only when we understand the importance between financial system and growth, do we realized the connection between banking services and manufacturing productivities. Whether the financial system has something to do with the economic growth: This is the question. Two schools in the traditional development economics asserted different point of views on this topic. Some scholars claimed that financial institutions provided distinctive quality and quantity services and explained the reason why countries developed uncommonly (Goldsmith, 1969; McKinnon, 1973; Shaw, 1973). While other economists declared that financing was essentially to industries that responded other factors, which made cross-country differences in growth (Robinson, 1952). Nonetheless, these two thoughts were replaced by the neoclassic economic growth models, one of them said it was the output per worker and the saving rates that increased the economic growth (Solow, 1956). Based on these pioneers, economists are searching for more evidences not only by reinforcing theoretical perspectives but also using various data-types to do the practical analyses. On the field of theories, the role of intermediaries is important. The intermediaries enhanced the liquidity and funded long-lived projects simultaneously (Bencivenga & Smith, 1991). Additionally, these intermediaries had more information about firms and projects that cause higher growth rates (Greenwood & Jovanovic, 1990). Except intermediaries, the environment of banks and markets is another source, which explains the reason of growth. Banks tended to be better and increased the growth when the level of development is low; while markets performed well as income raised (Boyd & Smith, 1996). Moreover, banks relied less on the "legal financial system" than markets did (Rajan & Zingales, 2001), in other words, banks did better when the entire system is weak, contrarily, markets did well when the system is developed (Allen et. al., 2010).

[1] Source: World Bank, 2015.

To test these theoretical thoughts, other economists provided reasonable evidences by empirical experiments. The strong relationship between the growth and the financial system was found by using data of 80 countries during 1960 – 1989 (King & Levine, 1993). Similar research based on the US data to examine whether industries grow faster with better financial system and proved that finance is the key to the economic growth (Rajan & Zingales, 1998). Based on stock markets and firm-level data from 30 countries, the solid evidence showed that the stocks also raise the growth (Kunt & Maksimovic, 1998). Yet, the above studies would not have convincing results after the influential research published in the mid-twentieth century. The paper used the case studies of Argentina, Brazil, Chile, Germany, South Korea, Indonesia, and Taiwan after World War II and provided considerable evidences that better financial systems buttress the economic growth (McKinnon, 1973).

Some scholars found that close bank-firm relationships are credited for reducing agency cost and increasing firm access to capital, resulting in improved performance of the firm (Gerschenkron, 1962; Hoshi et al., 1994). Moreover, these bank-influenced firms enjoy increased access to capital through easier access to bank debt or preferential terms on loans and these firms should have better performance than independent firms. These relationships lead to higher profitability and higher growth rate for bank-influenced firms (Agarwal & Elston, 2001). Yet some argued that as a firm works more closely with a bank, it is harder to gain funds via other means and may only be helped up by the bank to support its growth. Additionally, with closer bank-firm connection, a bank is reluctant to provide funds because it has adverse information about the firm. Therefore, firms should diversify their financing sources (Kang & Stulz, 2000).

Other savants even took deeper examination by studying different financing sources. Internal and external funds are not perfect substitutes for reasons including transaction costs, tax advantages, etc. A firm with limited or no access to external financing may hinder a firm's growth (Levine, 2004; Knyazeva et al., 2009). In the presence of external constraints, firms depend on internal funds to finance growth, instead. While the internal financing on firm growth decreases with an increase in the access to an external bank credit facility. Only as the external financing constraints are alleviated, will firms rely less on internal funds and switch to external financing as the main source of financing for their growth (Rahaman, 2011). Unfortunately, no study has directly analyzed the link between increased access to bank financing and firm productivity, especially for smaller firms (Puri et al., 2014). Yet the most recent paper shed the light on the issue that they found most startups rely heavily on the bank-debt financing (Robb & Robinson, 2014).

1.1 Indian Banking Structure[2]

There are three major changes on Indian banking history: Early phase of Indian banks, from 1786 to 1969, Nationalization of banks and the banking sector reforms, from 1969 to 1991, and New phase of Indian banking system, with reform after 1991.

- *Phase one: Early phase of Indian banks (1786-1969):* The first bank in India namely, "General Bank of India" was established by British in 1786. After this year, three main banks including Bank of Bengal (1809), Bank of Bombay (1840), and Bank of Madras (1843) were formed by the East India Company. These three banks were called Presidency banks and operated as an independent unit until 1920 that were merged to the Imperial Bank of India, a private European- shareholders. Other banks such as Allahabad Bank, Punjab National Bank, Bank of India, and so on throve quickly during 1865 to 1913. While the Reserve Bank of India started in 1935. During phase one, the growth in banking was slow and these banks experienced periodic failures between 1913 and 1948, though there were almost 1,000 banks, which were small size. People in this period got confused about their decisions and faith and hence the Government of India legislated the Banking Companies Act, 1949, which was later viewed as per amending Act of 1965. This act bestowed the Reserve Bank of India (RBI) with extensive powers to supervise banks in India and become the central banking authority. Yet the public still had less confidence on these banks and inclined to Postal department for it offered comparatively safer facilities.
- *Phase two: Nationalization of banks and the banking sector reforms (1969-1991):* The Imperial bank of India was nationalized and started providing extensive banking facilities in rural and semi-urban area in 1955. After that, the government constituted the State Bank of India and gave it power to act as the agent of RBI to deal with banking transactions of the Union and states governments all over the nation. Moreover, there were 14 commercial banks nationalized in 1969 and after Independence, Indian government took initiatives to reform the banking sectors that 7 more banks nationalized in 1980. Consequently, about 80% banks were under the direct ownership of Indian government.
- *Phase three: New phase of Indian banking system (after 1991):* This phase is the milestone of banking system that introduced more products and facilities to accelerate the reforming process. The committee was set up under the chairmanship of M. Narasimham and its efforts were conspicuous that the entire nation is flooded with foreign banks and its ATM stations. In addition, with

[2] The information is from "Growth of Banking Sector in India: A Collective Study of History and its Operations" written by Manish Khanna and Saurabh Kaushal (2013).

development of technology, the emergence of phone banking and net banking that make financial system more efficient and convenient.

Banks are categorized by scheduled and unscheduled. The scheduled banks are listed in the second schedule of the RBI Act, 1934. These banks, usually are commercial banks and regional rural bank, have a paid-up capital and reserves of an aggregate value, which cannot be less than Rs. 5 lakhs[3]; besides, they have to satisfy the RBI that their affairs are carried out in the interest of depositors. Co-operative banks can also become a scheduled bank when they satisfy several certain criteria. Previous study shows that there were 64,918 branches of scheduled banks on June 30, 1999. Surprisingly, branches increase to 92,114, according to the RBI Annual Report 2013-14. This phenomenon gives us an obvious truth that commercial banks are momentous to India's economy. By testing the credit and the investment of commercial banks, the credit is 4.78 times than the investment in 2013 that indicates the overall performance of the scheduled banks is growing over the period (Paul, 2015). Contrarily, unscheduled banks are those not included in the second schedule of the RBI Act, 1934. Only three such banks exist in India. To give simpler concept of Indian structure, the hierarchy plot is presented in Appendix.

Due to the unique financial structure and financial reforms, authors examined the efficiency of these different types of Indian banks, especially commercial and public banks. The question on whether commercial banks is more efficient than the public banks has been debated for a long time. Some argued that the performance of Indian scheduled commercial banks as well as the state bank group perform effectively than other types of banks (Shanmugam & Das, 2004). And these commercial banks comprise more than three-fifth of financial system assets and dominate the whole banking sector in India as well as mobilize savings in growth process (Seshadri et al., 2010). Others claimed that public sector banks perform better and are more efficient than commercial banks (Mukherjee et al., 2002; Ram & Ray, 2004). No matter which bank-type in Indian, they both seem efficient in Indian society.

2. Research Method

2.1 Data, Sample Selection, and Construction of Variables

The primary data used in this study are obtained from the Prowess, which is maintained by the Center for Monitoring Indian Economy (CMIE). The Prowess is a large micro database that provides panel-level information for 37,545 firms in the manufacturing sector during 1987 and 2016. The second database is Indian Open Government Data Platform (OGDP), managed by the Indian

[3] A lakh is a unit in the Indian numbering system and it equals to 100,000.

government, containing national economic indicators. Both state-level, national-level gross domestic production (GDP) and GDP deflators are collected in this database at which the base period starts from 2004. The third database called Indian Office of the Register General and Census Commissioner (ORGCC) provides Indian demographic data on a 10-year-basis census (1991, 2001, 2011).

The main variables such as the amount of borrowings, the total sales, and the fixed assets given by the Prowess database start from 1987 to 2015. Yet most observations of these variables prior to 2002 are missing that will be dropped from the sample and the new period is between 2004 and 2014. In addition to these missing observations, firms with only two-year portfolio are also excluded because the performance is difficult to detect in a short time during the expansion period. Due to various industrial structures and financial conditions for each state in India, all variables are adjusted by the state-level GDP deflator to get the actual quantities. Furthermore, the demographic information, especially the population and the literacy rate, from the ORGCC is different in each state and has influence on firms' performance that should be included as controls to have more accurate results. Census data in 2001 and 2011 are used in the sample that the former suits years before 2011 and the later fits years after 2011.

2.2 Hypothesis and Econometric Model

According to previous literatures, findings of the causality between firms' productivities and financing from banks are limited that most papers tried to find the correlation first and then aimed at the causal effect. In this paper, I also tend to examine the correlations firstly by having three hypotheses indicating three method to calculate the productivity of a firm.

The first hypothesis utilizes the total sales; the second and the third hypothesis applies the gross and net fixed assets, respectively to detect the relation between financing and productivity. In these hypotheses, I expect to have the positive relation that a financing-influenced firm has better performance on its productivity.

The total factor productivity (TFP) model is broadly used to examine the correlation between the financing and the productivity; however, the labor factors in the Prowess database are insufficient to initiate the TFP model that the alternative model is the simple logarithm linear function presented as below.

$$\boldsymbol{ln(Y)_{ijkt} = \alpha + \beta_1 ln(Loans)_{ijkt} + \beta_2 ln\left(Loans_{ijkt} * GDP_{ijk(t-1)}\right) + \gamma X_{ijk(t-1)} + a_{ijkt} + \varepsilon_{ijkt}} \quad \textit{(1)}$$

where an individual firm is indexed i in the industry j at state k for each year t. Output (Y) defines a firm's productivity calculated by the total sales, the gross fixed assets, and the net fixed assets.

Borrowings from banks (Loans) are categorized in several groups including the aggregate loans, short-term loans, long-term loans; short-term loans from private and public sector banks, and long-term loans from private and public sector banks. Commercial banks, financial institutions, and so on are private sector banks; governmental banks, state-level banks, etc. are public sector banks. These two types of banks dominate 70% of financing in India implying the main channel for capital is mostly from these banks, which has the highest authority deciding whether or not lend the money to a firm.

Instead of adding control variables (state-level population and literacy rate), I also have interaction terms referred to state-level real GDP and types of borrowings to test their effects on the output that anticipated to be positive. Lastly, fixed effects such as year, industrial type, and state, are utilized in the model to correct for the time-invariant conditions that the unobservable factors in the past will continuously impact the current and future results, which are less efficient.

3. Result: Do Loans Matter?

3.1 Descriptive Statistics

Panel A of Table 1 reports the summary statistics using the panel data in the sample. The sample of Indian manufacturing firms has a mean total sales value of Rs. 28 million. Mean gross fixed assets and mean net fixed assets in the sample are around Rs. 19 million and Rs. 11 million, respectively. Mean of types of loans reflects the aggregate and the long-term borrowings are the main sources for improving firms' productivities. Panel B of Table 1 also reports the summary statistics in the panel data but all variables are transformed into logarithm functions that a negative mean in variables is originally zero or near zero. However, both short-term and long-term loans from public banks will be excluded from the sample for observations are not sufficient to run the model. This will slightly affect my results leading to the misspecification bias; nonetheless, private sector banks are more dominated than public sector banks in terms of borrowings for a firm. Panel C of Table 1 reports the summary statistics only for control variables in the panel data. Except the literacy rate, which is percentage, the real GDP and the population are in logarithm function.

3.2 Benchmark Results

I use firm-level output calculated in three various methods as a measure of productivity and analyze the correlation based on how much loans borrowed from banks whether or not is positive. Table 2 addresses the results of my Equation (1) with fixed effects and the standard errors are clustered at the state-level. Column (1) ~ (5) report results of different loans and their interaction terms when the output is the total sales. Coefficients of five types of loans are all highly significant at 1% level, and specifically, short-term loans and short-term loans from private sector banks increase the total

sales by 30% and 28%, respectively that implying firms prefer short-term loans to have temporary investment and keep as the cash flow in case. Coefficients of interaction terms, surprisingly, are negative indicating that a firm located at a richer state tends to borrow less from banks and vice versa. One of possible reasons is that I apply the total sales as the dependent variable that if a firm is profitable this year, it can utilize the revenue itself to do further investments.

Column (6) ~ (10) report the results when the output is measured by the gross fixed assets and most coefficients remain significance at 1% level. Aggregate loans and long-term loans have positive correlation with the gross fixed assets but the former is insignificant and the latter is only significant at 5% level. Both short-term loans and long-term loans from private sector banks raise the gross fixed assets by 22% ~ 23%. Similar results when the dependent variable is net fixed assets are reported in Column (11) ~ (15). Loans from private sector banks enhance the net fixed assets by 30% higher than those in the gross fixed assets. Furthermore, interaction terms are positive but insignificant when the dependent variables are gross and net fixed assets and these results infer that bigger firm size will have more borrowings from banks.

3.3 Firms in Computer Software Industry

India is prominence for its high-technology industry and it grows rapidly in the past decade. According to the World Bank, high-technology exports is 7.52% of all manufactured exports showing that most Indian firms based on high-technology may require massive capital to support their productivity. Thus, I analyze firms in the computer software only to detect the relationship and do the comparison.

Table 3 reports the results using Equation (1) with fixed effects but only for computer software firms. Standard errors are robust by state-level clustering. Total sales as the dependent variable, coefficients are positive but only short-term loans and long-term loans from private sector banks are significant that the former is at 10% level and the latter is at 1% level. In addition to the significance, the total sales increased by 75% when the long-term financing is from private sector banks. The possible explanation for this high percentage is that long-term loans give them more flexibility to invest their R&D. As long as the novel product or technology is launched, the value-added profit they attain is colossal. The interpretation of interaction terms is the same as those in Column (1) ~ (5) of Table 2.

The results are totally different from those in Table 2 applying gross and net fixed assets as dependent variables. Coefficients are negative though mostly are insignificant inferring the loans decline firms' productivities. Column (7) depicts that the gross fixed assets is decreased by 42%, statistically significant at 1% level. Short-term loans are used to do the cash-flow or to invest product shortly, while for computer software firms, not until the outcome, a time-capital consumed process,

is successful do firms keep borrowing, resulting in shirking their fixed assets. Column (11) ~ (15) also show the negative correlation even the results are insignificant. Interaction terms remain positive giving the similar interpretation as those in the previous table.

3.4 Firms in Non-Computer Software Industry

Results of computer software industry expressed in the previous section surprisingly differ from what I expected in which should show positivity. Now, I examine non-computer software firms to see any changes happened in these two groups.

Table 4 states the results for firms in non-computer software applying a panel data with fixed effects and state-level clustered standard errors. Similarly, results, regardless of the measurement of the output, are equal to ones in Table 1 that coefficients are positive and statistically significant indicating the positive correlation between financing and productivity is not driven by computer software firms.

4. Robust Specification

4.1 One-Year Lag in the Sample

$$\boldsymbol{ln(Y)_{ijkt} = \alpha + \beta_1 ln(Loans)_{ijk(t-1)} + \beta_2 ln\left(Loans_{ijk(t-1)} * GDP_{ijk(t-1)}\right) + \gamma X_{ijk(t-1)} + a_{ijkt} + \varepsilon_{ijkt}} \quad \boldsymbol{(2)}$$

The causal effect of loans is not obvious to detect within a year because some firms will have short-term borrowings (1-month, 12-month, or shorter) to have abrupt effect on the performance or will have long-term borrowings (15-month, 2-year, or longer) to have gradually influence on the productivity. This is why most paper and I try to detect the correlation at the first place; however, I still attempt to find the causality using one-year lag on loans and anticipate to have positive effect on the output.

Table 5 states the results using Equation (2) with fixed effects. Standard errors are robust by state-level clustering. Coefficients remain positive and highly significant but the interpretation is that the output increased as an additional percentage change in loans. The total sales raised by 31% and 28% as one percentage change in short-term loans and short-term loans from private sector banks, separately. The gross fixed assets and the net fixed assets are also increased by 24% ~ 30% as an extra percentage change in long-term loans from private sector banks. Interaction terms are negative when the dependent variable is the total sales inferring that firms borrow less when they are in a state with higher GDP.

4.2 One-Year Lag in Computer Software Firms

I also take the lag for firms in the computer software industry to detect the causal effect. Astonishingly, the results mostly equal to ones in Table 3 in which testing the correlation.

Table 6 addresses the outcomes in a panel data with fixed effects and state-level clustered standard errors. One percentage change in long-term loans from private sector banks enhance the total sales by 63% significant at 1% level. Still, for computer software firms, the long-term loans are more flexible for both paying back the debts and investing the R&D. Negative coefficients indicate that the gross fixed assets are declined due to an extra percentage increased in loans (except the short-term loans). Contrarily, the net fixed assets increase as one percentage change in loans, excluding the aggregate loans. Also, puzzlingly, all results are insignificant and a reasonable explanation is yet to be found. Interaction terms have the same issue as my coefficients in which lose significances.

4.3 One-Year Lag in Non-Computer Software Firms

The analysis in Section 3.4 proves the positive correlation is based on manufacturing firms excluding those in the computer software industry. I also want to examine whether the results are consistent taking one-year lag.

Outcomes reported in Table 7 are identical with Table 4 that coefficients are positive and significant at 5% or 1% level implying the productivities increase as an additional percentage change in different types of loans. Short-term loans remain important to the total sales (32%) and long-term loans from private sector banks are the dominance for both gross and net fixed assets (24% and 30%, respectively).

4.4 Geographic Location for Firms: North, South, East, West

Instead of using state information to locate the positions of firms, here, I apply the geographic information, according to the official mapping system of the Indian government, to re-categorize the sample and analyze the correlation.

Panel A of Table 8 reports the results of firms only in the north using a panel data with fixed effects. Short-term loans and those from the private sector banks are significant at 1% level that the total sales increase 23% and 19%. This outcome is consistent with the one in Column (1) ~ (5) of Table 1. Results only for firms in the south are showed in Panel B of Table 8 that short-term and long-term loans from private sector banks are important to the total sales (25% and 31%). Coefficients are positive; however, only the short-term loans are significant for firms in the east that the total sales raises by 36%. Results for firms in the west stated in Panel D of Table 8 are almost the same but higher than (31% and 28%) those in the north. It seems that short-term loans are vital for firms

regardless of their geographic location. The reason why most of loan-types are insignificant in the east remains a conundrum, but one of possible explanations is that the political environment is less stable and firms will have more short-term loans to maintain their cash-flows.

5. Conclusions

India is thriving rapidly that her GDP growth rate in 2015 is 7.6%, three-times higher than the world level (2.7%). In addition to the growth rate, the growth rate in the manufacturing industry also grows speedily that is 9.3% in 2015[4]. What is the secret behind these numbers? Indian unique financial system may be the answer to this question. According to the RBI Act. 1934, private and public sector banks are the dominances in the banking structure that about 70% borrowings are from these two types of banks.

How strong is the banking structure supporting the industrial growths? Literatures examining the research topic between the financial structure and the productivity of firms are many, but few of them have the solid evidence focusing on the causality. The causal effect of financing, borrowings from banks in particular, is rarely happened within a short period. Testing the correlation is suitable for this condition that lots of literatures show massive evidences. Therefore, this paper aims at examining the relationship between the financing and the productivity in Indian manufacturing industry and expecting to find the consistent results.

The total factor productivity (TFP) model is commonly used in analyzing this topic; however, lacking labor endowments in the Prowess database, the logarithm linear model is the alternative approach used in this study. Additionally, the sample is a firm-level panel data, including 16,060 firms from 2004 to 2014, with fixed effects. I have solid evidences that various types of loans are positively correlated with the output measured by the total sales, gross and net fixed assets. Short-term loans and loans from private sector banks are more important than other types. In addition to the significantly positive correlation, one-year lag analysis also proves that the output increased due to an extra percentage change in loans indicating the positive causality. Interaction terms in two equation functions are positive except those when the dependent variable is the total sales. Coefficients of those interaction terms are negative inferring the existence of diminishing marginal effect on the total sales.

Additionally, I make two subsamples containing firms in computer software and firms in non-computer software to detect whether or not the consolidate results are due to the high-technology firms. Surprisingly, long-term loans including those from the private sector banks are vital to computer-software firms. While, non-computer-software firms rely on short-term loans and those from private sector banks. Lastly, I re-categorize my sample using the geographic location and find

[4] Source: World Bank Database

that only the short-term loans have statistically positive correlation with the total sales in the north. A reasonable explanation for this puzzle is yet to find, but the unstable political environment could be one of the reasons.

This paper shed the light on the topic of the financing system and the productivity in Indian manufacturing industry. Yet the process of finding a direct causal effect is not finished that economists concentrating on this topic could apply the TFP model to it. Furthermore, utilizing the bank-level data, opposite to this paper, would show different angles of this research topic. Last but not the least, the exogenous factors such as the politics and the financial policies could be considered into the model to have further solid evidences.

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Table 1 – Descriptive Statistics

Panel A

--- Unit of Loans are Rs. Millions ---

Variables	Observations	Mean	Standard Deviation	Min	Max
Total Sales	110,195	28.132	288.257	0.001	25886.22
Gross Fixed Assets	110,195	19.442	213.227	0.001	16823.8
Net Fixed Assets	110,195	11.785	119.148	-2.493	11944.58
Independent Variables					
Aggregate Loans	110,195	5.248	87.512	-0.767	11622.64
Short-term Loans	110,195	1.652	28.802	0	6030.03
Long-term Loans	110,195	3.596	78.718	-0.767	11622.64
Private Short-term Loans	110,195	0.841	20.881	0	6030.03
Private Long-term Loans	110,195	1.521	37.233	0	5384.28
Public Short-term Loans	110,195	0.009	1.522	0	485.33
Public Long-term Loans	110,195	0.077	6.287	0	1385.62

Panel B

--- Logarithm Function ---

Variables	Observations	Mean	Standard Deviation	Min	Max
Log Total Sales	110,195	0.256	2.881	-7.655	10.162
Log Gross Fixed Assets	110,195	-0.087	2.492	-7.621	9.731
Log Net Fixed Assets	109,094	-0.681	2.560	-7.655	9.388
Independent Variables					
Log Aggregate Loans	25,864	-0.057	2.629	-7.621	9.361
Log Short-term Loans	14,551	-0.026	2.465	-7.606	8.705
Log Long-term Loans	14,279	-0.251	2.757	-7.621	9.361
Log Private Short-term Loans	10,292	-0.082	2.336	-7.621	8.705
Log Private Long-term Loans	8,073	-0.540	2.885	-7.601	8.591
Log Public Short-term Loans	51	-0.111	3.393	-6.949	6.185
Log Public Long-term Loans	501	0.055	2.573	-6.507	7.234

Panel C

--- Logarithm Function Except the Literacy Rate ---

Control Variables	Observations	Mean	Standard Deviation	Min	Max
Log Real GDP	110,195	16.617	1.083	13.263	18.367
Log Population	109,892	18.666	1.490	13.711	20.752
Literacy Rate	109,892	72.272	8.167	47	94

Table 2

--- Logarithm on Panel Data, Clustered Standard Errors at State Level ---

	Total Sales					Gross Fixed Assets					Net Fixed Assets				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Aggregate Loans$_{(t)}$	0.134***					0.042					0.091				
	(0.020)					(0.061)					(0.065)				
Aggregate$_{(t)}$ * GDP$_{(t-1)}$	-0.019***					0.013					0.007				
	(0.005)					(0.016)					(0.017)				
Short-term Loans$_{(t)}$		0.304***					0.206***					0.277***			
		(0.032)					(0.079)					(0.070)			
Short $_{(t)}$* GDP$_{(t-1)}$		-0.024***					0.011					0.006			
		(0.008)					(0.020)					(0.018)			
Long-term Loans$_{(t)}$			0.151***					0.196**					0.264***		
			(0.018)					(0.086)					(0.083)		
Long$_{(t)}$ * GDP$_{(t-1)}$			-0.019***					0.008					0.004		
			(0.004)					(0.023)					(0.022)		
Private Short-term Loans$_{(t)}$				0.284***					0.223***					0.299***	
				(0.026)					(0.057)					(0.046)	
Private Short$_{(t)}$ * GDP$_{(t-1)}$				-0.023***					0.004					0.002	
				(0.009)					(0.018)					(0.017)	
Private Long-term Loans$_{(t)}$					0.120***					0.231***					0.303***
					(0.011)					(0.065)					(0.061)
Private Long$_{(t)}$ * GDP$_{(t-1)}$					-0.007					0.006					0.001
					(0.007)					(0.019)					(0.018)
Gross Fixed Assets$_{(t-1)}$	0.591***	0.538***	0.646***	0.563***	0.632***										
	(0.026)	(0.023)	(0.030)	(0.022)	(0.040)										
Real GDP$_{(t-1)}$	0.246	0.184	0.340	-0.241	0.693	0.605*	0.759**	0.086	0.931**	0.489	0.772**	1.047**	0.169	1.124***	0.537
	(0.400)	(0.341)	(0.650)	(0.265)	(0.512)	(0.333)	(0.359)	(0.355)	(0.397)	(0.419)	(0.372)	(0.409)	(0.428)	(0.415)	(0.433)
Population	0.149	-0.069	0.706	1.329**	-0.086	0.725	0.678	0.444	0.147	0.255	0.432	0.139	0.361	-0.135	0.184
	(0.545)	(0.591)	(0.703)	(0.579)	(0.867)	(0.593)	(0.624)	(0.548)	(0.732)	(0.425)	(0.605)	(0.727)	(0.589)	(0.807)	(0.462)
Literacy Rate	0.005	0.014*	0.004	0.006	0.010	-0.001	0.003	-0.009	-0.001	-0.005	0.005	0.010	0.001	0.001	-0.000
	(0.009)	(0.009)	(0.009)	(0.008)	(0.007)	(0.008)	(0.008)	(0.011)	(0.010)	(0.011)	(0.010)	(0.011)	(0.012)	(0.011)	(0.011)
Constant	-2.386	1.372	-12.963	-22.227	0.348	-13.130	-12.815	-6.477	-3.171	-4.687	-9.181	-4.684	-6.259	0.826	-4.254
Num. of Observations	22275	12569	12277	8967	6980	22275	12569	12277	8967	6980	22195	12529	12234	8958	6973
Year FE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
State FE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Industry FE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 3

Subsample: Computer Software

--- Logarithm on Panel Data, Clustered Standard Errors at State Level ---

	Total Sales					Gross Fixed Assets					Net Fixed Assets				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Aggregate Loans$_{(t)}$	0.138					-0.168					-0.134				
	(0.201)					(0.152)					(0.190)				
Aggregate$_{(t)}$ * GDP$_{(t-1)}$	-0.010					0.088**					0.085*				
	(0.058)					(0.040)					(0.049)				
Short-term Loans$_{(t)}$		0.191					-0.418***					-0.153			
		(0.260)					(0.129)					(0.158)			
Short $_{(t)}$* GDP$_{(t-1)}$		0.024					0.217***					0.162***			
		(0.077)					(0.034)					(0.041)			
Long-term Loans$_{(t)}$			0.242					-0.046					0.049		
			(0.148)					(0.186)					(0.242)		
Long$_{(t)}$ * GDP$_{(t-1)}$			-0.041					0.053					0.039		
			(0.037)					(0.052)					(0.068)		
Private Short-term Loans$_{(t)}$				0.385*					-0.294					-0.122	
				(0.232)					(0.238)					(0.243)	
Private Short$_{(t)}$ * GDP$_{(t-1)}$				-0.036					0.197***					0.166**	
				(0.071)					(0.072)					(0.067)	
Private Long-term Loans$_{(t)}$					0.748***					-0.181					-0.120
					(0.225)					(0.232)					(0.260)
Private Long$_{(t)}$ * GDP$_{(t-1)}$					-0.167***					0.096**					0.109**
					(0.059)					(0.048)					(0.051)
Gross Fixed Assets$_{(t-1)}$	0.703***	0.611***	0.714***	0.557***	0.567***										
	(0.061)	(0.053)	(0.091)	(0.043)	(0.137)										
Real GDP$_{(t-1)}$	-1.338	-5.030**	-0.651	-10.873***	-3.610	-0.363	1.965	-3.192**	0.816	-2.640	-0.002	3.280	-3.831**	0.309	-3.196
	(2.603)	(2.371)	(3.849)	(3.856)	(6.709)	(1.590)	(2.887)	(1.354)	(3.305)	(2.309)	(2.028)	(2.561)	(1.634)	(3.411)	(3.051)
Population	4.417	11.772***	-0.913	13.064***	9.155	1.202	1.502	-3.466	4.780	-6.370	2.361	0.894	-0.196	2.162	2.519
	(3.769)	(2.720)	(4.538)	(4.583)	(8.771)	(2.797)	(4.883)	(3.085)	(5.087)	(4.855)	(3.326)	(6.092)	(3.244)	(4.995)	(6.064)
Literacy Rate	-0.025	-0.178***	-0.107	-0.314***	-0.215	-0.019	-0.022	-0.185***	-0.023	-0.243**	-0.007	-0.003	-0.174**	-0.041	-0.056
	(0.083)	(0.047)	(0.159)	(0.095)	(0.181)	(0.074)	(0.097)	(0.062)	(0.112)	(0.116)	(0.100)	(0.105)	(0.085)	(0.118)	(0.170)
Constant	-74.876	-189.432	24.990	-189.869	-143.278	-20.634	-31.661	81.497	-88.257	136.704	-43.946	-25.766	22.532	-39.089	-34.867
Num. of Observations	562	300	316	192	143	562	300	316	192	143	556	299	311	191	143
Year FE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
State FE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 4

Subsample: Non-Computer Software

--- Logarithm on Panel Data, Clustered Standard Errors at State Level ---

	Total Sales					Gross Fixed Assets					Net Fixed Assets				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Aggregate Loans$_{(t)}$	0.136***					0.040					0.090				
	(0.019)					(0.060)					(0.063)				
Aggregate$_{(t)}$ * GDP$_{(t-1)}$	-0.019***					0.013					0.007				
	(0.005)					(0.016)					(0.017)				
Short-term Loans$_{(t)}$		0.308***					0.210***					0.280***			
		(0.030)					(0.078)					(0.069)			
Short $_{(t)}$* GDP$_{(t-1)}$		-0.026***					0.008					0.004			
		(0.008)					(0.020)					(0.018)			
Long-term Loans$_{(t)}$			0.150***					0.197**					0.264***		
			(0.017)					(0.084)					(0.080)		
Long$_{(t)}$ * GDP$_{(t-1)}$			-0.019***					0.009					0.005		
			(0.004)					(0.023)					(0.022)		
Private Short-term Loans$_{(t)}$				0.285***					0.223***					0.300***	
				(0.025)					(0.057)					(0.047)	
Private Short$_{(t)}$ * GDP$_{(t-1)}$				-0.024***					0.002					-0.001	
				(0.008)					(0.018)					(0.018)	
Private Long-term Loans$_{(t)}$					0.114***					0.230***					0.304***
					(0.012)					(0.066)					(0.061)
Private Long$_{(t)}$ * GDP$_{(t-1)}$					-0.005					0.006					0.001
					(0.008)					(0.019)					(0.018)
Gross Fixed Assets$_{(t-1)}$	0.588***	0.535***	0.643***	0.564***	0.634***										
	(0.027)	(0.024)	(0.032)	(0.023)	(0.041)										
Real GDP$_{(t-1)}$	0.273	0.237	0.376	-0.097	0.726	0.615*	0.718**	0.151	0.885**	0.538	0.767**	0.983**	0.227	1.081***	0.580
	(0.375)	(0.330)	(0.601)	(0.250)	(0.482)	(0.325)	(0.342)	(0.331)	(0.364)	(0.408)	(0.358)	(0.406)	(0.401)	(0.383)	(0.432)
Population	0.025	-0.319	0.695	1.141*	-0.228	0.802	0.759	0.528	0.221	0.278	0.427	0.190	0.340	-0.037	0.037
	(0.472)	(0.605)	(0.614)	(0.643)	(0.772)	(0.587)	(0.596)	(0.525)	(0.701)	(0.428)	(0.601)	(0.696)	(0.571)	(0.772)	(0.455)
Literacy Rate	0.005	0.017*	0.005	0.008	0.012*	-0.001	0.003	-0.007	-0.001	-0.003	0.005	0.011	0.003	0.002	0.000
	(0.009)	(0.009)	(0.009)	(0.008)	(0.007)	(0.008)	(0.008)	(0.010)	(0.010)	(0.010)	(0.009)	(0.010)	(0.012)	(0.011)	(0.011)
Constant	-0.239	5.625	-12.917	-19.270	2.751	-14.520	-14.146	-8.211	-4.341	-5.277	-9.021	-5.426	-6.058	-0.782	-1.698
Num. of Observations	21713	12269	11961	8775	6837	21713	12269	11961	8775	6837	21639	12230	11923	8767	6830
Year FE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
State FE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Industry FE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 5

--- Logarithm on Panel Data, Clustered Standard Errors at State Level ---

	Total Sales					Gross Fixed Assets					Net Fixed Assets				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Aggregate Loans$_{(t-1)}$	0.13***					0.05					0.10				
	(0.02)					(0.06)					(0.07)				
Aggregate$_{(t-1)}$ * GDP$_{(t-1)}$	-0.02***					0.01					0.01				
	(0.00)					(0.02)					(0.02)				
Short-term Loans$_{(t-1)}$		0.31***					0.19**					0.26***			
		(0.04)					(0.09)					(0.08)			
Short $_{(t-1)}$ * GDP$_{(t-1)}$		-0.03***					0.02					0.02			
		(0.01)					(0.02)					(0.02)			
Long-term Loans$_{(t-1)}$			0.14***					0.19**					0.26***		
			(0.01)					(0.09)					(0.08)		
Long$_{(t-1)}$ * GDP$_{(t-1)}$			-0.01**					0.01					0.00		
			(0.01)					(0.02)					(0.02)		
Private Short-term Loans$_{(t-1)}$				0.28***					0.22***					0.30***	
				(0.02)					(0.07)					(0.06)	
Private Short$_{(t-1)}$ * GDP$_{(t-1)}$				-0.03***					0.01					0.01	
				(0.01)					(0.02)					(0.02)	
Private Long-term Loans$_{(t-1)}$					0.12***					0.24***					0.30***
					(0.02)					(0.07)					(0.06)
Private Long$_{(t-1)}$ * GDP$_{(t-1)}$					-0.01*					0.00					-0.00
					(0.01)					(0.02)					(0.02)
Gross Fixed Assets$_{(t-1)}$	0.60***	0.54***	0.64***	0.56***	0.65***										
	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)										
Real GDP$_{(t-1)}$	0.21	0.21	0.43	-0.07	0.57	0.36	0.42	0.26	0.45	0.42	0.43	0.61*	0.24	0.53	0.47
	(0.35)	(0.32)	(0.48)	(0.32)	(0.41)	(0.32)	(0.33)	(0.34)	(0.39)	(0.37)	(0.34)	(0.34)	(0.43)	(0.42)	(0.40)
Population	0.20	-0.10	0.19	0.98	-0.16	0.87	0.77	0.72	0.73	0.80*	0.73	0.48	0.85	0.62	0.93
	(0.69)	(0.63)	(1.06)	(0.64)	(1.16)	(0.55)	(0.59)	(0.57)	(0.61)	(0.46)	(0.54)	(0.61)	(0.68)	(0.74)	(0.58)
Literacy Rate	0.00	0.01	-0.00	0.00	0.00	-0.00	-0.01	-0.01	-0.01	0.00	-0.00	-0.00	0.00	-0.01	0.00
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Constant	-3.21	2.17	-3.49	-16.25	2.63	-15.02	-13.00	-12.31	-12.05	-14.37	-13.37	-8.95	-15.66	-10.81	-17.34
Num. of Observations	22156	12525	12185	8909	6946	22156	12525	12185	8909	6946	22076	12480	12147	8903	6939
Year FE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
State FE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Industry FE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 6

Subsample: Computer Software

--- Logarithm on Panel Data, Clustered Standard Errors at State Level ---

	Total Sales					Gross Fixed Assets					Net Fixed Assets				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Aggregate Loans$_{(t-1)}$	0.13					-0.12					-0.02				
	(0.14)					(0.11)					(0.12)				
Aggregate$_{(t-1)}$ * GDP$_{(t-1)}$	-0.01					0.07***					0.06**				
	(0.04)					(0.03)					(0.03)				
Short-term Loans$_{(t-1)}$		0.11					0.09					0.17			
		(0.30)					(0.15)					(0.18)			
Short $_{(t-1)}$ * GDP$_{(t-1)}$		0.03					0.08**					0.08			
		(0.08)					(0.04)					(0.05)			
Long-term Loans$_{(t-1)}$			0.22					-0.14					0.03		
			(0.15)					(0.10)					(0.15)		
Long$_{(t-1)}$ * GDP$_{(t-1)}$			-0.03					0.06**					0.04		
			(0.04)					(0.03)					(0.04)		
Private Short-term Loans$_{(t-1)}$				0.45*					-0.07					0.03	
				(0.25)					(0.24)					(0.29)	
Private Short$_{(t-1)}$ * GDP$_{(t-1)}$				-0.06					0.14**					0.13*	
				(0.07)					(0.06)					(0.07)	
Private Long-term Loans$_{(t-1)}$					0.63***					-0.09					0.07
					(0.22)					(0.18)					(0.13)
Private Long$_{(t-1)}$ * GDP$_{(t-1)}$					-0.12**					0.05					0.03
					(0.05)					(0.04)					(0.02)
Gross Fixed Assets$_{(t-1)}$	0.70***	0.64***	0.77***	0.59***	0.60***										
	(0.06)	(0.06)	(0.09)	(0.04)	(0.17)										
Real GDP$_{(t-1)}$	-2.92*	-2.25	-2.51	-3.61	-8.70***	-1.59	2.86	-2.59	0.37	-0.87	0.12	4.77**	-1.55	-0.24	-1.33
	(1.67)	(1.78)	(2.23)	(2.96)	(2.42)	(2.05)	(2.45)	(1.67)	(3.56)	(1.29)	(2.27)	(2.28)	(2.56)	(3.05)	(1.13)
Population	4.44*	1.81	3.68	-7.07**	6.36	4.73	-1.78	1.74	-4.77	1.43	3.08	-5.99	1.42	-14.28**	7.39
	(2.68)	(2.47)	(4.04)	(3.39)	(4.30)	(3.80)	(3.57)	(3.02)	(6.29)	(4.09)	(4.66)	(4.01)	(5.28)	(6.25)	(5.76)
Literacy Rate	-0.07	-0.02	-0.15**	-0.12**	-0.19*	0.03	-0.00	-0.15*	-0.02	-0.16	0.03	-0.07	-0.08	-0.16	-0.11
	(0.05)	(0.06)	(0.07)	(0.05)	(0.10)	(0.10)	(0.10)	(0.08)	(0.12)	(0.14)	(0.11)	(0.10)	(0.10)	(0.13)	(0.18)
Constant	-68.64	-25.55	-51.08	145.18	-81.41	-83.91	24.69	-16.43	86.36	-14.28	-59.16	99.89	-17.84	268.12	-124.74
Num. of Observations	554	294	315	183	137	554	294	315	183	137	549	293	311	182	137
Year FE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
State FE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 7

Subsample: Non-Computer Software

--- Logarithm on Panel Data, Clustered Standard Errors at State Level ---

	Total Sales					Gross Fixed Assets					Net Fixed Assets				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Aggregate Loans$_{(t-1)}$	0.14***					0.05					0.10				
	(0.02)					(0.06)					(0.07)				
Aggregate$_{(t-1)}$ * GDP$_{(t-1)}$	-0.02***					0.01					0.01				
	(0.00)					(0.02)					(0.02)				
Short-term Loans$_{(t-1)}$		0.32***					0.18**					0.25***			
		(0.04)					(0.09)					(0.08)			
Short $_{(t-1)}$ * GDP$_{(t-1)}$		-0.03***					0.02					0.01			
		(0.01)					(0.02)					(0.02)			
Long-term Loans$_{(t-1)}$			0.14***					0.20**					0.27***		
			(0.01)					(0.08)					(0.08)		
Long$_{(t-1)}$ * GDP$_{(t-1)}$			-0.01**					0.01					0.00		
			(0.01)					(0.02)					(0.02)		
Private Short-term Loans$_{(t-1)}$				0.28***					0.21***					0.29***	
				(0.02)					(0.07)					(0.06)	
Private Short$_{(t-1)}$ * GDP$_{(t-1)}$				-0.03***					0.01					0.01	
				(0.01)					(0.02)					(0.02)	
Private Long-term Loans$_{(t-1)}$					0.12***					0.24***					0.30***
					(0.02)					(0.07)					(0.06)
Private Long$_{(t-1)}$ * GDP$_{(t-1)}$					-0.01*					0.00					-0.00
					(0.01)					(0.02)					(0.02)
Gross Fixed Assets$_{(t-1)}$	0.59***	0.54***	0.64***	0.56***	0.65***										
	(0.02)	(0.02)	(0.03)	(0.02)	(0.03)										
Real GDP$_{(t-1)}$	0.25	0.23	0.47	-0.03	0.63	0.38	0.38	0.33	0.44	0.41	0.42	0.53	0.29	0.52	0.46
	(0.34)	(0.33)	(0.48)	(0.32)	(0.40)	(0.31)	(0.32)	(0.31)	(0.37)	(0.38)	(0.34)	(0.35)	(0.40)	(0.41)	(0.40)
Population	0.08	-0.17	0.09	1.07	-0.14	0.87	0.90	0.62	0.95*	0.67	0.67	0.59	0.69	0.96	0.70
	(0.66)	(0.64)	(1.06)	(0.67)	(1.17)	(0.57)	(0.57)	(0.58)	(0.57)	(0.50)	(0.57)	(0.61)	(0.65)	(0.66)	(0.60)
Literacy Rate	0.00	0.01	-0.00	0.00	0.00	-0.00	-0.01	-0.00	-0.01	0.00	-0.00	-0.00	0.00	-0.01	0.00
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Constant	-1.17	3.30	-1.92	-18.03	1.99	-14.98	-15.26	-10.74	-15.92	-12.06	-12.27	-10.82	-12.77	-16.87	-13.20
Num. of Observations	21602	12231	11870	8726	6809	21602	12231	11870	8726	6809	21527	12187	11836	8721	6802
Year FE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
State FE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Industry FE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 8

Panel A – North

Dependent Variable: Total Sales

--- Logarithm on Panel Data, Clustered Standard Errors at State Level ---

	(1)	(2)	(3)	(4)	(5)
Aggregate Loans$_{(t)}$	0.082*				
	(0.05)				
Aggregate$_{(t)}$ * GDP$_{(t-1)}$	-0.009				
	(0.02)				
Short-term Loans$_{(t)}$		0.226***			
		(0.06)			
Short $_{(t)}$* GDP$_{(t-1)}$		-0.007			
		(0.02)			
Long-term Loans$_{(t)}$			0.147*		
			(0.08)		
Long$_{(t)}$ * GDP$_{(t-1)}$			-0.027		
			(0.03)		
Private Short-term Loans$_{(t)}$				0.187***	
				(0.04)	
Private Short$_{(t)}$ * GDP$_{(t-1)}$				-0.011	
				(0.01)	
Private Long-term Loans$_{(t)}$					0.149**
					(0.07)
Private Long$_{(t)}$ * GDP$_{(t-1)}$					-0.043
					(0.03)
Gross Fixed Assets$_{(t-1)}$	0.630***	0.589***	0.714***	0.616***	0.777***
	(0.05)	(0.05)	(0.02)	(0.04)	(0.06)
Real GDP$_{(t-1)}$	1.247**	1.233*	1.646***	0.250	1.508***
	(0.50)	(0.67)	(0.63)	(0.73)	(0.58)
Population	-0.754	-0.832	-1.591	0.549	-3.659***
	(1.11)	(0.88)	(1.32)	(0.84)	(1.19)
Literacy Rate	0.038***	0.057***	0.021	0.034***	0.012
	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)
Constant	8.735	8.446	21.254	-8.725	50.540
Num. of Observations	3890	2174	2162	1615	1317
Year FE	Y	Y	Y	Y	Y
State FE	Y	Y	Y	Y	Y
Industry FE	Y	Y	Y	Y	Y

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Continue

Panel B – South

Dependent Variable: Total Sales

--- Logarithm on Panel Data, Clustered Standard Errors at State Level ---

	(1)	(2)	(3)	(4)	(5)
Aggregate Loans$_{(t)}$	0.128**				
	(0.06)				
Aggregate$_{(t)}$ * GDP$_{(t-1)}$	-0.020				
	(0.02)				
Short-term Loans$_{(t)}$		0.274*			
		(0.15)			
Short $_{(t)}$* GDP$_{(t-1)}$		-0.026			
		(0.05)			
Long-term Loans$_{(t)}$			0.114		
			(0.13)		
Long$_{(t)}$ * GDP$_{(t-1)}$			-0.016		
			(0.04)		
Private Short-term Loans$_{(t)}$				0.250***	
				(0.10)	
Private Short$_{(t)}$ * GDP$_{(t-1)}$				-0.018	
				(0.03)	
Private Long-term Loans$_{(t)}$					0.308***
					(0.06)
Private Long$_{(t)}$ * GDP$_{(t-1)}$					-0.075***
					(0.02)
Gross Fixed Assets$_{(t-1)}$	0.669***	0.612***	0.744***	0.618***	0.698***
	(0.02)	(0.01)	(0.04)	(0.02)	(0.02)
Real GDP$_{(t-1)}$	-1.574***	-2.866***	-1.827***	-2.168*	-1.300
	(0.35)	(0.69)	(0.62)	(1.16)	(0.95)
Population	3.787***	5.859**	5.514***	6.294	7.720***
	(1.34)	(2.72)	(1.80)	(4.08)	(2.90)
Literacy Rate	-0.081***	-0.114**	-0.110***	-0.105	-0.113**
	(0.03)	(0.05)	(0.03)	(0.07)	(0.05)
Constant	-58.119	-90.761	-87.146	-100.940	-128.303
Num. of Observations	4491	2503	2531	1801	1436
Year FE	Y	Y	Y	Y	Y
State FE	Y	Y	Y	Y	Y
Industry FE	Y	Y	Y	Y	Y

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Continue

Panel C – East

Dependent Variable: Total Sales

--- Logarithm on Panel Data, Clustered Standard Errors at State Level ---

	(1)	(2)	(3)	(4)	(5)
Aggregate Loans$_{(t)}$	0.175*				
	(0.10)				
Aggregate$_{(t)}$ * GDP$_{(t-1)}$	-0.026				
	(0.03)				
Short-term Loans$_{(t)}$		0.359***			
		(0.14)			
Short $_{(t)}$* GDP$_{(t-1)}$		-0.036			
		(0.04)			
Long-term Loans$_{(t)}$			0.262		
			(0.19)		
Long$_{(t)}$ * GDP$_{(t-1)}$			-0.052		
			(0.05)		
Private Short-term Loans$_{(t)}$				0.168	
				(0.12)	
Private Short$_{(t)}$ * GDP$_{(t-1)}$				0.035	
				(0.03)	
Private Long-term Loans$_{(t)}$					0.210
					(0.26)
Private Long$_{(t)}$ * GDP$_{(t-1)}$					-0.036
					(0.07)
Gross Fixed Assets$_{(t-1)}$	0.514***	0.499***	0.554***	0.480***	0.503***
	(0.04)	(0.02)	(0.04)	(0.01)	(0.03)
Real GDP$_{(t-1)}$	0.695	-1.094	1.566	-1.935	-0.483
	(1.25)	(1.11)	(0.97)	(1.99)	(0.86)
Population	5.166***	6.050***	1.867*	7.624***	-0.850
	(1.76)	(0.98)	(1.03)	(1.08)	(1.10)
Literacy Rate	-0.016***	0.008***	-0.015***	-0.007	0.002
	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)
Constant	-95.061	-108.034	-36.926	-133.826	17.714
Num. of Observations	1769	1050	940	726	533
Year FE	Y	Y	Y	Y	Y
State FE	Y	Y	Y	Y	Y
Industry FE	Y	Y	Y	Y	Y

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Continue

Panel D – West

Dependent Variable: Total Sales

--- Logarithm on Panel Data, Clustered Standard Errors at State Level ---

	(1)	(2)	(3)	(4)	(5)
Aggregate Loans$_{(t)}$	0.113**				
	(0.06)				
Aggregate$_{(t)}$ * GDP$_{(t-1)}$	-0.012				
	(0.01)				
Short-term Loans$_{(t)}$		0.311***			
		(0.09)			
Short $_{(t)}$* GDP$_{(t-1)}$		-0.025			
		(0.02)			
Long-term Loans$_{(t)}$			0.168***		
			(0.06)		
Long$_{(t)}$ * GDP$_{(t-1)}$			-0.018		
			(0.02)		
Private Short-term Loans$_{(t)}$				0.279**	
				(0.11)	
Private Short$_{(t)}$ * GDP$_{(t-1)}$				-0.025	
				(0.03)	
Private Long-term Loans$_{(t)}$					0.161***
					(0.04)
Private Long$_{(t)}$ * GDP$_{(t-1)}$					-0.007
					(0.01)
Gross Fixed Assets$_{(t-1)}$	0.551***	0.518***	0.589***	0.565***	0.600***
	(0.04)	(0.03)	(0.04)	(0.04)	(0.06)
Real GDP$_{(t-1)}$	1.392	1.266	1.257	0.390	2.636*
	(1.12)	(0.91)	(1.03)	(0.26)	(1.53)
Population	1.473***	1.802***	0.887	3.917***	1.962***
	(0.31)	(0.29)	(1.81)	(0.38)	(0.47)
Literacy Rate	0.000	-0.009	0.016	-0.024***	-0.016
	(0.01)	(0.01)	(0.02)	(0.00)	(0.02)
Constant	-19.291	-23.035	-12.654	-50.911	-25.844
Num. of Observations	7270	4141	3951	2890	2237
Year FE	Y	Y	Y	Y	Y
State FE	Y	Y	Y	Y	Y
Industry FE	Y	Y	Y	Y	Y

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Appendix

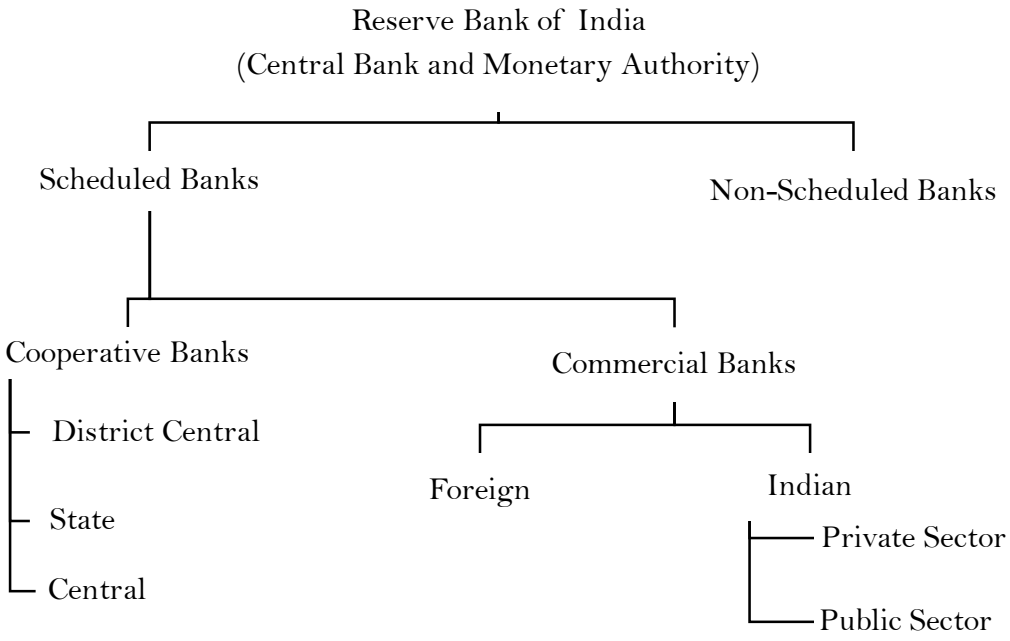

Figure 1 – Indian Banking Structure