

Impact of Improved Creditors' Rights on Bank Competition and Credit Allocation on Domestic Companies in India: Empirical Evidence

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ABSTRACT

This study empirically investigates the impact of SARFAESI Act on debt financing by foreign banks in India. Two-way error component model (fixed effect panel) was used for this within-country assessment. Taking advantage of a policy event (Securitization and Reconstruction of Financial Asset and Enforcement of Security Interests in India (SARFAESI), Act, 2002, which improved the creditors' rights (banks) in India; we empirically examined its effect on firms in India. Specifically, we analyse if the entry of a foreign bank in a district, post SARFAESI has improved credit access for the firms. SARFAESI gives the banks a right to liquidate collateral in case of a default, therefore it should encourage lending. The impact was expected to be more in the districts where the foreign bank has entered for the first time compared to other locations where a foreign bank already existed. Theoretical literature suggests that enforcement of the law should encourage more lending. Also, prior studies on credit allocation argue that use of collateral reduces credit rationing. Hence, combining these two strands of literature we can provide empirical evidence of the impact of stronger creditor's rights on reducing information asymmetry. Amount of bank borrowings pre and post event; after controlling for firm-level factors, was the model used for the analysis. The estimates indicate that High tangible firms received a larger share of bank loans, but that on average, younger firms (< 5 years) were less likely to get loans post-event.

Keywords: Credit allocation, Creditor rights, Information asymmetry, Panel data regression.

1. INTRODUCTION

The central argument related to lending is that loans are liable to default. Therefore, any monetary policy, which does not incorporate bankruptcy and default constraints will be an erroneous policy decision. Thus, an important function of the bank is to determine default candidates and circumstances. Creditors' rights, like securitization law, provide protection to the banks to recover their loans if a firm default. Literature related to law in finance suggests that, such a law would encourage banks to extend credit to all deserving firms.

However, literature related to bankruptcy suggests that, creditors' rights would make the banks biased towards liquidation. The bank, to safeguard its investment, would prefer to liquidate the firm at any sign of default. Another related argument suggests that, post introduction of the creditors' rights; banks would have no incentive to undertake costly state verification of the firms to whom they would extend credit. Both the arguments suggest that creditor's rights may affect the banking system, especially their monitoring responsibility and efficient credit allocation.

Based on the above argument, the question that remains unanswered was: how the firms would react to the implementation of Creditors' rights. Specifically, the argument that required empirical validation was: does the entry of foreign banks improve credit access for the firms when there is an improvement in creditor' rights in the domestic market. This objective comes from the literature based on bank competition that improvement in the legal rights was expected to induce credit allocation by the foreign banks.

The study would highlight the firm level influence of a securitization Law across all the districts where foreign banks are present and selected adjacent districts without foreign banks. We propose to use an exogenous policy reform, Securitization and Reconstruction of Financial Assets and Enforcement of Security Interests Act 2002 or SARFAESI Act that strengthened the rights of creditors in India in order to identify the effects of the change in the law on the volume of secured credit. The assessment would be done from both the demand and the supply sides of the firms. This comprehensive analysis would allow the regulatory bodies to determine the differential impact of their policy decisions with respect to credit allocation to various firms

1.1 SARFAESI Act, 2002: A Review

Prior to the SARFAESI Act, secured creditors did not have the right to seize and sell the securities of the defaulting firms in order to recover their dues. The Act ushered a new era of creditor rights by allowing secured creditors to bypass the lengthy court process and seize assets of defaulting firms. With the enactment of SARFAESI Act, Banks and Financial Institutions could take over the assets and management of any company that defaulted in payments for over six months by giving a notice of 60 days. Further, the borrowers could only appeal against the creditor's decision after depositing 75 percent of the defaulted amount. A sound secured transactions law was considered important for attracting funds from foreign banks thus promoting trade and growth. Further, a good creditor-friendly system was considered essential for the promotion of secured credit in India, which in turn was argued, would lead to economic prosperity in India. Hence, if SARFAESI Act does

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not meet these objectives of the central bank then the purpose of the act was not fulfilled.

The corporate houses complained that such a law would give banks excessive powers that they would abuse. It was also argued that the law was unfair since the law gave the borrowers practically no rights to appeal. Their basic point was that if they (borrowers) had sufficient resources to deposit 75% of the total amount, they would not default on the interest payments to begin with. All these arguments indicate that the SARFAESI Act did have an impact on the credit allocation in India but it was not without opposition from the firms. This paper attempts to empirically capture this impact, which will help in future policy decisions.

The rest of the paper is organized as follows. In section 2, we discuss the related literature. Section 3 describes the methodology adopted in the study. Results and empirical findings are presented in Section 4. Section 5 concludes the paper.

2. LITERATURE REVIEW

2.1 Literature review on Collateral usage

Since the objectives of SARFAESI Act are (i) to encourage new banks to operate in the market (ii) to improve credit allocation, we reviewed the literature on collateral-based lending, bank competition and creditors rights. Moreover, SARFAESI Act is effective only if the secured debt is involved a brief review of some empirical papers on collateral usage in credit allocation by banks is presented in Exhibit 1. These papers show that collateral use in bank lending is prevalent across different countries. The use of collateral (measured as %age of collateralized lending) varies from 13% (Spain) to 88% (Germany). Also, it may be noted that collateralized loan as a percent of the total loan is greater than or equal to 100 for countries such as Spain and Mexico. The above results indicate the importance of SARFAESI Act on credit allocation as collateral was used for secured debt.

Exhibit 1 :Literature review on Collateral usage in different Countries. As most of the creditors' rights were related to confiscate the collateral under its purview, literature has been mostly inclined towards the degree of collateralized lending.						
Author (year)	Country	Firm size and age	Type and size of Credit	Relationship Parameter	Use of collateral (%age of collateralized lending)	The degree of collateral usage(collateralized loan/ total loan)
Leeth/Scott (1989)	The U.S.	Small firms: mean number of employees: 12, mean age: 18 years	Mean loan size ~ 61,000 \$		62%	
Berger/Udell (1995)	The U.S.	Small firms: number of employees mostly < 50, mean asset size:2.3 m.\$ mean age: 14 years	Lines of credit	Mean duration: 11 years	53%	-
Boot/Thakor/ Udell (1991)	The U.S.	All firm sizes	All commercial loans		50-69%	
Harhoff/Körting (1998)	Germany	Small firms: the median number of employees: 10, median age: 11 years	all lines of credit	Mean duration: 13 years, mean number of lenders: 1.8	62%	-
Lehmann/ Neuberger (2001)	Germany	SMEs: turnover > 500.000 €, 54% younger than 10 years	Different loan types, loan size 50,000-5m. €	59% primary bank relationships, duration: 60% less than 6 years	88%	55%
Machauer/Weber (1998), Elsas/ Krahn (2000)	Germany	Medium-sized firms: turnover 25-250 m. €	Large loans (size > 1.5 m. €)	35% primary bank relationships (1996), mean duration > 20 years	66% (1992-96) 69% (1996)	69 %(1992-96) 32% (1996)

Exhibit 1: Literature review on Collateral usage in different Countries (Contd)						
Author (year)	Country	Firm size and age	Type and size of Credit	Relationship Parameter	use of collateral (%age of collateralized lending)	The degree of collateral usage(collateralized loan/ total loan)
Cressy/Toivanen (2001)	U.K.	Small Medium Enterprises	Small loans (mean: 19,000 £)	62% primary bank	-	
Degryse/Van Cayseele (2000)	Belgium	Small firms: employees < 10, turnover < ~7 m. €, mean age: 16 years	Mostly credits to consumers and to prepay taxes, small	58% primary bank relationships, mean duration: 8 years	26%	-
Jiménez/Saurina (2004)	Spain	All firm sizes	Different loan types, loan sizes mostly 24,000-150,000 €	Number of lenders: 1 (50%), 2 (20%), 3 (10%)	13%	mostly 100
La Porta/Lopez-de-Silanes/Zamarripa (2003)	Mexico	Large firms	Largest loans of each bank	20% related loans	53% (related firms) 84% (unrelated firms)	119% (related) 290 % (unrelated)
Menkhoff, Neuberger, Suwanaporn (2006)	Thailand	SMEs and large firms: Median asset size ~ 10 m.\$, mean age: 15 years	Loan size in extreme 10 % percentiles: 570,000-36 m.\$, mean: 9.6 m.\$	49% primary bank loans, mean duration: 8 years, mean number of lenders: 4.4	72%	53%

2.2 LITERATURE REVIEW: BANK COMPETITION

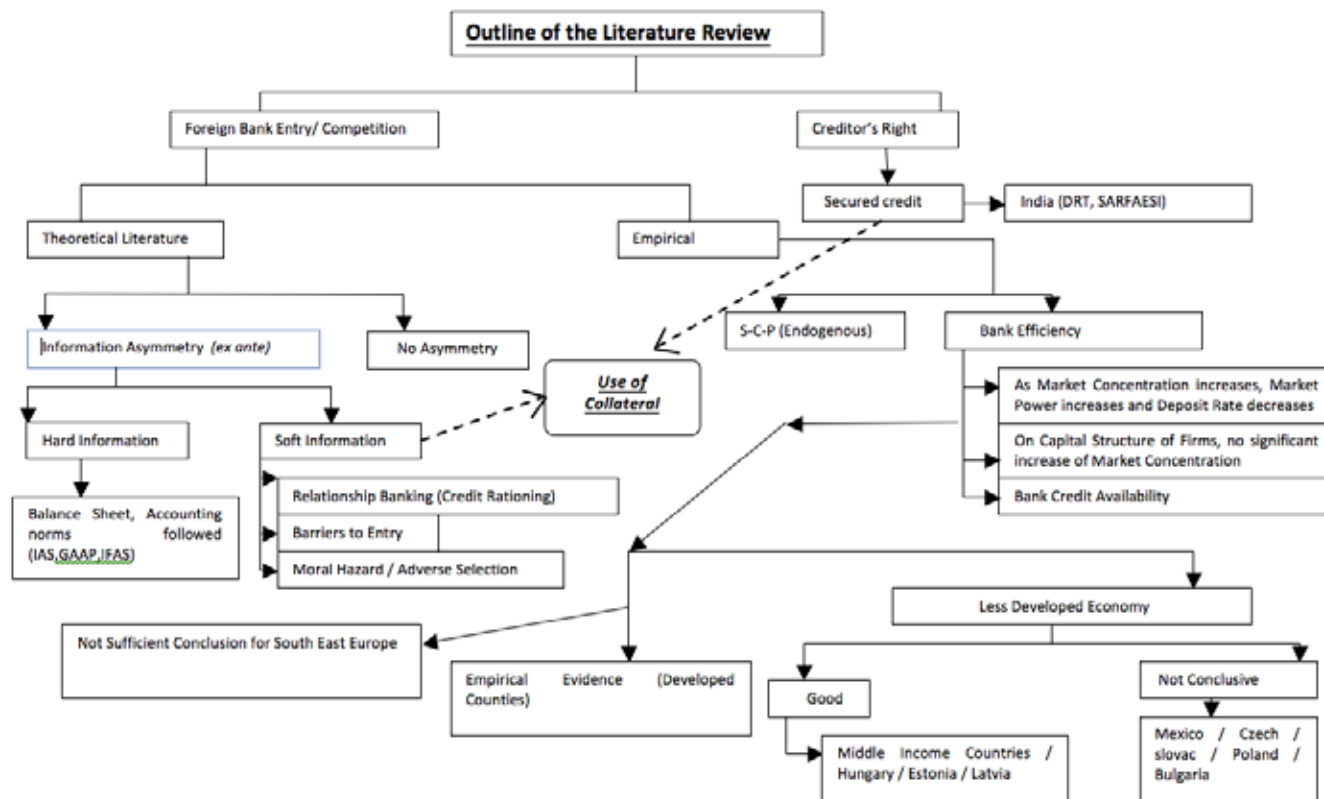


Exhibit 3: The outline of the Literature review shows the importance of collateral as a non-price covenant, which links the two strands of research. The literature on bank competition suggests the use of Collateral as a screening device for heterogeneous borrowers due to Information asymmetry, whereas creditors' rights suggest that collateral influences the propensity of debt financing as the strength of creditors' rights increases. This study intends to analyze the Demand side factors (neglected in the present work) which may affect credit access for the firms when the creditors' rights improve in India; a Less Developed Country (LDC). The study will also provide empirical evidence on the links between creditor rights and information asymmetry by analyzing the impact of foreign bank entry on firm financing post improvement in creditors' rights (SARFAESI).

2.3 Related Empirical literature on Competition

We present the findings from the empirical banking literature with established insights from studies of banking competition and regulation. We review the literature which presents the different methodological approaches used to address competition in banking. Table 3.2 summarises the empirical work on the impact of market concentration on credit access for the firms.

2.3.1 Structure-Conduct-Performance

The Structure-Conduct-Performance (SCP) model is originally due to Bain (1956). SCP research was quite popular until the beginning of the 1990s. The SCP hypothesis argues that higher concentration in the banking market causes less competitive bank operations and leads to higher bank profitability (but lower performance from a social point of view). To test the SCP hypothesis, researchers typically regress a measure of bank performance, e.g., bank profitability, on a proxy for market concentration, i.e., an n-bank concentration ratio or a Herfindahl – Hirschman Index (HHI). A representative regression specification equation is:

$$\text{Profitability}_{ijt} = \alpha_0 + \alpha_1 (\text{Bank Conc. Ratio})_{jt} + \sum_k \beta_k X_{k,ijt} + \varepsilon_{ijt}$$

where, profitability is a measure of bank it's profitability in banking market j at time t. $X_{k,ijt}$ are k control variables that may affect bank's profit. Banks operating in more concentrated markets are able (within the SCP paradigm) to set higher loan rates or lower deposit rates because of non-competitive behavior or collusion. Hence, the SCP hypothesis implies that i.e. that higher market concentration implies more market power and higher bank profits.

2.3.2 Bank Efficiency

The efficiency hypothesis provides an alternative explanation for the positive link between bank profitability and concentration or market share. The market structure itself, however is assumed exogenous. One of the important papers in the area of bank efficiency is that of **Berger and Hannan (1989)**. In their paper, Berger and Hannan (1989) study US retail deposit markets. Their analysis covers 470 banks operating in 195 local banking markets offering six different deposit products. Quarterly data from 1983 quarter III to 1985 quarter IV with 4047 observations that are cross-sectional data from 10 quarters were used to

run a pooled time-series cross-section regression with three firm concentration ratio as one of the regressors. Their results overall show a negative impact of market concentration on deposit rates, independent of the concentration measure being used. As control variables they included time dummies, the one-year growth in market deposits, and the proportion of bank branches in a total number of branches of financial institutions, a wage rate, per capita income, and a Metropolitan Statistical Area dummy variable.

The effects of banking competition on the firms' capital structure decisions seem even more subdued. For example, **Petersen and Rajan (1994)**, using a linear regression on a sample of 1389 (small firms, <500 employees) firms from the National Survey of Small Business Finance (NSSBF) in 1987, document that a $\Delta\text{HHI} = 0.1$ increases firm % Total Debt / Assets by only 0.36 percent. Similarly, Cavalluzzo, Cavalluzzo and Wolken (2002) used the Data from the 1993 National Survey of Small Business Finances (NSSBF) to investigate some of the factors that influence differentials in the credit market experiences of small business operators across different demographic groups. The sample consists of 4,570 small businesses in operation as of 1993 and includes 1,025 minority-owned businesses (431 African American-, 301 Hispanic-, and 303 Asian-owned), 816 female-owned, and 2,951 firms owned by white males). They did not find any significant aggregate effect of an increase in HHI on a variety of credit availability measures (though they do find significant positive effects for small firms owned by African Americans or females).

In the seminal paper by **Petersen and Rajan (1995)**, the effects of competition among banks on the availability of bank credit to firms were investigated for the US market. Petersen and Rajan provide evidence on the impact of bank concentration on the availability of credit. Analyzing the data from National Survey of Small Business Finance (NSSBF) in 1988-89, and using financial market concentration (Herfindahl index), they showed that the younger firms (<10 yrs) pay 34 basis points more in terms of interest rates than the older firms in the most concentrated market. However, in the most competitive market, this difference is as high as 86 basis points.

Exhibit 4: Empirical Work on the Impact of Market Concentration on Credit Access.					
Authors	Nation	Data(# sample /source)	Credit measure	Avg HHI/ Δ HHI (Δ HHI=0.1) ^a	Impact on Credit access
Hannan(1991)	US	STBc (8250/firms)	Loan Rate	0.14/-6 to 61***	Mostly +ve
Petersen and Rajan(1995)	US	NSSBFd(1400/small firms)	Prime Loan Rate	0.17/-170**(Young firms);46* (old firms)	+ve for old firms; -ve for young firms.
Haber, S., & Musacchio, A. (2004).	US	FRBe Survey(7078/US Banks)	Small Business Floating Rate	0.14/12***	+ve
Cavalluzzo et al (2002)	US	NSSBF Survey(2600/small firms)	Recent Interest rates	0.15/-8	No Effect
Degryse and Ongena (2005)	Belgium	One bank(15,044/loan small firms)	Loan rate	0.17/-4 to 5***	+ve
Fisher and Pfeil (2004)	Germany	Survey (5500/on German Banks) : conducted on 1992-95	Bank Interest margin	+0.20(west);+0.30(east)/20*	+ve

^a based on Degryse and Ongena (2003) paper . ^b unlike US, Germany is a bank dominated economy . ^c STB : Federal Reserve's Survey of the Terms of bank Lending ,^d NSSBF: National Survey of Small Business Finance (US), ^e FRB : Federal Reserve Bank . * Significant at 10%,** significant at 5% and *** significant at 1%.

Exhibit 4 lists the main findings of some of the selected empirical work related to the investigation of the impact of bank market concentration on measures of bank credit availability (access). The measure of concentration in all studies is either the three-bank concentration ratio (CR3) or the Herfindahl-Hirschman Index (HHI), which can be evaluated by squaring the market share of each bank present in the market and then summing it. The range varies from (0<HHI<1). **Result shows that for younger firm, the impact on credit access is ambiguous.**

Most of the existing literature analyses the competition among the banks and its effect on credit allocation. **Zarutskie, Rebecca (2006)** presented the evidence on the financial effect of bank competition using a panel of privately held firms. She studied the firm level impact of the Riegle-Neal Interstate Banking and Efficiency Act (1994) which increased the competitiveness of US banking market. The findings of the paper are: newly formed firms characterized by large information asymmetries have significantly less outside debts on their balance sheets post-deregulation as compared to the older firms. For the study, data on firm-level was used from Statistics of Income (SOI) Corporate Tax files for the period covering 1987-1998. The firms were divided into four age groups, age 1-5, 6-10, 11-15, and >15 years. The result showed the ratio (outside debt/ assets) decrease by 2.15% (1% significance level) post Riegle-Neal Interstate Banking and Efficiency Act (1994) only for the firms in the age bracket of 1 to 5 years.

In the paper by **Petersen and Rajan (1994)**, the effects of competition among banks on the availability of bank credit to firms for the US market. Petersen and Rajan provide evidence on the impact of bank concentration on the availability of credit. Analyzing the data from National Survey of Small Business Finance (NSSBF) in 1988-89, and using financial market concentration (Herfindahl index), they showed that the younger firms (<10 yrs) pay 34 basis points more in terms of interest rates than the older firms in the most concentrated market. However in the most competitive market this difference is as high as 86 basis points.

Another strand of literature exploits cross-country variation in creditor rights in order to investigate the relationship between legal institutions and corporate debt structure. It is based on the premise that the rights attached to securities become critical when managers of companies act in their own interest. These rights give investors the power to extract from managers the returns on their investment. Shareholders receive dividends because they can vote out the directors who do not pay them, and creditors are paid because they have the power to repossess collateral. The paper by **La Porta, Rafael, Florencio Lopez-de-Silanes, Andrei Shleifer, and Robert W. Vishny (1998)** examines how laws protecting investors differ across 49 countries. The author used an index aggregating different creditor rights. The index is formed by adding one point each to the following:

1. The country imposes restrictions, such as creditors' consent or minimum dividends to file for reorganization of the firm;
2. Secured creditors are able to gain possession of their security once the reorganization petition has been approved (no automatic stay);
3. Secured creditors are ranked first in the distribution of the proceeds that result from the disposition of the assets of a bankrupt firm; and
4. The debtor does not retain the administration of its property pending the resolution of the reorganization.

This index ranges from 0 to 4. The result showed that the average score of the above four parameters together for countries following English Origin Law is 3.11 as compared to that of the French origin (1.58), German origin (2.33) and Scandinavian origin (2.00).

Further, the differences are significant for each of the above-mentioned four parameters between countries of English and French origins. The mean-difference for each parameter is:

(1) Reorganization: 1.74 (1% SL), (2) Automatic Stay: -2.88(10% SL), (3) Secured creditors first : -2.34(5% SL) and (4) Management stay : -3.54 (10% SL) .

A paper by **Sujata Visaria (2006)**, investigates the loan level data set of a large Indian bank to estimate the impact of Debt Recovery Tribunal (DRT). Based on loan level data Visaria analyzed the impact of DRT on the time taken to recover the loans. This was one of the pioneering papers which studied the microeconomic impact of legal reforms in India. The sample consists of 15034 observations (borrowings from 1831 firms), which correspond to loans sanctioned before the DRT Act date. The dependent variable measures the probability that payment on an invoice occurs within 180 days of the invoice date. Her result showed that the establishment of DRT reduces delinquency in loan repayment by 11 percent (1% significance level) post DRT for loans above the amount of Rs 1 million.

Visaria (2006) analyzed the implication of a legal Act on credit allocation. Her analysis is limited to a with loan-level data from Mumbai and Pune (Maharashtra).

Analyzing the trend of the capital structure of the firms from 1999-2006 (refer Exhibit-2), I find that there is a fall in the proportion of secured debt to total debt in the time period 2002-03 which coincides with the SARFAESI Act (21st June,2002). Also the graph indicates that the change in the proportion of secured debt to the total asset is higher for the younger firms (firms less than 5yrs, represented as Age 5 in the Exhibits below) than the older firms(>10 yrs). In addition, there is a decrement in the (total debt/total assets) during the same period, except for the older firms (Age>10 yrs).

All this indicates a policy decision may have a differential impact on the firms, which may defeat the very objective of the regulatory body. This microeconomic, firm-level impact of a judicial process has not been analyzed in the existing literature.

Keeping these arguments in view, we propose to analyze the impact of SARFAESI Act on the firms demand for credit with due consideration for firm age, tangibility and past profitability.

3. METHODOLOGY AND RESEARCH DESCRIPTION

Data Source

For our objective, financial data related to the firms registered in the districts where the foreign banks are present was used. Objective 3 requires data to identify the districtwise location and date of opening for each foreign bank in India. For this, we obtained a CD containing the Directory of Bank Offices published by the Reserve Bank of India (RBI)². The directory provides the name, location; opening and closure date (if any) for every bank office in India from the year 1988 to 2006. Based on the data it is possible to map out the year and location of arrival of a new foreign bank. **Exhibit 6** shows the number of foreign banks by district and year from 1994-2006. As seen from the table, there has been marked increment in the number of foreign branches after the GATS in 1994. Yet the actual timing of entry across various districts is mostly staggered across the years. The reference period of the study

is from 1999 to 2006, which includes the SARFAESI law enforcement year (2002) in our assessment.

The primary financial database employed in the study is the Prowess (Release 3.0) generated and maintained by the Center for Monitoring the Indian Economy (CMIE).Prowess(3.0) is a panel data set where Indian and foreign firms with assets plus sales greater than 40 million Rupees (Approximately US \$ 800,000) are included. It provides the financial and accounting data of each firm along with descriptive variables including the ownership, listings, year of incorporation, and location of headquarters, registered offices etc. Using each firm's location, it was possible for us to analyse their financial status at the district level and associate this data to the district wise location of the new foreign banks in India.

The existing firms in those districts are used for our study. Firms' locations are determined primarily using their registered office address as mentioned in CMIE. The district wise location of each firm's registered office can be obtained from head office and registrar office is reported in the prowess database. In order to determine a firm's location, the district of the registered office is used for our analysis. The registered office is the address every firm with more than 20 persons must submit to the Registrars of Companies (RoC) as defined under the Companies Act, 1956. Since all communications to the company are addressed to the registered office and it is also the official address of the company where records, statutory books are kept, we chose this as the firm's location. However, if the address of the registered office is not available, we make use of the head office location (district).

Exhibit 6 : Variable Definition

SI No.	Variables	Definition/Source
1	Sales	Prowess (3.0)
2	Secured Borrowings	Prowess (3.0)
3	PAT,PBIT	Prowess (3.0)
4	Unsecured Borrowings	Prowess (3.0)
5	Assets	Prowess (3.0)
6	Land & Building	Prowess (3.0)
7	Plant & Machinery	Prowess (3.0)
8	Other Fixed Assets	Prowess (3.0)
9	Intangible Assets	Prowess (3.0)
10	Net Fixed Assets	Prowess (3.0)
11	Short-term loans	Prowess (3.0)
12	Term Loans	Prowess (3.0)
13	Capital-Work-in-Progress	Prowess (3.0)
14	Total Debt	Short term loans + Term Loans
15	Gross Fixed Assets	(Plant & machinery + land & Building + Capital Work-in-progress + Other Fixed Assets)
16	Return on Assets (ROA)	PAT/Assets
17	Tangibility (HTAN)	$(0.715 \times \text{receivables} + 0.547 \times \text{inventory} + 0.535 \times \text{fixed assets} + \text{cash}) / \text{total assets}$.

²On request, the CD was supplied by the Department of Economics and Planning (rechristened as DEPR), RBI.

How does the entry of foreign banks affect the firms, post SARFAESI is modeled as:

$$Y_{i,t} = \alpha + \mu_i + \delta_t + \beta_1 \text{FB}_t + \beta_2 (\text{FB}_t \times X_i) + \beta_3 X_i + \epsilon_{i,t} \dots \dots \dots (\text{MODEL I})$$

Where, $Y_{i,t}$ is debt ratios for each firm i in year t , FB_t is a dummy variable which is one if a foreign bank is present in the district in the year t . "X" is the firm level past performance variable like average ROA (ROAM) calculated three years before a Foreign bank has entered the district. The firm fixed effect is μ_i . δ_t is Year fixed effect (to capture any country-level time trend in borrowing pattern of the firms may be due to any reforms or policy change).

Similarly, impact of SARFAESI on credit allocation to the firms of different age categories:

$$Y_{i,t} = \alpha + \mu_i + \delta_t + \alpha_0 \text{SFI} + \alpha_1 \text{D1} + \alpha_2 \text{D2} + \beta_1 \text{SFI} \times \text{D1} + \beta_2 \text{SFI} \times \text{D2} + \beta_3 X_{i,t} + \epsilon_{i,t} \dots (\text{MODEL II})$$

Where, SFI is the dummy for SARFAESI Act (=1 for 2002 onwards 0 otherwise). Age of a firm (when a foreign bank entered for the first time in the district in which the firm is located) is computed and then classified into three age categories of <5 years, between 5 to 10 years and greater than 10 years. D1 and D2 is defined as D1=1 if the age of a firm is <5 years and 0 otherwise and D2=1 if the age of a firm is between 5 to 10 years else 0. X represents control variable.

4. RESULTS AND INFERENCES

Results are tabulated in Table-1 and 2 for ease of exposition.

Table -1: Entry of Foreign Banks and Credit Access (Model -I)

This table reports coefficients from regressions of bank loans district-wise, using OLS. The dependent variable is the various ratio of credit from column (1)-(3). Column (4) and (5) represents secured credit /total credit for high tangibility firm (75 percentile) and Group affiliated firms respectively. Observations from 2002-06 are included for non-financial firms located in a district with an entrant foreign bank. 'FB' is equal to one for firms located in a district with a foreign bank in the given year, and zero otherwise. 'ROAM' is a firm's 1999-2001 average return on assets. Standard errors are in parenthesis. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level respectively. HTAN represents high tangibility firms, > 75 percentile of the sample (common for both tables).

Dependent Variable	secured debt/total debt	total bank debt/total asset	total bank debt/total debt	HTAN(>75%tile)	Group Affiliated
	(1)	(2)	(3)	(4)	(5)
FB	-0.043*** (0.021)	-0.054** (0.025)	-0.044*** (0.023)	0.231*** (0.011)	-0.11** (0.02)
FB*ROAM		-0.01 (0.028)	-0.0021* (0.023)	-0.004 (0.007)	.0034 (0.055)
#Obs	13055	13055	13055	3250	7885
R-square	0.55	0.57	0.53	0.62	0.67
Firm FE (μ)	Y	Y	Y	Y	Y
Year FE (δ)	Y	Y	Y	Y	Y
ROAM * δ		Y	Y	Y	Y

Table -2: Enforcement of SARFAESI Act on Debt Financing (Model-II)

Dependent Variable	outside borrowings/assets	secured debt/total bank debt	total bank debt/total assets
	(1)	(2)	(3)
SFI	-0.277** (0.99)	-0.984*** (1.76)	-0.677** (0.023)
SFI*Ag_5	-2.112*** (0.42)	-2.157*** (0.411)	-1.411** (0.32)
SFI_Ag_5_10	-.292** (0.89)	-1.22** (0.27)	-8.1** (0.072)
Ag_5	0.157 (0.11)	.817 (.04)	-0.858 (0.4)
Ag_5_10	0.187	0.71 (0.11)	-0.108 (0.35)
ln(asset)	1.171** (0.328)	0.182** (0.012)	-0.078 (0.36)
TAN	1.16** (.218)	1.12** (0.772)	0.017** (0.003)
R-square(adj)	0.68	0.66	0.69
Firm FE (μ)	Y	Y	Y
Year FE (δ)	Y	Y	Y

Table -1 suggest that the entry of foreign bank in a district, post SARFAESI decreases credit access for the firms. Also, past profitability is not a significant factor for credit availability. However, group affiliated companies show greater credit access post SARFAESI.

Table-2 suggest younger firms(<5yrs) are credit rationed compared to older (>10 Years) firms. To elaborate, consider column (2) where the result suggest that post SARFAESI ratio of secured debt to total debt shows (-2.157) negative and significant coefficients as compared to the benchmark firms (i.e; firm >10 years of age). Similar results can be inferred for the firms aged between 5 to 10 years.

5. CONCLUSION

This study suggests that enhanced creditors' rights may not improve the credit allocation as expected by the policymakers. This is true for smaller, less tangible and independent (not affiliated to prominent industry-groups). This is because smaller and younger firms are reluctant to borrow as they lack collateral for the secured debt. In addition, SARFAESI provides more power to the creditors on collateral-based lending that banks would prefer lending to firms with high tangibility so that they can recover the dues in case of default. Our experiment was based on the presence of foreign banks in a district, which, due to information asymmetry, may not have much information about local firms. This limits their lending decisions (as suggested by literature). However, enhancement of creditor rights should encourage lending by foreign banks. Also, increased competition among the banks due to the entry of foreign banks in the oligopolistic market should be preferable for credit allocation to younger firms. Nevertheless, our analysis through Model II suggests otherwise. Younger firms did not benefit from SARFAESI in terms of credit requirement. This suggests that further studies are required to ascertain that stronger creditor rights may encourage better credit diffusion in an emerging market where information asymmetry between firms and banks is very high.

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