

ECONOMIC IMPACT ANALYSIS

RE-PRIORITIZING PRIORITY SECTOR LENDING IN INDIA

Impact of Priority Sector Lending on India's
Commercial Banks



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Executive Summary

Directed lending or priority sector lending (PSL) has long been used by developed as well as developing nations as an instrument to channel credit at preferential rates to strategic sectors of the economy that have been marginalized by institutional credit. However, experience of countries that have used directed credit programs shows that the overall costs of implementing such programs are enormous relative to the benefits that they generate, thus reducing the net benefits to the economy. Consequently, several countries (barring a few, including Brazil and India) have phased out their directed credit policies, or are in the process of downsizing them despite the fact that these programs are extremely difficult to discontinue once introduced.

India adopted priority sector lending policy more than 40 years ago to correct the imbalances in certain strategic sectors of the economy namely, agriculture and small scale industries. Over the years, credit disbursed to these sectors through the PSL channel has increased multifold, with the norms being mandated on domestic as well as foreign banks. Data show that four decades later, the effect of priority sector lending on growth has varied across sectors. On the other hand, the costs incurred by scheduled commercial banks (SCBs) in lending credit to priority sectors, specifically agriculture, indicate a need to review the very definition of priority sectors, in order to accommodate the changing global environment and to ensure competitiveness of India's banking industry in the face of the ongoing global financial instability.

The focus of this study is to evaluate the impact of India's priority sector lending on the banks operating in India using available data and evidence while taking a closer look at the revised guidelines on PSL introduced by the Reserve Bank of India (RBI) in 2012. Specifically, the study analyzes the growth of credit supply to three major priority sectors – agriculture, micro and small enterprise (MSE) sector and exports and evaluates the growth of these sectors in the light of the costs of lending to these priority sectors by public, private and foreign sector banks.

The main findings of the study are:

- Experiences of countries like Japan, Korea, China, Brazil, and Thailand suggest that directed credit lending programs might not always be efficient in making financing available to certain sectors because of the high costs of implementing such programs.
- In India, priority sector lending has increased significantly over the years. For agriculture, it has increased at a compound annual growth rate (CAGR) of 25 percent from 2001-02 to 2011-12, for export at 20 percent and MSEs at 23 percent.

- While MSEs and export sectors have leveraged the increased supply of credit to grow, growth of the agriculture sector has not kept up with the growth in credit supply – stagnating labor productivity, diminishing capital productivity, deteriorating asset quality, falling Gross Domestic Product (GDP) to PSL ratio - primarily due to sector specific factors like dependence on monsoons and excessive fragmentation of land holdings.
- An analysis of available data shows that, after controlling for factors such as exchange rate, interest rate, area under cultivation, rainfall and number of MSEs, a 100 percent increase in the PSL to the export sector increases the export GDP by 76 percent. The same increase in PSL to MSE sector increases manufacturing GDP by 41 percent. However, in case of agriculture, a 100 percent increase in the PSL to the sector increases agricultural GDP only by 11 percent, thus indicating the inability of the sector to yield returns commensurate with the increased credit supply.
- There is a variation in the achievement of sectoral and sub sectoral targets across the three main categories of banks, i.e., public sector, private sector and foreign banks. The differences in the underlying business models – mass banking *vis-à-vis* servicing high net worth individuals and corporates – determines their ability to achieve PSL targets, and hence this observed variation.
- Notwithstanding the above, PSL is very costly for banks relative to the returns that it generates for them. The difference between the returns and costs on small loan sizes (INR 10,000) for public sector banks is (-) 27.6 percent, for private sector banks it is (-) 12.7 percent, and (-) 11.7 percent for foreign banks. While capital infusion into public sector banks by the Government allows them to lend to priority sectors in spite of high non-performing assets (NPAs), the situation is quite different for private and foreign banks which do not have the luxury of such Government support.
- The policy design to compute a bank's PSL target for a particular year is based on previous year's Adjusted Net Bank Credit (ANBC) or credit equivalent amount of the bank's off balance sheet exposure. The 'ad-valorem' nature of this requirement could create a perverse incentive for banks to not scale up overall lending as this would increase the bank's PSL targets for the subsequent year (which might not be profitable due to the high costs associated with PSL).

An assessment of the costs that PSL imposes on the banking industry and the impact that this has on the growth of some priority sectors like agriculture, indicates (a) a need to re-prioritize the priority sectors for banks based on their underlying business models and (b) revitalize specialized institutions such as co-operative societies and regional rural banks to meet the credit needs of these sectors in the long run. In light of this, we recommend:

- Resetting PSL targets based on the business models of different types of banks – public sector, private sector and foreign. Export credit must be revitalized as a priority sector and promoted to stimulate economic growth.
- Developing a risk minimization plan for agriculture by improving rural infrastructure, promoting contract farming, agro processing and agricultural insurance and making it more attractive to private investors.
- Using innovative market driven instruments such as tradable priority sector lending certificates (to let the market determine the institutions that are best equipped to lend to and service loans to

these sectors, and those who can best diversify the risks from such lending) to make credit available to priority sectors, at the same time ensuring viability of commercial banks.

- Strengthening Cooperative Banks, Regional Rural Banks, and Microfinance Institutions for last mile connectivity and encouraging opening of “small” banks.
- Promoting enablers like an extensive credit information system to create a robust credit infrastructure and a healthy credit culture.
- Using technology to reduce cost of delivery to priority sectors.

In conclusion, the changing global and domestic environment emphasizes the need to devise alternate channels to disburse credit to relatively less productive sectors like agriculture and shift focus of bank credit to growth oriented sectors like export in order to achieve the twin objectives of shielding the Indian economy from the global financial crisis and steering it on to the path of economic growth and development.

Introduction

Directed lending is the practice of extending loans on preferential terms and conditions to certain priority sectors that have limited access to formal credit at reasonable rates. Many countries used directed lending programs (or directed credit programs) to meet development objectives in the 1950s and 1960s with varying success. For instance, in Japan and South Korea, well-run directed credit programs helped shape industrial sectors in the early years of development. However, in Brazil, directed credit was not used as intended and raised costs for borrowers in the non priority sectors. Moreover, once introduced, directed credit programs were found difficult to be discontinued.¹

India's program of directed credit, also known as priority sector lending (PSL), has been in operation since 1969. The program requires commercial banks—public, private, and foreign—to extend loans to the agriculture, exports, small business, housing, and economically weak sectors in general. Although the ultimate purpose of PSL is to promote growth, its mandatory nature could undermine banks' efficiency and profitability and inhibit expansion of banks in India, especially foreign banks.

In this study, Nathan Economic Consulting India Private Limited (Nathan India) assesses the impact of PSL requirements on commercial banks in India.² It evaluates the costs and benefits of PSL, and reflects on the experience of other countries to recommend alternative models for meeting PSL objectives more effectively. Chapter 1 summarizes the economic literature on the rationale, forms, and advantages and disadvantages of directed credit, and the experience of five countries with directed credit programs. Chapter 2 describes India's PSL guidelines and the characteristics of different types of banks operating in India. Chapter 3 analyzes the impact of PSL in India. Chapter 4 offers policy recommendations.

1. Directed Credit – Forms, Effects, and Lessons

Governments in developed and developing economies use directed credit programs to channel credit to sectors whose low returns and long gestation periods make them less attractive to private investors, and to overcome “imperfections” in the free market operation of the banking system that make institutional credit hard to come by for such sectors. These imperfections include asymmetric information about a borrower’s credit history and the failure of financial institutions to recognize the social benefit of lending to people who need credit but cannot readily comply with standard requirements for acceptable collateral or financial statements. In theory, directed lending overcomes these imperfections and provides fair and efficient credit to the sectors.³

Forms of Directed Lending

Governments assume the responsibility of channeling and regulating credit flow to certain sectors in order to promote industrialization and the growth of small industries, to encourage the introduction of new agricultural production techniques, to achieve income distribution objectives, and to house the poor. Directed credit programs take various forms, including the following:⁴

- **Mandatory lending requirements.** Commercial banks are required to lend a certain portion of their portfolio to specific sectors.
- **Refinancing schemes.** These schemes allow banks to borrow funds from the central bank for specific use at a rate lower than what other banks would normally charge.
- **Interest rate subsidies.** Governments charge a below-market interest rate for a specific line of credit and specify interest rate ceilings (on deposits or loans, or both), that might vary by sector or loan term.
- **Credit guarantees.** Through guarantees, the lending institution bears part of the risk of the loan.
- **Development Financial Institutions.** These specialized institutions provide specialized credit.

Of these forms, mandatory lending requirements are the most widely used.

Positive and Negative Effects of Directed Lending

While advocates of directed lending say it does what market forces fail to do—lift up weaker sectors—opponents say it diverts funds from productive sectors,⁵ imposes economic costs in the

form of loan losses and payment defaults, and imposes opportunity costs of lending to non priority sectors of the economy.⁶

Among the positive effects of directed lending are social returns and improved lending portfolios of banks. According to economic literature, directed lending allows commercial banks to generate high social returns along with profits.⁷ It leads to economic development by increasing investment in strategic sectors, like exports. By ensuring a steady stream of funds for these sectors, it shields them from global market swings.⁸ In addition, the low interest rates mandated by directed credit programs can improve banks' loan portfolios by preventing the phenomenon of "adverse selection," which arises when banks charge high interest rates. High interest rates encourage "good" borrowers—those most likely to repay loans—to withdraw from the loan market because they find rates too high relative to expected returns. Bad borrowers who plan to default remain in the loan market. In contrast, low interest rates on average increase the creditworthiness of the pool of loan applicants by attracting some good borrowers. When rates are high the loss of good borrowers makes lending even riskier for banks.⁹ Most importantly, from the view point of public policy, directed lending promotes social equity and increases employment and investment in relatively less developed regions and for vulnerable sections of society.

Among the potential negative effects of directed lending are increased transaction costs, increased NPAs, and decreased deposit mobilization. According to economic literature directed lending raises transaction costs for borrowers and lenders alike.¹⁰ For borrowers these costs include the opportunity cost of time, money, and effort spent in negotiating complicated borrowing procedures; conveyance costs incurred in visiting the lender; and the cost of providing acceptable collateral. For lenders, transaction costs are associated with administering loans, collecting interest, and recollecting the dues (principal loan amount and the interest payment).¹¹

Directed lending raises costs by way of loan losses, defaults, and payment delays which results in an increase in commercial banks' NPAs. An NPA is an asset that ceases to generate any income for the lending bank. In directed lending programs, banks wield little power in allocating credit, and must lend to sectors characterized by a relatively large number of defaults due to factors specific to those sectors. Banks must then set aside capital to account for assets that might be locked up in NPAs. This erodes banks' profitability and makes them more vulnerable, as illustrated by the collapse of much of the rural banking system in the Philippines.¹²

Directed credit can also discourage deposit mobilization. This is because the subsidized nature of loans under directed credit forces banks to pay even lower interest rates on deposits, thus "taxing" depositors and transferring subsidies to borrowers. Low interest rates also make deposits less attractive as a savings alternative.¹³

In a capital scarce economy with less developed capital markets and with multiple demands for credit from different sectors, quantitative targets based on the proportion of gross advances also has a potential to crowd out lending for equally important sectors such as infrastructure.¹⁴

Lessons from International Experience

Most countries direct credit for specific purposes. The rationale for directed credit programs is that lending by the financial sector is not only a function of credit quality, risk of tolerance and pricing of loans but also its influence and impact on social, geographic and economic structures in the economy. Choice of sectors and financing options deployed to direct lending to specific sectors/groups varies from country to country.

The experiences of Japan, Korea, China, Brazil, and Thailand suggest that directed credit lending might not always be efficient in making financing available to certain sectors (see Appendix A and Table 1-1). The experiences of Korea and Japan show how directed credit can benefit industrial sectors, generate spillover effects, and contribute to general economic growth. The experience of Brazil, where funds earmarked for small farmers went to large and wealthy borrowers, reveals a weakness in directed credit programs. A study conducted by the World Bank on the effectiveness of directed credit in the United States suggests that directed credit policy had a limited impact and it might also be negative when cross program effects are considered. The study shows that in US, the directed credit programs have generally been successful in increasing credit to targeted sectors, but not necessarily in increasing investment by such targeted groups.¹⁵

In most countries, directed credit programs proved very costly, with the highest costs borne by the banking industry. According to the Draft Technical Paper on the Review of Priority Sector Lending by RBI,

Directed lending or funding, and complex and distorting subsidy regimes result in a system wherein banks do not function as autonomous profit-maximizing entities, but to some extent as quasi-fiscal bodies, providing virtual subsidies to selected segments of the economy which do not appear on the general government balance sheets. (Page 12, September 2005).

Table 1-1

Characteristics and Impact of Directed Credit Programs in Japan, Korea, China, Brazil, and Thailand

Characteristic/ Impact Area	Japan	Korea	China	Brazil	Thailand
Priority sectors	Export, large-scale industry, small-scale industry and agriculture	Export, heavy and chemical industries	Large state-owned enterprises	Rural areas, agriculture, infrastructure and housing finance	Exports, small-scale industry, agriculture
Implementing institutions	Bank of Japan, government-owned financial institutions, commercial banks	Bank of Korea, government-owned financial institutions, commercial banks	Bank of China, Policy banks	Public sector banks, commercial banks	Bank of Thailand, specialized government institutions
Main source of funds	Postal savings, commercial bank credit	Central Bank credit, foreign debt capital	Central Bank credit, foreign capital (mainly from Chinese diaspora)	Government credit, demand deposits of commercial banks	Commercial bank credit
Monitoring and supervision	High level of supervision	High level of supervision	Relatively little supervision	Very little supervision	Little supervision
Costs and loan losses	Low costs because government absorbed loan losses	High loan losses	High loan losses	High loan losses	Inefficiency in banking sector because of interest rate ceilings

Characteristic/ Impact Area	Japan	Korea	China	Brazil	Thailand
Impact	Beneficial for industrialization but costly to implement	High NPAs. Costs borne by banks	High NPAs, high inflation	High NPAs, interest rates for non priority sectors, and inflation	Positive impact on access to finance in priority sectors only after deregulation

Furthermore, in case of the countries considered above, low repayment rates led to high NPAs that locked up bank assets, affecting the banks' profitability and efficiency. Non-priority sectors also felt the impact of NPAs as funds available for lending dried up. Interest rate ceilings under preferential credit policies led to an increase in borrowing in general, contributing to inflation and price instability that, in turn, harmed the intended beneficiaries of directed credit. In Korea and Japan, where directed credit was relatively successful, the government closely monitored the programs, thus adding to the costs of administering such programs.

Directed credit programs have been costly for central and commercial banks and for governments. Except for Brazil, the countries examined in detail in Appendix A, have revoked or are phasing out directed credit. Among the lessons to be learned from their experience are the following:

- Directed credit programs can benefit priority sectors if the government monitors the programs closely.
- Credit is often not a major constraint as it is presumed, and other institutional and policy factors and specific sectoral constraints play a more critical role in growth of priority sectors.
- Government-owned financial institutions catering to the credit needs of the priority sectors are much more effective than commercial banks in directing credit.
- Directed credit programs should eventually be phased out because of their high direct and indirect costs.

In sum, experience counsels caution in using directed credit programs to reach goals for economic development. These programs might spur development in beneficiary sectors, but the costs they impose on the banking system and the economy as a whole can offset the benefits of such development.

2. India's Directed Credit Policy – Priority Sector Lending

Historical and Current Regulations Governing PSL

Directed lending or priority sector lending has been an important aspect of India's credit policy. Under this policy, the RBI mandates that commercial banks direct a portion of their lending to sectors that otherwise lack institutional financial support.

PSL featured in India's credit policy of 1967–68, which was devised in response to shortfalls in agricultural output and an industrial slowdown that caused severe imbalances in the economy. Major banks were nationalized in 1969 and were required to become more involved in the financing of priority sectors, such as agriculture, exports, and small-scale industry. At that time, about 14.6 percent of bank loans were provided to priority sectors.¹⁶ RBI has revised PSL lending norms over the years, and as per the current framework, private and foreign banks must also abide by these norms (see Figure 2-1). RBI decides on the specific interest rate for various PSL targets from time to time, and this rate is linked to the base rate of banks.¹⁷ The priority sectors as currently defined by the RBI are agriculture, micro and small enterprises, micro credit, education, housing, export credit, and weaker sections.¹⁸ The PSL norms stipulate a number of restrictions in terms of type of recipients, use of funds and sub-targets within each sector.

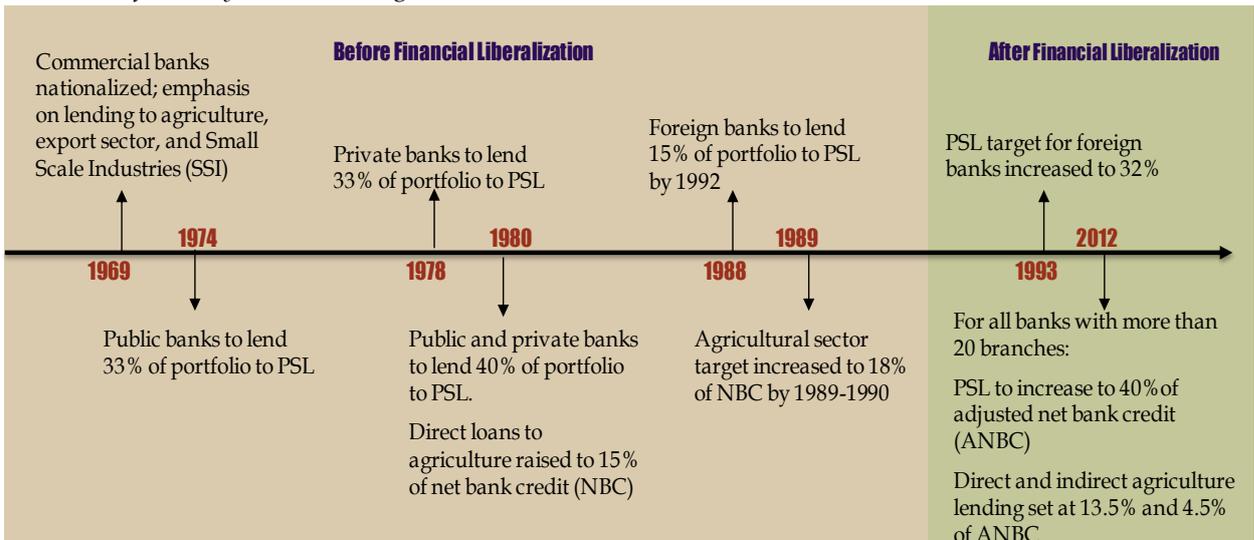
The timeline below shows that only public sector banks were required to lend to priority sectors at its inception in 1969. It was only in the late 1970s, that private sector banks were directed to engage in mandatory PSL, that too at par with the public sector banks. Since then, all domestic commercial banks, public or private, have been mandated to lend 40 percent of their adjusted net bank credit (ANBC) or credit equivalent amount of their off balance sheet exposure – whichever is higher – to the priority sectors.¹⁹ Furthermore, with a sub-targeted lending at 18 percent, agriculture has been receiving the highest share of PSL in India since 1988-89.²⁰

PSL was made mandatory for foreign banks operating in India in 1988-89. Till 2012, all foreign banks had to lend 32 percent of their ANBC*²¹ to priority sectors such as export and small scale industries. However, as per the revised guidelines introduced by the RBI in 2012, foreign banks with more than 20 branches have been brought at par with domestic banks, lending 40 percent of their ANBC* to PSL with specific targets for agriculture.²² Foreign banks with less than 20 branches, however, continue to be required to direct 32 percent of their ANBC* to the priority sectors.²³

Table 2-1 provides details on general and sector PSL targets for different types of banks. Banks that do not achieve their PSL targets must contribute a specified sum decided by the RBI to government-run specialized funds. These include the Rural Infrastructure Development Fund (RIDF) of the National Bank for Agriculture and Rural Development (NABARD).²⁴ RIDF was established to provide low-cost financing to state governments for rural infrastructure development, such as medium and minor irrigation, soil conservation, and watershed management projects. The RBI determines the interest rates on banks' contributions to such funds, periods of deposit, etc.²⁵

Figure 2-1

Evolution of Priority Sector Lending in India



Net Bank Credit (NBC) = Bank Credit – Bills Rediscounted with RBI.

Adjusted Net Bank Credit (ANBC) = NBC - Bonds in Non Statutory Liquidity Ratio category

SOURCE: RBI. Master Circular, Priority Sector Lending-Targets and Classification (July 1, 2013).

Table 2-1

Current Overall and Sectoral PSL Targets

Categories	Domestic Commercial Banks / Foreign Banks with 20 or More Branches	Foreign Banks with Fewer than 20 Branches
Total priority sector	40 percent of ANBC.*	32 percent of ANBC.
Total agriculture	18 percent of ANBC*. Of this, indirect finance greater than 4.5 percent of ANBC* will not be considered for 18 percent. However, direct and indirect lending will be computed under the 40 percent target of the total PSL.	No specific target. Forms part of total PSL.
Micro and small enterprises (MSEs)	Advances to MSEs will be computed under the total PSL target of 40 percent of ANBC.*	No specific target. Forms part of total PSL.
Export credit	Not a separate category. Export credit to eligible activities under agriculture and MSE category will be considered for priority sector lending under respective categories.	No specific target. Forms part of total PSL.
Advances to weaker sectors	10 percent of ANBC.*	No specific target. Forms part of total PSL.

Note: Forty percent of total advances to MSEs should go to micro (manufacturing) enterprises having investment in plant and machinery up to INR10 lakh and micro (service) enterprises having investment in equipment up to INR4 lakh. Twenty percent of advances to MSEs should go to micro (manufacturing) enterprises with investment in plant and machinery above INR10 lakh and up to INR25 lakh, and micro (service) enterprises with investment in equipment above INR4 lakh and up to INR10 lakh.

Advances refer a credit facility granted by the bank, largely for short-term purposes and are repaid within a year. Loans, on the other hand, refer to credit granted by the bank where the money is disbursed and recovery is made over a period of time (might be more than a year).²⁶

SOURCE: RBI, Master Circular, Priority Sector Lending-Targets and Classification, July 1, 2013.

Difference in Characteristics and Contributions of PSL Implementers in India – Public, Private and Foreign Banks

What are the characteristics of the public, private, and foreign banks in India that implement the PSL program? Table 2-2 below presents data that reflect their penetration levels (number of offices, ATMs), employee strength, business models (business per employee), and profitability (profit per employee, return on assets). As can be seen from the data, public sector banks dominate in presence, accounting for about 84 percent of the bank branches and 63 percent of the ATMs,²⁷ and employing nearly 76 percent of bank staff in the country. The contribution of public sector banks to mass banking, however, does not overshadow the contributions of private and foreign banks' to "competition, professionalism and operational efficiency", as demonstrated in the paragraphs below.²⁸

Table 2-2

Characteristics of Public, Private, and Foreign Banks (Group Aggregates)

Characteristic	Public Sector	Private Sector	Foreign
Number of banks	26	20	40
Number of offices	69,498 (84 %)	13,408 (16%)	323 (0%)
Number of ATMs	77,684 (63%)	45,154 (36%)	1,234 (1%)
Number of employees	771,388 (76%)	214,304 (21%)	27,698 (3%)
Deposits (INR million)	50,020,134 (78%)	11,745,874 (18%)	2,770,634 (4%)
Advances (INR million)	38,783,125 (76%)	9,664,182 (19%)	2,298,486 (5%)
Assets (INR million)	60,379,816 (73%)	16,778,013 (20%)	5,862,186(7%)
Investment (INR million)	15,040,764 (67%)	5,259,822 (24%)	2,004,884 (9%)
Priority Sector Loans (INR million)	11,175,745 (76%)	2,809,915 (19%)	727,642(5%)
Income (INR million)	5,350,980 (72%)	1,584,781 (21%)	472,207 (6%)
Operating expenses (INR million)	902,145 (66%)	333,450 (24%)	135,438 (10%)
Business per employee (INR million)	115.1	99.9	183.0
Profit per employee (INR million)	0.6	1.1	3.4
Number of outstanding credit cards	3,589,135(19%)	10,235,409 (54%)	4,977,602 (26%)
Amount of credit card transactions (INR million)	16,303(15%)	60,640 (54%)	34,804 (31%)
Number of outstanding debit cards	281,974,422 (79%)	69,962,356 (20%)	3,480,963 (1%)
Amount of debit card transaction (INR million)	1,127,030 (68%)	500,782 (30%)	26,745 (2%)

NOTE: Figures in parentheses indicate percentage of bank group aggregates relative to all banks aggregate. Data on ATMs, number of credit cards, amount of credit card transactions, number of debit cards, and amount of debit card transactions are as of July 2013.

SOURCE: RBI data as of March 2012.

Private sector banks have been functioning in India ever since the origin of the banking industry in the country. Being domestic in nature unlike the foreign banks, private sector banks contributed more towards enthusing efficiency in the banking industry, compared to foreign banks, by offering healthy competition to the public sector banks. In fact, some of the technological innovations introduced by private sector banks in India have been adopted by public sector banks and have enabled the latter to extend banking services to remote regions. For example, ICICI, the largest private sector bank in India (by total advances),²⁹ introduced internet banking, online bill payment,

and mobile banking in India in 1997, 1999 and 2008 respectively.³⁰ These platforms, which are now offered by almost all banks, have not only made banking convenient for the masses but also made transactions quick, convenient, and client-oriented.

Besides private sector banks, foreign banks must also be credited with bringing technologically advanced banking products and services to India. They first entered India in the 19th century and drawing on their expertise in serving the credit needs of traders in other countries, concentrated on financing foreign trade in India. From 1961-1991, foreign banks extended their services in investment banking, portfolio management, foreign currency loans, and the servicing of high net worth individuals (HNIs).³¹ Having long provided such services and related products in their native countries and other developed countries, they had an edge on India's domestic banks.³² Since then, India's domestic banks have developed expertise in many of these services, but because foreign banks better understand foreign markets and have a global presence, they still have an advantage in facilitating the cross-border transactions of aspiring Indian corporations and multinationals through mechanisms, such as export collection services, import financing, external commercial borrowings and remittances. In terms of technological contributions, one of the biggest foreign banks in India, the Hong Kong and Shanghai Banking Corporation (HSBC), introduced India to the ATM concept in 1987 that became the basis for expanding services outside the bank branch network, significantly reducing transaction costs for clients.³³

In sum, the role of private and foreign banks in introducing efficiency, sophisticated banking products and technology, and customer convenience, has been as important to the development of India's financial market as the role of public sector banks in extending credit to small cities, towns, and villages.

In the next sub section, we analyze the performance of these three types of banks in terms of lending to the priority sectors, and the differences in their business models that drive this performance.

Foreign Banks' Mechanisms for Facilitating Cross-border Transactions in India

Collection Services. Collection basis is a payment agreement that comes into play when goods are shipped internationally. Under the agreement, the exporter ships goods and presents invoices to its bank. The exporter's bank sends them to its branch in the importer's country for payment. Once payment is released the importer receives the goods. This type of agreement protects the exporter should the buyer pick up but then fail to pay for the goods.

Import Financing. Import financing is assistance provided to exporters and importers in the form of arranging payment methods for goods and services ordered from abroad, without having to face an unacceptable risk.

External Commercial Borrowings (ECBs). ECBs are borrowings raised by the Indian corporates from confirmed banking sources outside India. With a strong network and reach with banking sources outside India, foreign banks are better placed to obtain ECBs.

Remittances. Remittances are goods or financial instruments that migrants living and working abroad transfer to residents of their home economies. They are limited to workers who have stayed in foreign economies for at least one year and do not include transfers by the self-employed.

PSL Performance by Bank Type

The RBI mandates that all SCBs – public, private and foreign banks - engage in PSL, but the ability of banks to serve priority sectors varies with their business models. An analysis of priority sector advances and ANBC for all categories of banks – public, private and foreign, shows that in the past ten years (2000-01 to 2010-11) all categories of banks have been successful in achieving their overall total PSL targets.^{34 35} It is only in 2012-13 that the banks have not been able to meet the overall PSL targets: according to RBI data, as of March 2013, priority sector advances made up 36.2 percent of advances by public sector banks, 37.5 percent of advances by private sector banks, and 35.1 percent of advances by foreign banks.³⁶

While overall targets have been met by all types of banks historically, all banks have, not always been successful in achieving targets for sub sector lending to different priority sectors. For example, public banks have been more successful than private banks in meeting targets for agricultural lending. From 2000-01 to 2010-11, public banks achieved their agricultural lending target eight times (64 percent) while private banks achieved the target only six times (54 percent), a difference attributable to public banks' extensive branch networks in rural areas and their name recognition in rural markets.³⁷ On the other hand, foreign banks achieved export lending targets for all years from 2000-01 to 2010-11,³⁸ an indicator of their global expertise in financing trade activities. With respect to lending to MSEs as well, foreign banks met lending targets in all the years between 2000-01 and 2010-11.

Differences in meeting PSL targets can be attributed to banks' business objectives. While one of the primary objectives of public banks is social welfare through bank penetration; for private banks, it is to gain customers by providing value through new products and advanced applications. Meanwhile, foreign banks strive to apply their global expertise to world class products like trade financing, and introducing related banking products and technologies in India.³⁹ The distinct business models of the bank types are most evident in three areas – expansion objectives, workforce composition, and performance indicators.

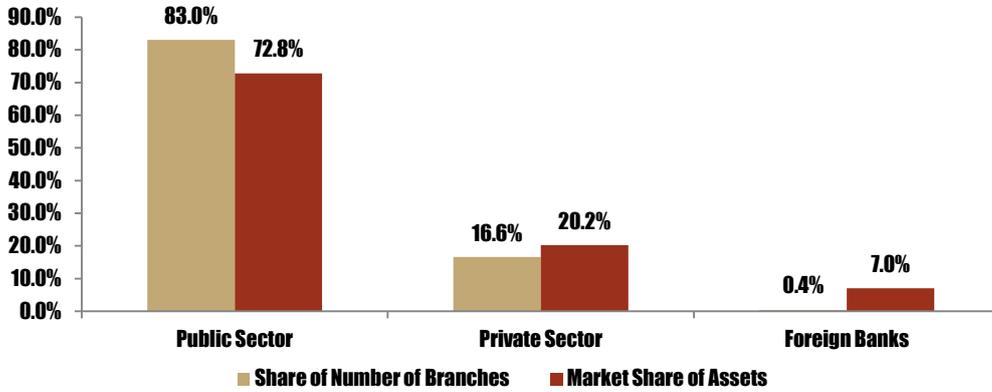
DIFFERENCES IN EXPANSION OBJECTIVES

Expansion goals can also be discerned by comparing extent of branch networks and asset pools. India's public sector banks have the largest share of branches and assets followed by the private sector banks. A plausible reason behind this skewed branch network coverage is the RBI directive that permits domestic SCBs to *"open branches, administrative offices and service branches in Tier 2 to Tier 6 centres (with population up to 99,999)... without permission from RBI, subject to reporting."*⁴⁰ Foreign banks on the other hand have to abide by stringent regulations laid by the RBI's Branch Authorization Policy and submit their branch expansion plans on an annual basis. Thus, explaining the foreign banks' 0.4 percent share in the country's branch network.

However, besides the above regulatory aspect, the extent of a bank's expansion is also driven by its business objectives. In case of foreign banks, for instance, their objective and expertise lies in servicing urban and HNI customers and providing corporate banking services. Opening rural branches therefore is not a part of their business strategy. Thus, while opening branches might not

be an expansion objective of foreign banks, they attach a high value to increasing their asset share in the country.

Figure 2-2
Share of Branches and Assets, by Bank Type

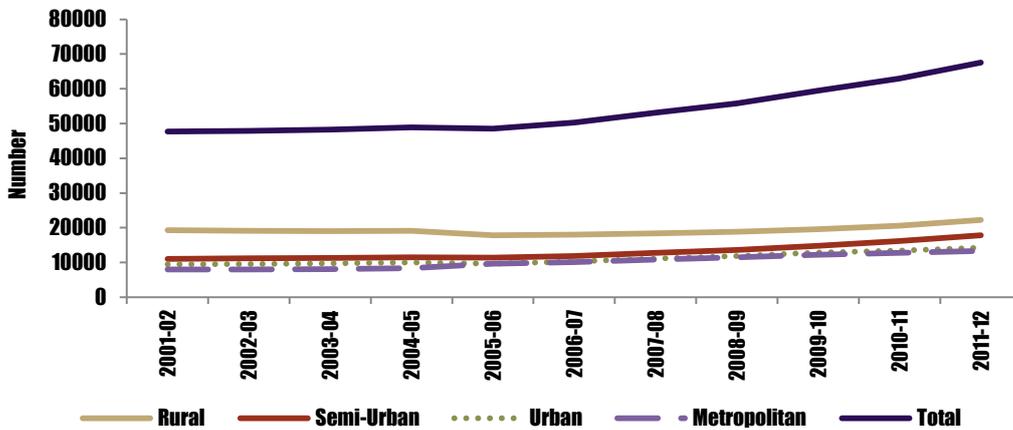


Note: Data as of March 2012.

SOURCE: RBI.

The growth in the number of branches of the public sector banks and their geographic spread in the last decade also reflect their objective of serving the “unbanked” regions that private and foreign sector banks have not yet entered (Figure 2-3).

Figure 2-3
Number of Branches of Public Sector Banks



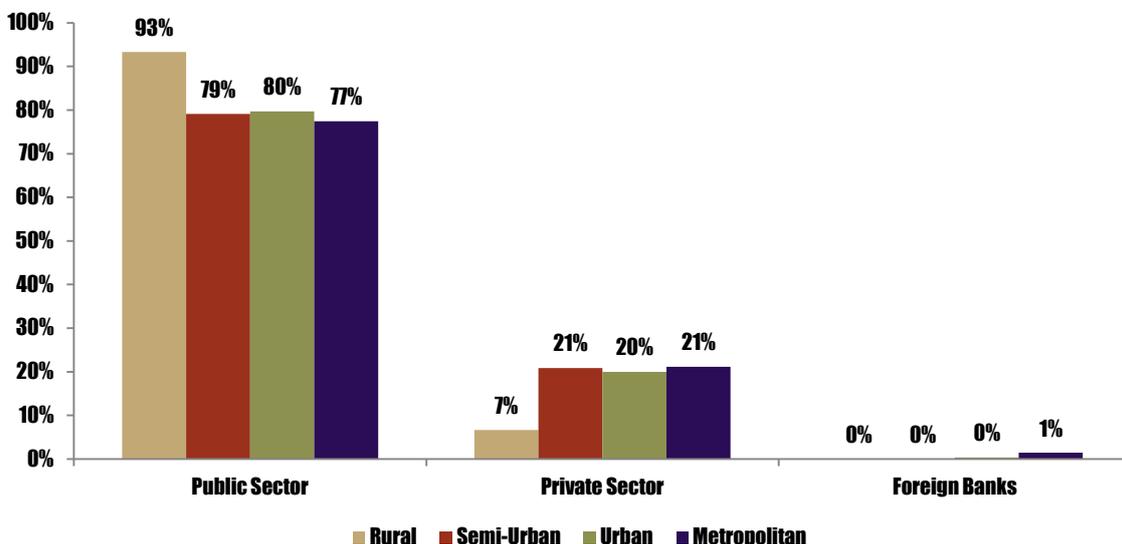
Note: Data as of March 2012.

SOURCE: RBI.

The geographical spread of branches further indicates the kind of customers that banks seek. About 93 percent of the branches in rural areas (population less than 10,000)⁴¹ belong to public banks. In metropolitan areas (population 10 lakh and above) 78 percent of branches belong to public banks, 21 percent to private banks, and 1 percent to foreign banks. (Figure 2-44) Bank type wise spread of branches across rural, semi urban, urban and metropolitan regions (Figures 2-5, 2-6 and 2-7) also reflects the skewed geographic presence for each of bank type, with a diminishing trend observed in the number of rural branches and an increasing trend observed in the number of metropolitan branches from public sector banks to private sector banks to foreign banks. This reflects that foreign

banks limit their coverage to urban and metropolitan areas where they can offer new banking products and services to people who already have accounts with other banks.

Figure 2-4
Regional Spread of Bank Branches



Note: Data as of March 2012.

SOURCE: RBI.

Figure 2-5
Regional Spread of Public Sector Banks

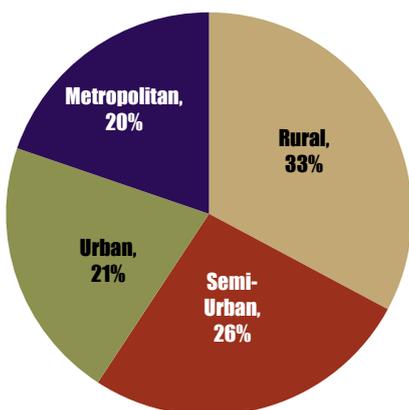


Figure 2-6
Regional Spread of Private Sector Banks

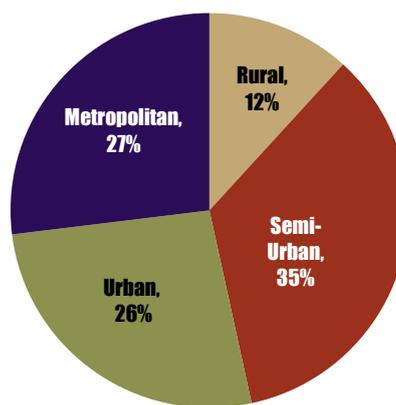
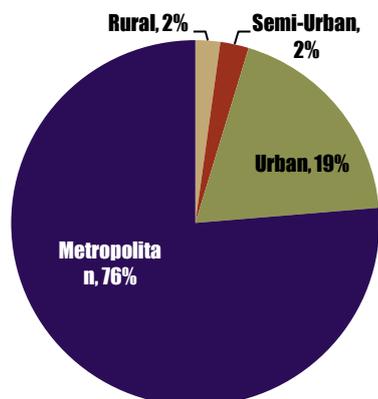


Figure 2-7
Regional Spread of Foreign Banks

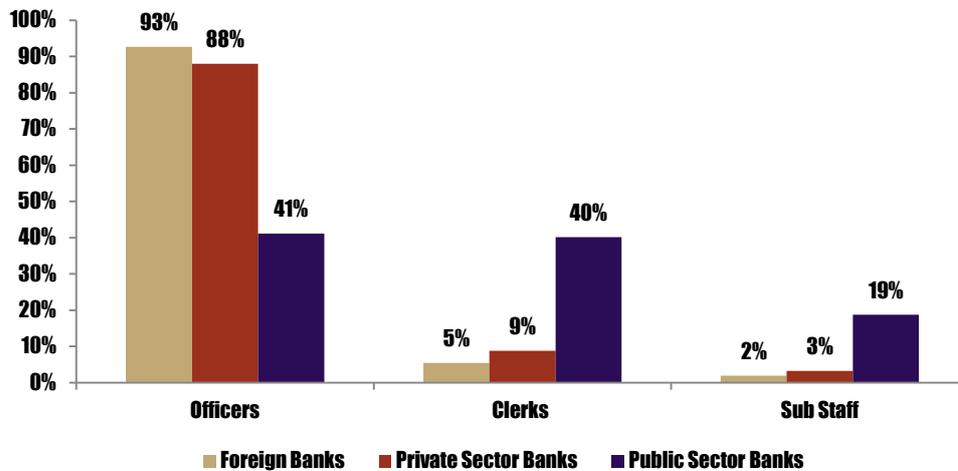


Note: Data as of March 2012.
SOURCE: RBI.

DIFFERENCES IN WORKFORCE COMPOSITION

The difference in the business models of public, private, and foreign banks are also reflected in their workforce composition. The type of skills, and therefore the staff that a bank recruits largely depends on the customer base and services that the respective bank offers. For instance, providing basic banking services to the masses is the primary objective of public sector banks. To achieve this objective, public sector banks establish vast branch networks in rural and semi-urban areas (population between 10,000 and 1 lakh) and hire staff well versed in the local languages of the areas in order to serve clients. In contrast, foreign banks specialize in servicing HNIs and focus their coverage to urban (population between 1 lakh and 10 lakh) and metropolitan areas (population of 10 lakh and above) and recruit highly paid staff from all over the country to concentrate on business development and expansion. Thus, public sector banks are perceived as offering job security, while foreign banks—with greater autonomy in recruitment and compensation—offer higher salaries.⁴² Mandating PSL norms to cater to sectors like agriculture that is largely widespread in rural areas, thereby imposes additional costs on foreign banks to recruit and manage two distinct types of workforce as the workforce hired to service HNIs cannot be trained to also deal with rural PSL clients. This could be inefficient and result in costly use of resources for the banks.

Figure 2-8 below demonstrates this difference in employee composition. As can be seen, about 93 percent of the employees of foreign banks and 88 percent of those of private banks are officers (senior most amongst the employee categories considered for analysis) while 41 percent of public bank employees are officers and approximately the same number are clerks.

Figure 2-8*Employee Composition of Banks*

SOURCE: RBI. Note: Data as of March 2012.

DIFFERENCES IN PERFORMANCE INDICATORS

Table 2-3 presents various indicators that shed more light on differences in performance among the types of banks operating in India. Each indicator signifies a dimension of banking risk and stability. For example, the net NPA ratio indicates the quality of a bank's assets because it includes assets that impose costs but do not generate income.

Soundness. The capital to risk-weighted assets ratio (CRAR) measures a bank's financial strength. It is computed as the ratio of its capital at hand (assets less liabilities) to its risk-weighted assets like loans, cash, and investments.⁴³ A bank with a higher CRAR is considered safer because it can make up for bad loans with net assets. Currently, the RBI norm for CRAR is 9 percent. Foreign banks' high CRAR (16.8 percent) reflects high risk aversion and due diligence practices that are relatively more conservative and stringent than those of private banks (CRAR of 16.2 percent) and public banks (13.2 percent).⁴⁴

Table 2-3*Indicators of Bank Performance*

Dimension	Indicator	Public Sector	Private Sector	Foreign Sector
Soundness	Capital to risk-weighted assets	13.2%	16.2%	16.8%
Asset quality	Net NPAs to total advances	1.5%	0.5%	0.6%
Profitability	Return on assets	0.9%	1.5%	1.8%
Liquidity	Liquid assets to total assets	7.9%	7.8%	5.7%
Efficiency	Cost to income	16.9%	21.0%	28.7%

Note: Data as of March 2012.

SOURCE: RBI.

Asset Quality. The RBI defines a NPA as a credit facility with interest or principal installments overdue for 90 days. Net NPAs are NPAs for which banks have made provisions and thus indicate the actual burden of such assets.⁴⁵ The lower the net NPA ratio the better is the asset quality of the

bank. The net NPA ratio is much lower for private (0.5 percent) and foreign banks (0.6 percent), than public banks (1.5 percent), which is not surprising given the vast scale of lending by public banks. Regression analysis supports this indicator, revealing that public banks have the highest level of NPAs from PSL and foreign banks the lowest (regression results are explained fully in Appendix C).

Profitability. Return on assets (ROA), the ratio of a bank's net income to its total assets, is a good indicator of profitability. The higher the ROA of the bank, the more efficiently the asset base is being managed. The ROA of foreign banks (1.8 percent) is nearly twice that of public banks (0.9 percent), indicative of the profit orientation of foreign banks.

Liquidity. The branch penetration and employee strength of public banks give them an edge over private and foreign banks in liquidity and efficiency. The liquidity ratio indicates how quickly a bank can liquidate assets and cover short-term liabilities. Liquid assets are defined as cash on hand, the mandatory balances with the RBI, and balances in current accounts.⁴⁶ The higher the liquidity ratio, the more easily a bank can cover its short-term debts. Public banks have the highest liquidity ratio (7.9) percent, followed by private banks (7.8 percent) and foreign banks (5.7 percent).

Efficiency. Efficiency is the ability of a bank to turn resources into revenue. The main indicator is the ratio of operating cost to income. The lower the ratio the more efficient is the bank in generating income. With the lowest efficiency ratio (16.9 percent), public banks are much more efficient than private banks (21 percent) and foreign banks (28.7). One plausible reason for this may be the difference in the ratio of wages to total expenses across bank types; the ratio is highest for foreign banks (20.01) and lowest for public banks (13.72).⁴⁷

The above parameters suggest that each type of bank has a business model that influences branch expansion, customer base, workforce composition, and profit orientation. Foreign and private banks outperform the public banks in profitability and asset quality, but public banks are superior in liquidity and cost-effectiveness. Imposing uniform PSL targets on banks is thus, an inefficient way to encourage them to apply their funding strengths for the benefit of priority sectors, given the different business models of bank types and their different abilities in servicing priority sectors. For the sake of efficiency, PSL norms should be tailored to each bank type.

3. Impact of Priority Sector Lending in India

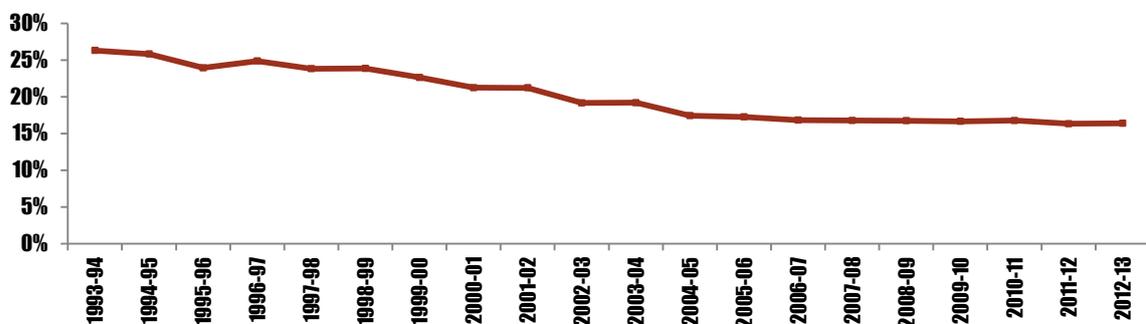
To assess the impact of PSL in India, we compare the benefits of lending to three major priority sectors—agriculture, exports, and micro and small enterprises (MSEs)—with the costs borne by those lending to them. For each sector, we explore whether credit has become more readily available and whether increased credit availability has improved sector performance.

Benefits to Sectors

AGRICULTURE

Agriculture has been a priority in most of India’s social and economic policies since independence. In 2011-12, it contributed around 16 percent to India’s GDP⁴⁸ and 12.85 percent to exports,⁴⁹ and employed about half the workforce. This sector’s growth, however, faces a variety of challenges - from the vagaries of monsoons to the small size of land holdings to a possible transition in the Indian economy from a purely agrarian to a manufacturing and services based economy. This is demonstrated in the Figure 3-1 below, that shows the diminishing share of agriculture in the total GDP from 1993-94 to 2012-13.

Figure 3-1
Share of Agricultural GDP in Total GDP (Current Prices)



Note: SOURCE: Planning Commission, RBI.

Despite the sector's indifferent performance, agriculture remains a special focus of India's credit policy because of its perceived importance. This is reflected in the 14 percent CAGR in the subsidies to the sector by the central and the state governments between 1993-94 and 2009-10 (INR 1,089 billion in 2009-10).⁵⁰ As a result of this focus, increasing the supply of credit to the sector has remained and continues to be an important objective of India's credit policy, as demonstrated in Figure 3-2, which shows the increase in credit to the sector from 2001-02 to 2012-13. Except for a decline in 2007-08, owing to the financial crisis that depressed aggregate bank credit in India, formal credit available to the sector has increased over the years.⁵¹

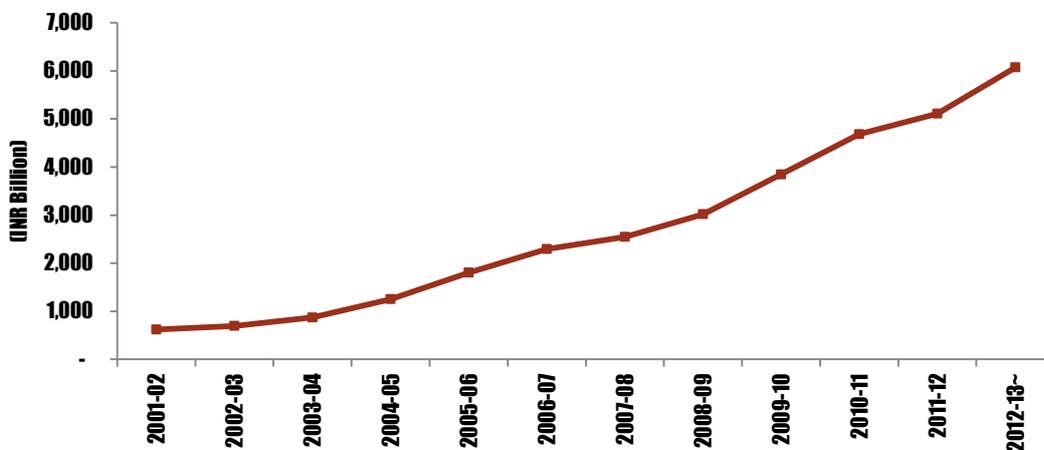
Institutions Providing Credit for Agriculture and Related Activities

Cooperative Bank. A cooperative bank is an independent association of people or associations set up to meet the credit needs of agriculture and allied activities, rural-based industries and, to a lesser extent, trade and industry in urban centers. In India, cooperative banks have a three tier structure—primary (agriculture or urban) credit societies, district central cooperative banks, and state cooperative banks.

Regional Rural Bank (RRB). An RRB takes banking services to the rural masses, especially in areas with no such services. These banks originally provided institutional credit at concessional rates of interest to weaker sections of society that depend on private moneylenders. They were also intended to mobilize and channel rural savings to support production in rural areas.

Figure 3-2

Total Formal Credit to Agriculture



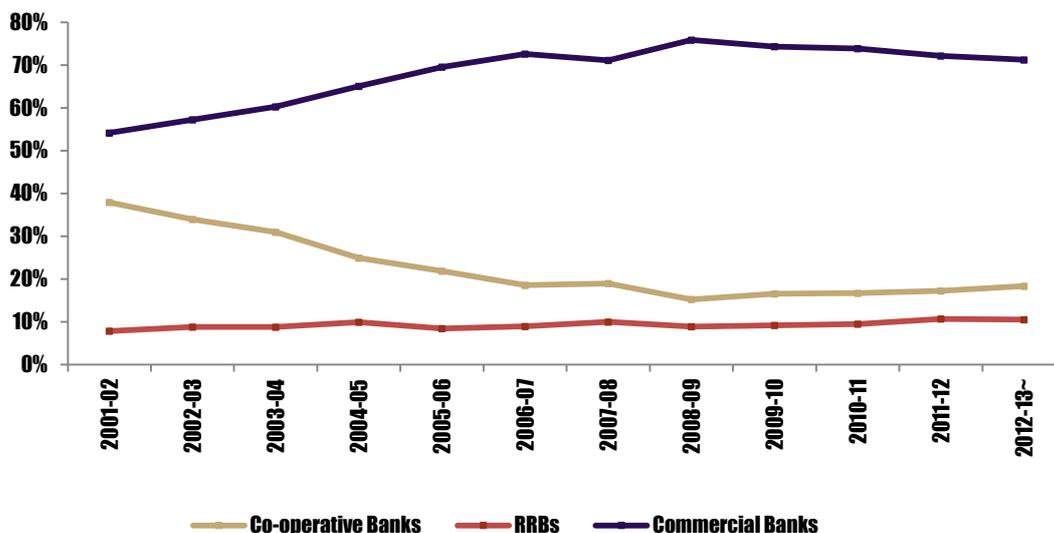
SOURCE: NABARD.

The increase in the supply of formal credit to agriculture also indicates a shift in the sources of financing for agriculture from non institutional money lenders to SCBs. In the 1950s, non-institutional credit, extended primarily by moneylenders, accounted for about 71.2 percent of the total agricultural credit, while commercial banks (including cooperative banks and societies) accounted for only 3.9 percent.⁵² This trend had reversed in 2002, with moneylenders providing 30.6 percent of agricultural credit and commercial banks accounting for 51.8 percent credit to the sector. Formal institutions—SCBs, RRBs, and cooperatives—now extend more than 60 percent of the credit (see Figure 3-3).⁵³ In 2012-13, SCBs accounted for about 71.2 percent of the formal credit to agriculture, followed by cooperative banks at 18.3 percent and RRBs at 11 percent.⁵⁴ RBI's

mandatory PSL requirements have played an important role in increasing SCBs' lending to agriculture having increased at a CAGR of 25 percent from 2001-02 to 2011-12.⁵⁵

These facts show that the credit supply to agriculture, PSL included, has increased. But the increase does not seem to have improved the sector's performance - productivity of the sector has been stagnating when measured using agriculture value added per worker (CAGR of 2 percent⁵⁶ between 1980 and 2012) and has fallen when measured using the ratio of Gross Capital Formation (GCF) to agricultural GDP (a proxy for capital productivity) (CAGR of (- 2) percent between 1980-81 and 2007-08).⁵⁷ Further, the asset quality of the sector, measured in terms of NPAs in the sector, has deteriorated, with gross NPA ratio⁵⁸ increasing from 2.4 percent in March 2010 to 4.7 percent in March 2013. The unsatisfactory performance of the sector *vis-à-vis* the credit lending also questions the capacity of the sector to absorb formal credit to yield returns commensurate with the increased credit supply. The fact that only 83 percent of RIDF's funds have actually been utilized as of 2013, also questions the ability of the sector to absorb more funds to improve sector performance.⁵⁹ Thus, suggesting that other factors unique to the sector that keep credit-related gains from being realized. Massive fragmentation of land holdings and the close linkage that it has with the informal money market (as explained below) is an important factor.

Figure 3-3
Agency Wise Formal Credit Flow to Agriculture



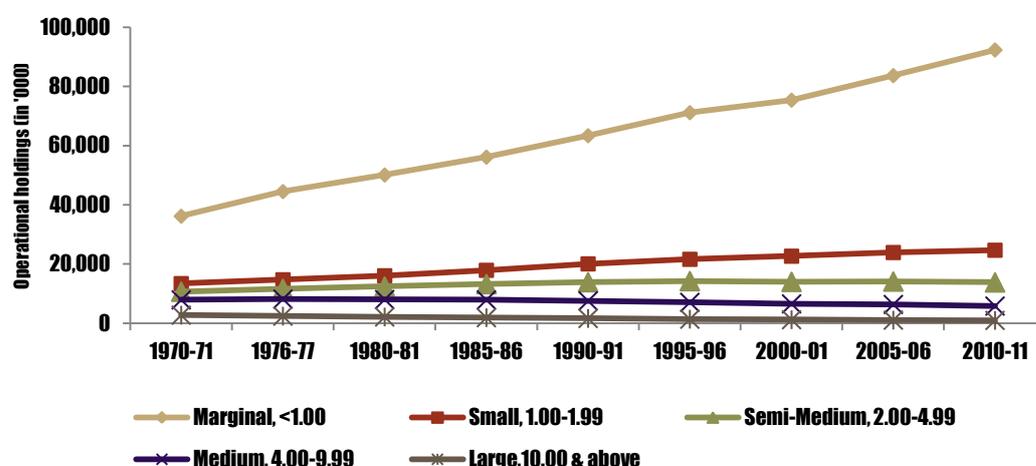
SOURCE: NABARD. Agency Wise Ground Level Credit Flow to Agriculture. Agencies included = Cooperative Banks, Regional Rural Banks, Commercial Banks. Annual Reports, NABARD. ~ Provisional

According to NABARD, small (less than 1.99 hectares) and marginal landholders (less than 1 hectare) account for as much as 85 percent of land holdings and 44 percent of cultivated area.⁶⁰ This extensive and increasing (Figure 3-4) fragmentation of land holdings has serious consequences on various aspects of agricultural growth-production, storage, transporting, marketing, incomes and formal credit outreach. Formal credit supply to small and marginal owners of such lands is adversely affected largely because, "Banks find it increasingly difficult to finance asset generating investments to small and marginal borrowers, as they are not viable on marginal and small farms, unless they are also leased out to neighboring farms."⁶¹ This, along with farmers' difficulty in satisfying banks' collateral requirements, has farmers turning to informal moneylenders who are easily accessible,

impose no documentation requirements and provide timely credit. These money lenders definitely meet the short term credit needs of these small farmers, however, according to empirical studies, their unlawful practices - exorbitant interest rates (upto 180 percent) and unethical recovery practices, often trap the borrower in vicious debt cycles.⁶² Thus, these informal suppliers of agricultural credit not only add to the vagaries of the agricultural borrowers but also make credit policies of the country less effective. To highlight, only 14 percent of the marginal farmers (with land holdings less than 1 hectare) were taking institutional credit in 2009, with the remaining largely relying on informal sources of credit for their credit needs.⁶³

Figure 3-4

Number of Operational Farm Holdings by Size (hectares), 1970-71–2010-11



SOURCE: Agriculture Census of India.

The sector's strong informal credit market, the increasing fragmentation of land holdings, the inability of commercial banks to lend to small and marginal farmers and poor sector performance thus indicate need for comprehensive review of the PSL scheme as well as an independent study on the impact of priority lending for agriculture sector and also to find innovative ways of increasing the outreach of credit to the sector, using channels other than PSL. This is because despite there being a tremendous increase in the supply of PSL to the sector (CAGR of 25 percent from 2001-02 to 2011-12), given the fragmentation of land holdings, informal credit will have a role in agricultural lending for the foreseeable future. To illustrate, in 1951, moneylenders and landlords extended 71.2 percent of credit; in 1991 they extended only 19.7 percent of credit. But in the following decade, they were the source of 30.6 percent of agricultural credit, indicating a "reemergence of the rising, albeit marginal, role of informal agencies in the provision of credit."⁶⁴

In light of these factors, mandating banks to lend more to the sector under PSL guidelines, might not solve the credit problems of the sector, with a large section of borrowers still approaching the informal credit market. The need of the hour is to provide alternate sources of credit that operate at the grass root level offering credit to small borrowers who shy away from formal banking institutions because of the small size of their land holdings and the inability to satisfy collateral requirements. These alternative channels must be strengthened enough to compete with

moneylenders, remove them from the forefront and emerge as the primary source of formal credit to agricultural sector.

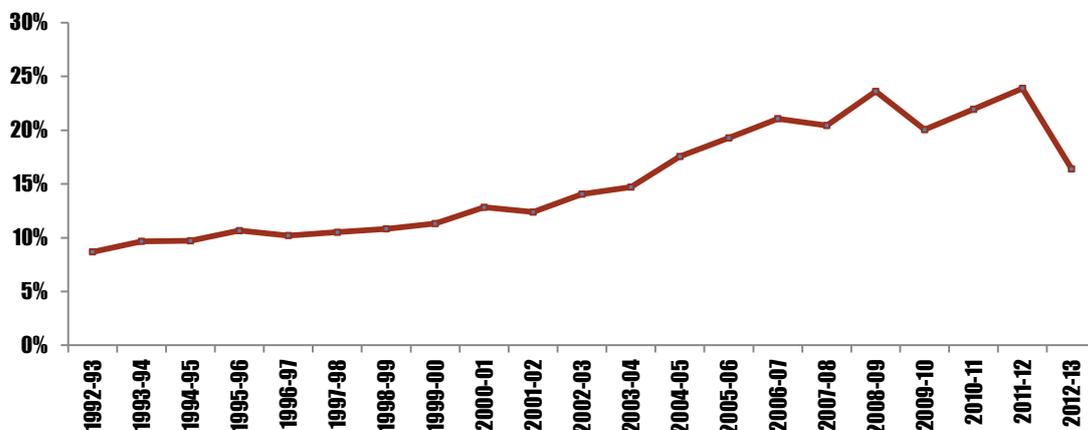
EXPORT SECTOR

That exports spur economic growth is well recognized. According to economic literature, exports lead to improved productivity levels in the domestic economy due to diffusion of knowledge about new techniques of production and management that in turn has a positive influence on productivity of the non-export sector and the overall economy as well.⁶⁵ They also lead to better allocation of resources driven by the requirements of specialization and promote accumulation of foreign exchange that “enables the importation of capital and intermediate inputs necessary in the production of goods exports.”⁶⁶

In the past decade, India achieved an average annual export growth of about 22 percent.⁶⁷ Excluding a slump in 2008–09, total exports have been increasing steadily (Figure 3-5). After the global economic crisis of 2008, export growth slowed only to rebound in 2010–12 due to various measures introduced by the government such as the Gold Card Scheme,⁶⁸ enhancement of the rupee export credit refinancing limit, and deregulation of interest rates on export credit in foreign currency.⁶⁹ However, exports began to fall again in 2012 because of the continued decline in global demand.⁷⁰

Figure 3-5

Share of Total Export GDP in Total GDP (Current Prices), 1992-93 to 2012-13



Note: GDP at Current Market Price. Data for export credit is provisional and relates to 47 banks that account for 95 percent of nonfood credit extended by all scheduled commercial banks.

SOURCE: RBI.

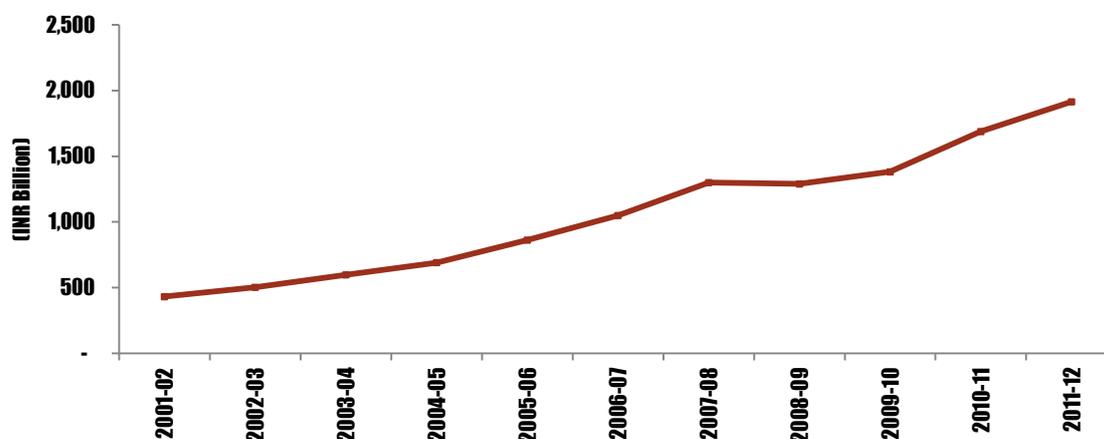
Prior to the 2012 guidelines on PSL, the RBI mandated all foreign banks, to lend a fixed portion of their portfolios as export credit under priority sector lending. For domestic banks, export was not a separate category - credit extended for exports in agriculture and MSE sectors was categorized as credit to agriculture and MSEs respectively. With the revision in the PSL norms, this mandate now applies only to foreign banks with less than 20 branches; for those having more than 20 branches the PSL norms are the same as that for domestic banks. The categorization of the export sector as a

priority sector is justified on account of the fact that bank credit is a primary source of credit for the sector. Credit to the export sector finances various activities of exporters, from researching the profitability of new markets and making market-specific investments in capacity to achieving compliance with regulations. It also helps exporters cover variable costs for shipping, duties, and freight insurance that are incurred before revenue is realized.⁷¹

Figure 3-6 summarizes trends in credit extended to exporters by SCBs. As noted earlier, total export credit has been rising steadily, except during the financial crisis of 2008. PSL has been an important contributor to this increased credit supply to exporters. Between 2001-02 and 2011-12, PSL grew at a CAGR of around 20 percent and contributed on average 18 percent to export credit extended by SCBs. The trend however reversed in 2012.⁷²

Figure 3-6

Total Formal Credit to Exporters



Note: Data for export credit is provisional and relates to 47 banks that account for 95 percent of nonfood credit extended by all scheduled commercial banks. Data on credit extended by SCBs to exporters pertains to select banks (excluding RRBs) that are availing themselves of RBI's export credit refinance facility.

SOURCE: RBI.

Before 2012, only foreign banks were required to lend 12 percent of their ANBC* to the export sector because of their global presence in catering to the needs of the sector through trade facilitating mechanisms like collection based payment. Since PSL guidelines were revised in 2012, export credit ceased to exist as a separate category under priority sectors for foreign banks with 20 or more branches (mainly Standard Chartered, HSBC, Citi Bank India) just as in case of domestic banks.⁷³ This however would have a dampening effect on the growth of India's export sector, because of the aforementioned role that export credit, and hence PSL plays in facilitating export activities.

In light of the current issues facing the Indian economy - falling exports, rising prices for oil and coal imports,⁷⁴ and the resultant increase in the trade deficit (5.4 percent of GDP during April-December 2012-13), India needs to strengthen and stimulate its export sector. This in turn necessitates increasing credit supply to exporters. PSL has played a critical role in stimulating exports. However, the revised guidelines – which require large foreign banks (with over 20 branches) to direct credit to agriculture and excludes exports as a priority sector for such banks – will dry up export credit to

export oriented sectors, thereby adversely impacting exports and the national GDP. India is facing a rising current account deficit and an export-led growth strategy could help it reverse the trend; reducing credit available to the export sector will only thwart this solution.

MICRO AND SMALL ENTERPRISES (MSE) SECTOR

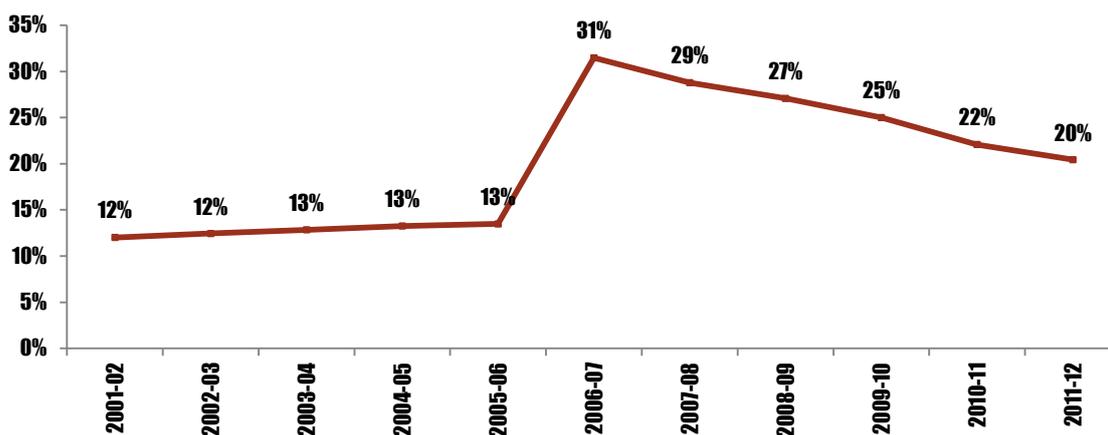
Micro and small enterprises are critical to economic growth in India. According to the Ministry of Micro, Small and Medium Enterprises, the micro, small and medium enterprise (MSME) sector accounts for approximately 45 percent of India’s manufacturing output, and 40 percent of exports. Micro and small enterprises (MSEs) account for around 99 percent of MSMEs in India.⁷⁵ In 2011-12, the MSME sector employed about 100 million people and accounted for 20 percent of GDP.⁷⁶ Between 2004-05 and 2011-12, the sector registered a CAGR of 23 percent, a rate much higher than that of the industrial sector as a whole (7 percent).⁷⁷ The high share of the sector in national GDP indicates its importance to the general economy (Figure 3-7). (In the figure, data up to 2006 pertain only to small industries; after that data on MSME production are included.)

Enterprise Size and Investment in Equipment

In manufacturing, a microenterprise is one in which investment in equipment does not exceed INR 25 lakh; a small enterprise is one whose investment is between INR 25 lakh and INR 5 crores; a medium enterprise is between INR 5 crores and INR 10 crores.

In services, a microenterprise is one in which investment in equipment does not exceed INR 10 lakh. A small enterprise is one whose investment is between INR 10 lakh and INR 2 crores, a medium enterprise is between INR 2 crores and INR 5 crores.

Figure 3-7
Share of MSME GDP in Total GDP



Note: Data through 2005-2006 are from the SSI Ministry. After 2005-2006, the compilation includes data on MSMEs. After 2006-2007, MSME production data include estimates of the unregistered sector from the Fourth All India Census of MSME conducted in 2007. Data for 2007-2012 are provisional.

SOURCE: MSME Data: Annual Report 2012-13, Ministry of Micro, Small and Medium Enterprises. GDP Data: Planning Commission.

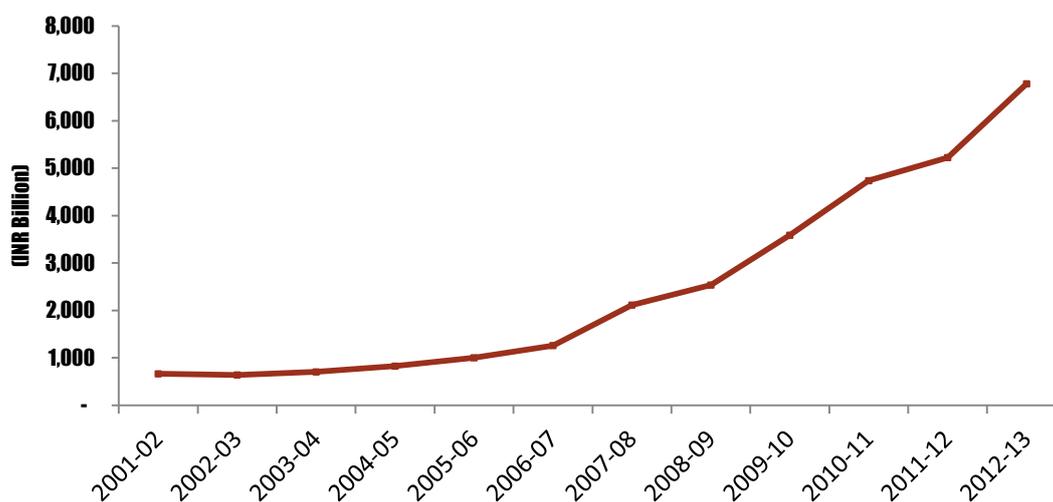
As per a study by the International Finance Corporation (IFC), in 2010, the MSME sector in India, including medium-sized enterprises, had a credit demand of about INR 32.5 trillion. According to

estimates, about 78 percent of the credit demand in this sector is met from informal sources (e.g., family, friends, and moneylenders) and the remaining 22 percent from banks and other formal institutions. The large share of the informal credit market in the sector is accountable to timely disbursement of credit, no requirement of immovable collateral and shorter turnaround times that attract in particular, the micro enterprises operating in the sector.⁷⁸

Out of the total formal credit to the sector (22 percent), banks accounted for 92 percent of the formal credit supply to the MSME sector. This shows that though they are reluctant to lend to small businesses because of size-related risks and limited collateral, banks are central to formal financing in the MSE sector.⁷⁹ The increased formal credit supply to the sector is shown in Figure 3-8 below. PSL-based lending has been a major contributor to the formal credit supply to MSEs (annual average of 84 percent between 2001-02 and 2011-12) and has increased at a CAGR of 23 percent in the last decade.⁸⁰

Figure 3-8

Total Formal Credit to MSE Sector



Note: Data for 2005-2006 are based on information from the SSI Ministry. After 2005-2006, the compilation includes MSME data.

SOURCE: RBI, MSME Ministry.

Nevertheless, the IFC study finds that “[T]here is still a demand-supply gap of INR 3.57 trillion in the MSME sector, which formal financial institutions can viably finance.”⁸¹ The demand-supply gap in the MSE credit financing is confirmed by India’s Planning Commission, which found that the credit gap for the MSME sector was 62 percent at the end of March 2011. The Commission said that the gap could be reduced to 43 percent by March 2017 if there were a minimum 20 percent year-on-year growth in credit extended to MSEs by SCBs.⁸²

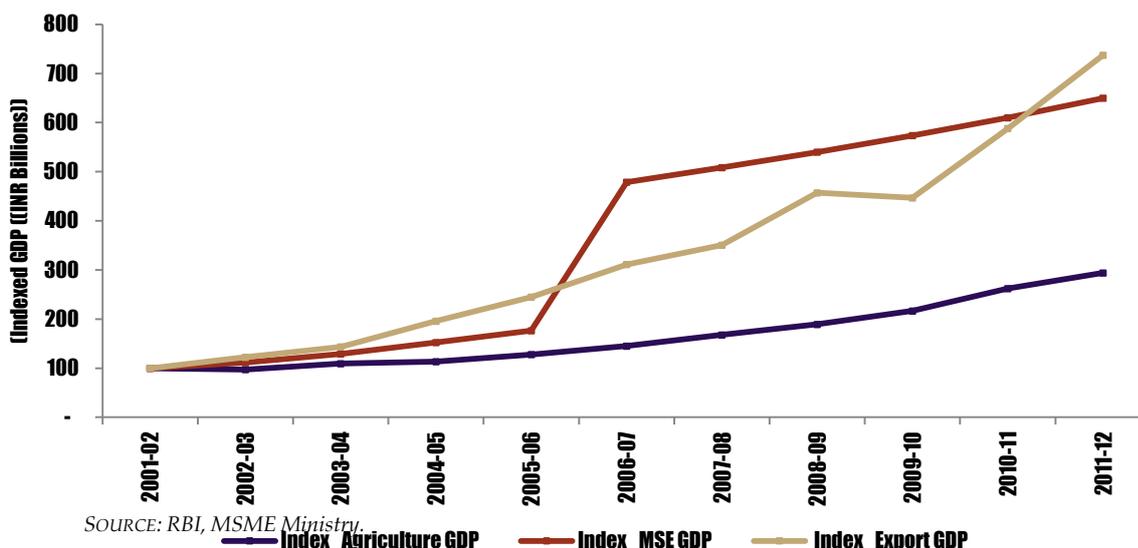
According to the RBI’s Financial Stability Report (2013), formal credit growth to the sector increased by 18 percentage points, from 7.6 percent in March 2012 to 25.6 percent in March 2013. With an average 84 percent contribution of PSL to the total credit available in the sector, this increased supply can be attributed to PSL to a large extent. Another contributing factor is the role of government initiatives such as the Credit Guarantee Trust for MSEs, in partnership with the Small Industries Development Bank of India (SIDBI), to counter the lack of MSE access to immovable

collateral and facilitate credit supply to the sector.⁸³ Given these government initiatives, the sector’s growth performance, its relationship with the domestic export sector, and its contribution to general economic development, growth in credit to the sector must be sustained.

SECTOR PERFORMANCE VIS-À-VIS- GROWTH OF CREDIT SUPPLY: SUMMARY OF ANALYSIS

This section uses graphical and regression analysis to summarize the performance of the sectors reviewed in the above section, highlighting the effectiveness of PSL in extending credit to the sectors and contributing to their growth. As shown in Figures 3-9 below, amongst the three sectors studied, export has shown a consistently increasing growth rate. The performance of MSE sector has improved over the last decade. However, the jump in the sector’s performance from 2006-07 to 2008-09 might be attributable to changes in the data reporting system. In contrast to these two sectors, the growth of the agriculture sector has been modest throughout the period from 2001-02 to 2011-12.

Figure 3-9
Growth of Agriculture, Export and MSEs from 2001-02 to 2011-12



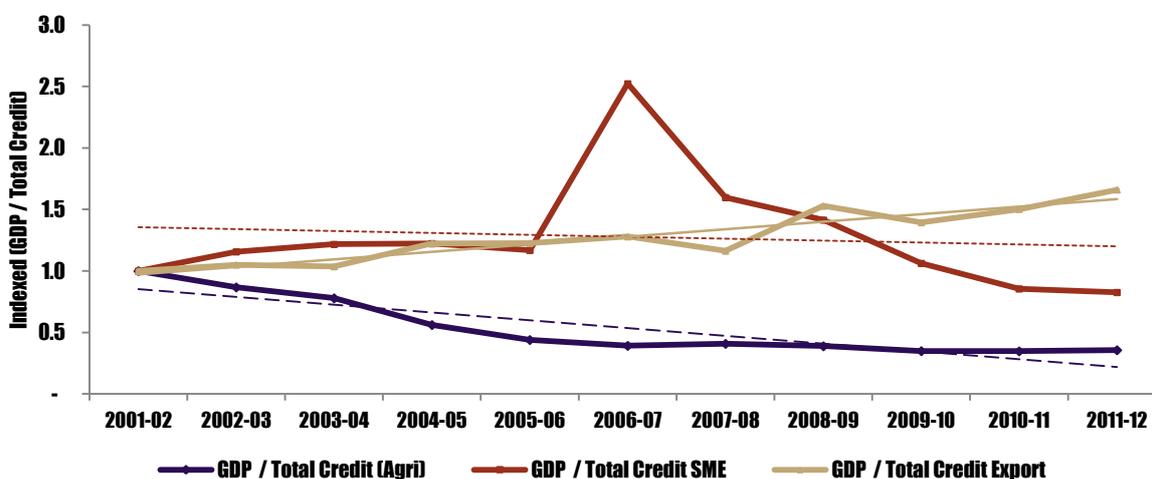
The earlier sections show that India’s PSL program has been an important source of credit for the agriculture, export, and MSE sectors, and that PSL loans to the sectors have been increasing. For agriculture, PSL increased at a CAGR of 25 percent from 2001-02 to 2011-12, for export at 20 percent and MSEs at 23 percent. Further, for the export sector, data show a positive relationship between the increase in PSL and the performance of the sector. For agriculture, the relationship is complicated by sector-specific factors—dependence on monsoons, fragmentation of land holdings, the informal money market—that influence growth and keep small and marginal farmers from benefiting from formal credit. This fact is reflected also in the regression analysis using available data that we use to assess the impact of PSL to a particular sector on the growth of that sector. The results reveal⁸⁴ a statistically significant⁸⁵ and positive relationship between PSL to the sector and sector GDP, for all the three sectors considered - agriculture, export and MSE.⁸⁶ However, the strength of the impact of PSL on the sector growth varies across the sectors, being highest for export and lowest for agriculture. In other words, controlling for other factors such as exchange rate, interest rate, area under cultivation, rainfall and number of MSEs, regression results showed that a

100 percent increase in the PSL to the export sector increases the export GDP by 76 percent. The same increase in PSL to MSE sector increases the manufacturing GDP by 41 percent.⁸⁷ However, in case of agriculture, a 100 percent increase in the PSL to the sector increased agricultural GDP only by 11 percent. The results thus confirm our hypothesis that the growth of the export sector is highly responsive to the PSL to the sector, while agriculture is least responsive, primarily due to the role of sector specific factors.

This is reflected graphically in the Figure 3-10 below that shows the sector GDP relative to the total credit to the sector, computed for agriculture, export and the MSE sectors. As can be seen, a continuously declining trend has been observed in the ratio of agricultural GDP relative to the total formal credit to the sector. The declining trend suggests that the agricultural GDP growth has not kept up with the growth in the credit supply to the sector. In contrast, the export sector shows an increasing trend in the GDP growth relative to credit supply, suggesting that increasing credit to the sector would further stimulate growth of the sector. The MSE sector shows a more or less constant trend in the ratio of the GDP to the credit supply. Plausible reasons behind this are the large share of informal credit in the MSE sector that attracts small borrowers away from formal credit supply and a change in the reporting of the production data post the establishment of the MSME ministry in 2006-07. However the recent improvement in formal credit disbursal to this sector and the sector's contribution to the economic GDP reflects the potential of the sector to leverage on the increased supply of formal credit.

Figure 3-10

Growth Performance of Sectors Relative to Credit Supply



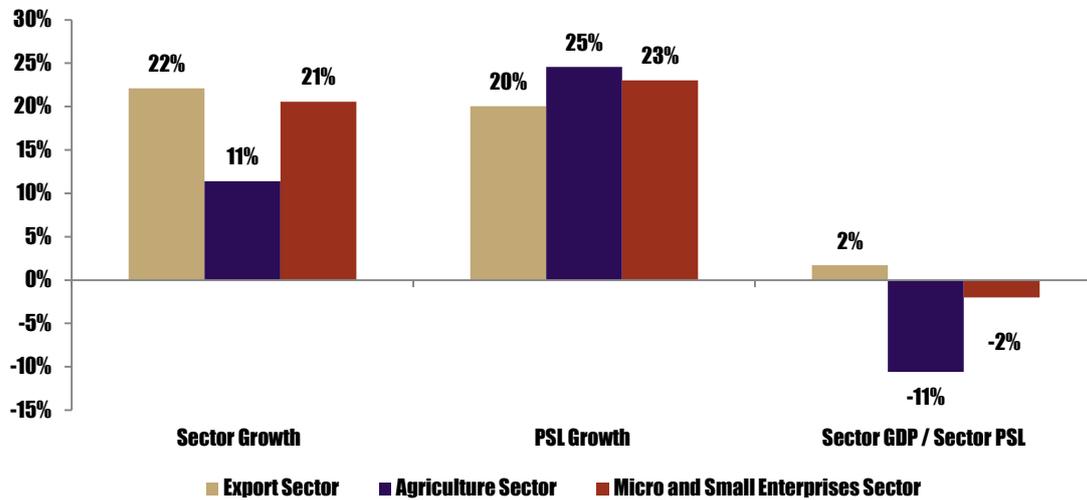
SOURCE: RBI, NABARD, MSME Ministry.

In light of the above findings, we conclude that India's PSL policy has been successful in increasing the credit supply to its three major priority sectors, namely agriculture, exports and MSEs. While the performance of exports and MSE sectors have improved considerably over the years, indicating the effectiveness of increased credit supply to these sectors, and hence the PSL policy, the same does not hold true for agriculture sector. This is because agriculture is characterized by certain specific features that distinguish it from the other sectors in terms of effectiveness of credit policy, hence requiring alternative means of satisfying the credit needs of the sector. Figure 3-11 summarizes these

observations using growth rates for GDP, PSL and GDP / PSL for these three sectors from 2001-02 to 2011-12.

Figure 3-11

GDP, PSL Supply and GDP Relative to PSL for Agriculture, Exports and MSEs.



Note: CAGR computed for each parameter from 2001-02 to 2011-12.

SOURCE: RBI, NABARD, MSME Ministry.

This sectoral analysis suggests a need to strengthen regulated grass root channels of formal credit to agriculture like cooperatives, RRBs and Microfinance Institutions that are closer to the borrowers and offer convenience of timely credit, are well informed about their credit cycles to be effective in timely recollection, and are monitored to ensure credit is disbursed at reasonable interest rates.

Costs of Priority Sector Lending in India

Sector growth analysis has shed light on the direct and the indirect benefits of PSL. To fully evaluate the impact, the costs of engaging in PSL must also be analyzed. This section estimates the indirect and direct costs of PSL borne by the banking industry and the general economy.

INDIRECT COSTS: NONPERFORMING ASSETS AND OPPORTUNITY COSTS OF PSL

The RBI defines an NPA as a credit facility for which interest or installments of principal are overdue by 90 days.⁸⁸ Directed credit programs can lead to NPAs that affect the banking industry, the flow of credit in the economy as a whole and general economic growth.⁸⁹ Banks raise money through deposits and by recycling funds received from borrowers. When borrowers default, their loans become NPAs. Banks therefore must retain a large portion of profits as a provision against bad loans, imposing an opportunity cost on money that could otherwise be earning interest income.

Directed lending narrows the choices of banks and makes loan repayment dependent on the performance of particular sectors. To exemplify, while the growth rate of PSL credit between 2002-03 and 2010-11 has been the highest in case of agriculture compared to export and MSEs because of

targeted lending norms, the growth rate of NPAs has also been the highest for the sector, thus suggesting sector specific characteristics that influence the credit absorption of the sector.

In 2011-12, PSL in India accounted for 45 percent of the SCBs' NPAs. However, since NPAs arise on account of both PSL and non PSL loans, we used regression analysis to test the hypothesis that PSL loans impose a higher cost on the economy (in terms of priority sector NPAs) compared to the non PSL loans. We performed two separate regressions, using PSL loans and NPAs from PSL as the independent and the dependent variables in the first regression and non PSL loans and non PSL NPAs in the second regression, respectively. In other words, we tested the following two hypotheses:

- $NPAs (\text{generated from priority sectors}) = f(\text{Priority Sector Loans}); \text{ and,}$
- $NPAs (\text{generated from non priority sectors}) = f(\text{Non Priority Sector Loans}).$

The regression analysis allowed us to assess the relationship among variables (positive or negative) and also quantify the impact of that relationship.⁹⁰ As described in Appendix C, we found a statistically significant positive impact of loans on NPAs in both the regression equations.⁹¹ We found that a 1 percent increase in PSL lending leads to a 0.22 percent increase in NPAs in priority sectors. A 1 percent increase in the non-PSL loans, however, leads to a 0.17 percent increase in NPAs in the non-PSL category. The difference in the magnitude of impact indicates the greater cost that PSL loans impose on banks in the form of NPAs *vis-à-vis* the non priority sectors.

Besides costs via the NPA channel, the PSL imposes indirect costs on the banking industry (and also the economy) by penalizing banks for expanding their scale of lending. In other words, the principle of computation of a bank's PSL target based on the previous year's ANBC* disincentivises banks to expand their current year's scale of lending because of its direct impact on the banks' PSL target next year. As an example, if Bank ABC, has an ANBC* of INR100 crores in year t, its PSL in year t+1 will be INR40 crores. Knowing that increasing its ANBC* in year t+1 by 20 percent will automatically increase its PSL targets for the year t+2 by 20 percent, might discourage banks to put efforts in increasing their current year's lending. This not only affects the profitability of the banking institutions, but also reduces the optimal level of credit supply in the economy, thus imposing an opportunity cost for non priority sectors of the economy, that are nevertheless crucial for development.

To add to the above point, we take the case of infrastructure sector which plays a crucial role in the development of the economy. After budgetary support and in the absence of a developed corporate debt market, commercial banks are the major source of credit to India's infrastructure sector. Commercial banks, especially public sector banks, have supported the infrastructural needs of the growing Indian economy, with bank credit to the sector increasing at a CAGR of 38 percent over the last decade.⁹² It must however be noted that banks have prudential exposure caps for infrastructure sector lending for individual sectors, and these have been reached for some infrastructure sectors like power. Thus, linking low valued high volume lending to sectors like agriculture, with ANBC which includes infrastructure only contributes in reducing the pool of funds available for the infrastructure sector, which is bound to grow as the economy grows.⁹³

Thus, although directed lending makes credit available to weak or struggling groups, its indirect costs must be taken into consideration when evaluating its social benefits.

DIRECT COSTS

NPAs are an indirect measure of costs borne by banks in serving priority sectors. Direct costs include funding, transaction, and credit costs. Funding cost is the marginal cost at which banks are able to raise money. Transaction cost is the cost of delivering credit to the borrower (e.g., wages, salaries, printing, rent, electricity, connectivity, transportation of cash, insurance, overhead, and depreciation). Credit cost is the sum of the risk and capital cost of a loan:

- Risk cost stems from the probability that a borrower will not repay a loan. The bank makes provisions for “expected loan losses,” which are computed on the basis of the historical creditworthiness of borrowers.⁹⁴
- Capital cost stems from the probability of “unexpected losses.” Such losses are deviations from average or expected losses, due perhaps to macroeconomic disturbances that require a bank to set aside additional capital to cover deviations. Since these losses impose an opportunity cost on bank funds, the bank must be given a premium on such losses in the form of a threshold minimum return, called the hurdle rate.^{95 96} Capital cost is thus defined as

$$\text{Capital Cost} = \text{Hurdle Rate} * \text{Unexpected Loss}$$

We analyze the costs incurred by public, private and foreign banks in channeling small amounts of credit to priority sectors like agriculture (domestic banks) and MSEs (foreign banks) and compare these costs with the returns on such loans to determine the net cost/return of PSL by bank type. In each category, the bank with the highest level of total advances as of March 2012, is considered representative (i.e., the State Bank of India is representative of public banks, ICICI of private banks, and Standard Chartered of foreign banks).⁹⁷

The Table 3-1 below shows the total cost incurred and the returns obtained by different bank categories in delivering credit to borrowers in the priority sectors. The table clearly reflects that engaging in PSL generates high costs for the banks compared to the resulting returns, which are low on account of interest rate ceilings imposed on these small loans. To exemplify, for a loan of INR 10,000 offered by a public sector bank at 11.5 percent, the bank makes a loss of INR 2,764. ((Cost – Return)* Loan size). The costs for private and foreign banks are INR 1,272 and INR 1,172 respectively, thus indicating that irrespective of the bank type, extending small size loans through branch networks is costly for the banking industry.

Table 3-1

Bank Wise Costs and Returns of PSL

Bank Type	Total Cost of Credit	Total Return
Public Sector Banks	39.1%	11.5%
Private Sector Banks	26.7%	14%
Foreign Banks	25.7%	14%*

SOURCE: For public sector banks, State Bank of India's rate for loans up to INR50, 000 for crop or production loans has been considered. <http://www.sbi.co.in/user.htm>. For Private sector banks, ICICI Bank's interest rate on Agricultural Term Loans has been considered. <http://www.icicibank.com/rural/loans/farmer-finance/service-charges.html>. The return on foreign banks has been assumed to be same as private sector banks.

It is noteworthy to mention here that though the cost of delivering credit to borrowers is highest for the public sector banks, some of these costs are absorbed or compensated by the government, unlike in the case of the private and foreign sector banks. To substantiate, according to former RBI governor, Dr.Duvvuri Subbarao, “[O]ver the last five years, the government has infused INR477 billion in the public sector banks with an additional amount of INR140 billion proposed to be invested during the current year (2013-14).”⁹⁸ Though this capital infusion aims at meeting the enhanced capital needs of the public sector banks under the Basel III requirements, it also shields the public sector banks from the risk cost of credit resulting from high NPAs as described above. This highlights the reluctance of banks, especially private and foreign banks to open up more branches and extend credit to small borrowers covered under the priority sectors.

This analysis shows that the cost of extending credit to priority sectors by expanding branch networks is very costly for all types of banks relative to the interest income that such credit generates. Interest rate ceilings for small loans, especially in case of agriculture limit the banks’ ability to earn income on such loans in order to cover the “higher fixed costs and higher perceived credit risk”⁹⁹ associated with small loans. Further, since transaction costs depend on the number of loans and not the loan size, a sum going to few borrowers costs less than the same sum going to many borrowers. For priority sectors, especially agriculture, loans are often small and the number of borrowers large, with consequently high transaction costs. Thus, although PSL has made credit available to priority sectors the cost has been onerous for banks. Banks should bear some costs in assisting the underprivileged but not to the point of overwhelming their own viability. The analysis reinforces the fundamental dilemma associated with priority sector lending in India mentioned by Dr Raghuram Rajan in his report, A Hundred Small Steps: Report of the Committee on Financial Sector Reforms. According to Dr Rajan,

“Priority sector norms will expand access only if they make banks do what they would otherwise not do, which almost by definition is unprofitable. There is therefore a delicate balance in setting priority sector norms and eligible categories. High priority requirements and narrow eligible categories targeted at those who truly do not have access could lead to greater access to credit, but could reduce bank profitability considerably.”

4. Recommendations

Priority sector norms in India were formulated more than 40 years ago when the conditions prevailing in the financial and the corporate sectors of the economy were very different. Most sectors were regulated and hence their exposure to the global economy was minimal. Over the years, PSL in India has increased the supply of credit to agriculture, micro and small enterprise, and exporters, but the cost of this lending to the banks has been high relative to the returns. With the global economy facing a financial turmoil, the need for ensuring competitiveness of the country's financial sector is of great importance. At this juncture, compromising bank's profitability by mandating them to take the burden of priority sector lending – without taking into consideration the differences in their business model - is costly not only for the banking industry, but the entire economy. The approach must instead focus on making these sectors, especially agriculture, less risky and more credit worthy so that they would attract investment. In light of this and the experience of other countries with directed lending, we recommend the following measures to make credit available to India's priority sectors in a more efficient way and at a cost that does not challenge the viability of banks' operations.

Reset PSL Targets by Bank Type

One size does not fit all when setting PSL targets. Public, private, and foreign banks must be assigned targets that conform to their business models to ensure the efficiency of the banking sector is not adversely affected.

Issue: Requiring all banks to lend 18 percent of PSL targets to agriculture is not an efficient way to direct credit to agriculture. Public banks have advantages in lending to this sector. They have a vast network of branches in rural areas and benefit from government support schemes, like the Kisan Credit Card Scheme¹⁰⁰ that gives a 2 percent per annum subsidy to public banks for crop loans of up to INR 3 lakh to farmers.¹⁰¹

Recommendation. Revise lending target for agriculture, based on the expertise and the ability of different types of banks to service the sector. The agricultural lending target for the banks should be structured on a descending scale for public and private banks taking into account the branch network and their presence in rural and semi urban areas. Since foreign banks do not have expertise in lending to the agricultural sector, they should not be required to lend to it, irrespective of their branch network. Instead, export credit, in which they have global expertise, must be revitalized as a priority sector for foreign banks.

As shown in Chapter 3, export credit has a positive impact on India's export and national GDP. Exports can help revive India's flagging economy, narrow its trade deficit, and improve currency appreciation. The revised PSL guidelines no longer require foreign banks with more than 20 branches to lend to the export sector; this will reduce the credit available to exporters and hinder export growth. The adverse effect of reduced PSL credit to exporters can be quantified using the regression analysis discussed in section 3 that analyzes the relationship between PSL to the export sector and export GDP. The estimates suggest that a 1 percent fall in PSL to the export sector, would reduce the export GDP by 0.76 percent. We therefore recommend re-instating export credit into PSL, and potentially even increase its share in the PSL by foreign banks.

Issue: Meeting the 13.5 percent target for direct lending and 4.5 percent target for indirect lending for agriculture depends on the reach of the bank and the skills of staff engaged in lending. Forms of direct lending include crop loans or loans to farmers, joint liability groups, and self-help groups to purchase land for agricultural purposes.¹⁰² Loans to farmers under the Kisan Credit Scheme are considered a form of direct lending. Forms of indirect lending include loans to corporations, including farmers' producer companies, partnership firms, and cooperatives directly engaged in agriculture and allied activities. Loans to microfinance institutions are also considered a form of indirect lending.

Direct lending requires banks to reach out mainly to individual borrowers and make small loans; indirect lending requires reaching out to groups and making larger loans. Indirect lending is easier for a formal institution to service. Reaching out to small, individual borrowers requires opening more branches and locating borrowers who must then be pulled away from informal lenders who offer convenient credit without stringent collateral requirements. The fact that even public banks have not achieved their targets for direct agricultural lending highlights the issues associated with direct agricultural lending. Between 2000-01 and 2011-12, public sector banks met direct agriculture targets only seven times (58 percent). Requiring private banks to meet the same targets is not a realistic approach in improving credit access to small borrowers.

Recommendation: As with overall lending to agriculture, the ratio of direct and indirect lending should be based on the ability of the bank to meet their targets. We recommend a review of the direct and indirect agricultural lending targets for private banks relative to the public banks. Further, we recommend review of these targets at a state level taking into account the current presence of alternative funding agencies such as cooperatives and RRBs in the respective states, in order to ensure an equitable distribution of access to credit. For instance, the Southern states in India have a substantially higher share in agricultural credit, largely on account of a strong cooperative movement there.¹⁰³

Issue: Foreign banks have neither the expertise nor the wherewithal to lend to the agricultural sector. Foreign banks face an inherent disadvantage in extending credit to India's agricultural sector. The revised PSL guidelines that subject foreign banks with more than 20 branches to the same lending requirements as domestic banks are not rational. To meet those requirements, for example, banks will have to open more branches. The cost of securing regulatory approval to establish new branches, coupled with the high opportunity cost of lending to a less productive sector like agriculture, will discourage foreign banks from expanding, especially banks close to the 20 branch threshold, like Deutsche Bank, which had 18 branches as of March 2013. Foreign banks

may also be dissuaded from entering or remaining in branch banking in India. The United Bank of Switzerland, for example, recently surrendered its banking license in India after reassessing its business strategy.¹⁰⁴

Requiring foreign banks to meet agricultural lending targets is likely to have other adverse consequences in a number of areas, including capital entering India in the form of remittances, taxes paid by foreign banks, innovation in banking products and services, and services for HNIs, multinational corporations, and Indian conglomerates that depend on foreign banks for trade finance, cross-border transactions, and corporate servicing.

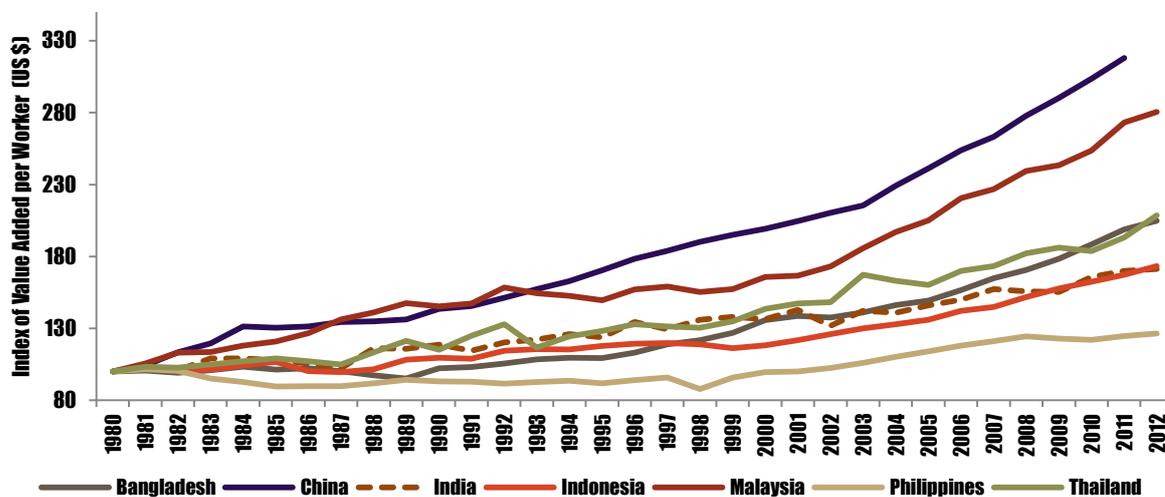
Recommendation: Make other sectors priority sectors, at least for foreign banks. These could include infrastructure, energy (especially renewable energy), healthcare, water supply, and agriculture research and development. Loans to the energy sector, a “long gestation” sector, might become productive assets for banks after three to four years but would be cheaper to service because of lower transaction and customer acquisition costs. Likewise, sectors like infrastructure, healthcare and energy are strategic in improving rural infrastructure, growth in the agricultural sector and ultimately, the competitiveness of the Indian economy.

Provide Risk Cover to Agriculture and Make it More Attractive to Private Investors

Agriculture provides livelihoods for a vast portion of India’s population, but it continues to be marred by the problems of stagnant/low productivity.¹⁰⁵ A comparison of India with six predominantly agrarian economies in Asia (Figure 4-1) reflects India’s poor performance in terms of agriculture value added per worker, which the World Bank considers as a measure of agricultural productivity.¹⁰⁶ As can be seen in the figure below, India fares better only compared to Philippines, with Indonesia coming almost at par with India since 2009.

Figure 4-1

Cross Country Comparison of Agricultural Value Added per Worker



Note: Data are in constant 2005 US\$

SOURCE: World Bank

In this backdrop of a stagnating agrarian economy, it is evident that provision of increased credit supply is necessary, but not sufficient, to improve agricultural production in the country. Providing risk cover to the sector and creating an enabling environment for the sector to attract public and private investments at the grass-root level instead of increased formal bank credit is the key to solving the sector's productivity issues. Following are our recommendations towards this end:

- Develop water, electricity, transport, and sanitation infrastructure in rural areas in order to attract private investment into the sector.
- Develop a robust climate forecasting system that disseminates information at a grass root level.¹⁰⁷
- Improve management and efficiency of irrigation projects in India. Creation and maintenance of Operating and Maintenance (O&M) Funds for satisfying the financial needs of irrigations projects, monitoring their progress and employing inter basin water transfer for improving the irrigation potential is important.¹⁰⁸
- Strengthen government programs like the Minimum Support Price program and expand its coverage in all states of the country by ensuring remunerative prices to farmers.
- Evolve agricultural insurance as a crucial risk intervention mechanism. Currently, the primary agricultural insurance scheme operating in the country is the National Agricultural Insurance Scheme implemented by the Agriculture Insurance Company of India (AICIL) to “*protect the farmers against losses suffered by them due to crop failure on account of natural calamities*”.¹⁰⁹ While this program has played a crucial role in risk mitigation, it suffers from limitations such as low indemnity levels, delays in claim settlement, no coverage for horticultural crops and poor servicing.¹¹⁰ The role of the government in this process by introducing Credit Guarantee Schemes in the sector (like the existing scheme in the MSE sector) is imperative. Additionally, the government should encourage contract farming as an alternative risk management instrument and attract private sector participation.

*Contract farming is essentially an agreement between unequal parties, companies, Government bodies or individual entrepreneurs on the one hand and economically weaker farmers on the other. The main feature of contract farming is that the buyer/contractor supplies all the material inputs and technical advice required for cultivation to the cultivator.*¹¹¹

In addition to ensuring forward and backward linkages through marketing channels to agricultural produce, contract farming has provisions for training cultivators, supplying technology and inputs, and ensuring access to credit, as the contract itself serves as collateral for banks.¹¹²

- Agro-processing also holds promise for attracting investors. In 2010–2011, this subsector was responsible for about 10 percent of India's agricultural GDP and 8 percent of its manufacturing GDP; and between 2006–07 and 2010–11 employment in the subsector grew at an average annual rate of about 4 percent.¹¹³ Agro-processing attained priority sector status in 1999 but has been frequently reclassified, sometimes under agriculture and sometimes under micro and small enterprises.¹¹⁴ In 2008, loans for agro-processing were classified as indirect finance for agriculture; in 2012, they were classified as direct finance for MSEs. Targets for agro-processing loans should be classified under indirect targets for the agricultural sector. Banks usually meet PSL lending targets for MSEs, so having agro-processing units in the same category means the units are

unlikely to get loans. In addition, the units are inherently aligned with agriculture; channeling credit to them in that category will ensure that small farmers benefit through backward linkages.

Use Innovative Market Driven Instruments to Make Credit Available to Priority Sectors, Ensuring Viability of Commercial Banks

While PSL norms were introduced primarily because of the failure of the market forces to extend credit to certain economically weaker sections, the policy's inability to satisfy the credit demand of these sectors even after 40 years, indicates the need for reversion to market forces to satisfy the credit needs of these sectors. Towards this end, we reiterate the recommendations of the earlier committees on PSL in India, to issue Priority Sector Lending Certificates (PSLCs) to a registered lender (MFIs, Cooperatives, RRBs etc) who engages in PSL and gets the PSLCs worth the amount of the PSL loans and allowing for trade of these PSLCs. This would provide a platform that would enable deficient banks to purchase these certificates to complete their PSL targets and sub targets and provide the lending institutions with funds to sustain their financial viability. Unlike the Inter-Bank Participation Certificate Scheme which allows banks not able to meet their PSL targets to securitize loans given by other institutions and include it in their targets, PSLCs are seen as a mechanism to separate credit risk from refinancing where in the deficient banks can buy certificates to compensate for their shortfall in lending. Thus, while the loans would continue to be on the books of the original lender, and the deficient bank would only be buying a right to undershoot its priority sector-lending requirement by the amount of the certificate. This will allow the most efficient lenders to provide the credit to the needy sectors with access to formal credit while not imposing the cost of the same on commercial banks. A pilot to examine the positives and shortcomings of such a market driven PSL program must be implemented.

Strengthen Cooperative Banks, Regional Rural Banks, and Microfinance Institutions and Encourage Opening of "Small" Finance Banks

Directed credit programs can make credit available to priority sectors, but the costs are unsustainable. Korea, Japan, and China established programs in the early stages of their development, and then replaced them with government institutions that cater to priority sectors. To ensure credit availability to these sectors in the long run, India needs sustainable means for directing credit. Specialized institutions that focus on one or more of these sectors while being embedded in general banking for their funding needs, will ensure both viability of the lending institution and credit access to the needy. We recommend strengthening the roles of such specialized lenders like cooperative banks and RRBs by enhancing regulatory oversight, constructing an enabling environment for encouraging the operations of microfinance institutions and encouraging small banks in rural and semi urban areas that specialize in satisfying the small credit needs of priority sectors.

COOPERATIVE BANKS

Because of their expansive outreach, India's cooperative banks are increasingly supporting small and marginal farmers. The cooperative banks' share of credit for agricultural and allied activities has fallen drastically, from 91 percent in 1970-71 to 17 percent in 2011-12, but their share of the total number of loan accounts is substantial, an indicator of the small size of loans. In 2011-12, cooperative banks provided credit to 3.09 crore farmers, whereas commercial banks that accounted for 72 percent of the credit to the agricultural sector provided credit to only 2.55 crore farmers.¹¹⁵ Even looking at how much was disbursed for each account, cooperatives lent INR 28,467 in 2011-12, much less than RRBs (INR 66,000) or commercial banks (INR 1,15,000).

The financial health of cooperatives has been weak, in part because of management and governance problems.¹¹⁶ Ongoing revitalization of cooperatives through staff training, corporate governance improvement, and organizational development is having some positive impact (Table 4-1). Deposits held have fallen over the years, but loans outstanding and net profits in 2011-12 were much improved over the previous year. NPA performance has also improved. In light of these positive changes in the performance of cooperatives as a result of the current reforms, and given their expansive outreach in the rural and semi urban areas, cooperatives can be used as an effective means of servicing the small credit needs of the large number marginal farmers in India.

Table 4-1

Performance Indicators: Cooperative Banks

Years	No. of Banks	Deposits	Loans and Advances (Outstanding)	Net Profit	Recovery of Loans (%)	NPAs to Loans Outstanding
2005-2006	1,113	135,286	150,480	633	62.4	26.2
2006-2007	1,116	143,835	167,215	248	63.2	24.6
2007-2008	1,118	168,602	181,828	-475	58.1	27.3
2008-2009	1,118	200,880	175,354	1,860	61.0	25.6
2009-2010	1,118	237,730	204,263	1,070	61.5	29.7
2010-2011	1,118	252,000	228,600.39	892	60.3	23.1
2011-2012P	1,118	262,231	259,714.62	1,993	61.8	22.0

Notes: Data for 2006-07 are provisional. Recovery of Loans is as of June 30 and is calculated as the average of the cooperative banks including state cooperative banks, district cooperatives banks, state cooperative agriculture and rural development banks, and primary cooperative agriculture and rural development banks.

SOURCE: NABARD Annual Reports.

REGIONAL RURAL BANKS

RRBs have been providing credit to small and marginal farmers, agricultural laborers, artisans, and small entrepreneurs since 1975. With 17,856 branches in 635 districts as of March 2013, they are integral to India's rural economy.¹¹⁷ RRB performance has been modest because of the high cost of lending to the target groups, poor recovery of loans, high staff costs, and lack of commercial orientation in management.¹¹⁸ The government is restructuring RRBs so they can better serve the targeted population without incurring inordinate losses. Restructuring includes training, introducing a common written exam for recruitment of officers, and strengthening the capital to risk-weighted assets ratios (CRARs) by infusing up to INR 22 billion.¹¹⁹ Table 4-2 presents recent

performance indicators for RRBs. The fall in the number of RRBs is a function of recapitalization. Total deposits declined for two consecutive years (2010-11 to 2011-12) then picked up in 2012-13, indicating improved performance. The same held true for loans and advances and net profits. In 2012-13, 63 of 64 RRBs made a profit of INR 2,384 crores, compared to 79 of 82 that made a profit of INR 1,886 crore in 2011-12.¹²⁰

Table 4-2

Performance Indicators: RRBs

Years	No. of Banks	Branches	Deposits	Loans and Advances (Outstanding)	Net Profit	Recovery of Loans (%)	NPAs to Loans Outstanding*
2004-2005	196	14,484	62,143	32,870	748	79.9	8.5
2005-2006	133	14,494	71,329	39,713	617	79.8	7.3
2006-2007	96	14,520	83,144	48,493	625	80.5	6.6
2007-2008	91	14,761	99,093	58,984	1,328	80.8	6.1
2008-2009	86	15,181	120,190	67,802	1,788	77.9	4.1
2009-2010	82	15,444	145,035	82,819	2,542	80.1	3.7
2010-2011	82	16,001	166,232	98,917	1,715	81.2	3.5
2011-2012	82	16,909	186,336	116,385	1,857	81.6	5.0
2012-2013	64	17,856	211,458	139,837	2,383	82.6	5.7

Note: Recovery of loans is as of June 30. Data for 2006-2007 are provisional.

SOURCE: NABARD Annual Reports.

MICROFINANCE INSTITUTIONS

Many things discourage formal banks and small borrowers from working together—collateral requirements, loan approval processes, risk due to the seasonal nature of rural and agricultural incomes, inadequate financial statements, and a general lack of tools for assessing creditworthiness. In light of these obstacles, microfinance institutions (MFIs) could significantly increase the credit supplied to unbanked rural and semi-urban areas through their vast distribution network and business model of “last mile connectivity.” The priority sector lending norms in India currently recognize bank credit to MFIs for lending to farmers for agricultural and allied activities and to MSEs under the indirect finance category in agriculture and MSE sector, respectively.¹²¹

MFIs provide basic banking and insurance services to poor and low-income people. They are close to borrowers and are aware of their credit requirements and ability to repay. Their small-scale financial products and services, including loans (without collateral), insurance, and transfer facilities, help the poor to smooth consumption, manage risk, and build assets.¹²² Through self-help groups, MFIs are also effective in assisting poor women. And because banks are their most common source of credit, MFIs advance the development of the financial system by integrating formal credit with their own distribution networks.

MFIs also have some shortcomings, the most serious being high interest rates. In fact, high interest rates and coercive collection practices were alleged to be responsible for a surge in suicide in rural Andhra Pradesh in 2010, to which the State government responded by enacting the Andhra Pradesh Microfinance Institutions (Regulation of Money Lending) Act.¹²³ The act put in place stringent

regulations regarding monthly repayments, requiring registration of MFI branches, and banning door-to-door collection of repayments. MFI repayment rates in the Andhra Pradesh have since fallen from 99 percent to less than 20 percent.¹²⁴

While the interest rates charged by MFIs are higher than that charged by banks, those interest rates are a true reflection of supplying credit to rural customers. These rates are what make the business sustainable when one factors in the very high transport, rent, and personnel costs of administering a large number of small loans in rural areas.¹²⁵ Reducing travel costs by developing rural roads, educating borrowers on lending practices, making rates transparent, and varying rates by region are all steps that could ensure rates reflect the costs of administering credit while being high enough to make the business viable.

Despite the setback of the crisis in Andhra Pradesh, MFIs are getting stronger and increasingly recognized as important to the financial inclusion of the weaker sections of the population. To illustrate, the MFI borrower coverage went from - 27.3 percent in 2011-12 to 13 percent in 2012-13, an increase of 40 percentage points.¹²⁶

Cooperative banks, RRBs, and MFIs have the physical coverage and business models necessary to extend credit to the smallest marginal borrowers in India's rural areas. Strengthening their roles will require regular monitoring of their progress and practices, and of the funds flowing to them.

SMALL FINANCE BANKS

Experience of countries like US, Philippines and other countries evidences success of small sized local banks in increasing provision of financial services to the poor. Data for US shows that small business enterprises that had strong local banking relationships, received loans at lower rates, fewer collateral requirements, and enjoyed greater credit availability than other small businesses.¹²⁷ Being close to the borrower, these banks know about the borrowers' credit cycles and being small, the decision making power is vested in the loan officer and loan disbursement simple compared to larger banks. They have low cost structures, effective governance and management, and are thus better equipped to cater to small credit needs of sectors like agriculture. While cooperatives, RRBs and MFIs are similar to such small local banking institutions, having multiple small banks catering to such sectors, with appropriate regulatory oversight can be used for ensuring timely access to small borrowers.¹²⁸

Promote enablers like an extensive credit information system to create a robust credit infrastructure and a healthy credit culture

For the efficient functioning of the banking industry, infusing a healthy credit culture – penalizing the defaulters and promoting repayment of loans- is of utmost importance. A well functioning credit infrastructure facilitates this by allowing for widespread collection and maintenance of information on borrower credit history, low cost pledging and enforcement of collateral interests.¹²⁹ Government initiatives like issuing Unique Identification Numbers (UID) to over 60 crore residents of the country by 2014, is a step towards creating a credit information system for the country. Further, the proposal to link bank accounts with UID will not only benefit the creditors by increasing their chances of repayment, but also the borrowers by increasing their access to formal

bank credit. Public private partnership can be used as an instrument to create an extensive system for tracking individual information.

Quite often, certain government actions and regulations also add to the banks' reluctance to lend to some priority sectors. For instance, in 2008, a debt waiver scheme was announced by the government of India that waived loans of about three crore small and marginal farmers having land up to 2 hectare, giving partial relief to one crore more cultivators having land more than 2 hectare. The INR 52,000 crore program was flawed in implementation because of loan waiver favors extended to ineligible farmers, and encouraging non-payment of dues by such small and marginal farmers in anticipation of a debt waiver scheme in the near future.¹³⁰ Such programs are therefore onerous for the banks and since the targeted beneficiaries, do not always benefit from such programs, their net benefits for the overall economy are minimal.

Further, in case of MSEs, the Micro, Small and Medium Enterprises Act, 2006, makes registration of micro or small enterprises with the District Industries Centre (DIC),¹³¹ optional, possibly a reason behind only 6 percent of the MSMEs being registered in the country.¹³² In the absence of formal registration and quite often, formal financial reporting, banks are reluctant to lend credit to such small enterprises. Such government actions must therefore be corrected in order to create an environment facilitating lending to priority sectors by banks.

Use Technology to Reduce Cost of Credit Delivery

As aforementioned, the cost of delivering credit to priority sectors is high relative to the returns that they generate, and is highest for public sector banks. Once the appropriate infrastructure is in place, using technology through ATMs, mobile and internet banking, to deliver credit rather than branches would save costs for banking institutions. With the telecom network in India evolving rapidly, mobile banking is the most promising technology to facilitate access to credit especially in rural and remote areas.

5. Conclusion

The contribution of PSL in increasing the credit supply to priority sectors, primarily agriculture, MSEs and export in India is clear. However, imposing mandatory PSL restrictions on all types of SCBs uniformly, is not only an inefficient means of meeting the needs of the sectors, but is also costly for the banks. Further, the responsiveness of sectors to increase in PSL is governed by sector specific factors. Agriculture, in particular is characterized by factors such as dependence on monsoons, stagnating / lowering productivity, fragmentation of land holdings and the existence of an informal credit market that throttles the impact of increased PSL from reaching the intended beneficiaries, and contributing to the sector's growth.

Thus looking at the costs incurred by banks in extending credit to priority sectors by opening more branches, and in light of a strong informal credit market competing with the formal credit due to comparative advantage of proximity to the borrower, we recommend alternate channels of disbursing credit to these sectors specially agriculture. Resetting PSL targets for banks based on their underlying business models will certainly enable them to meet their targets efficiently. However, considering the costs of PSL for banks, credit availability to priority sectors in the long run can be sustained by making these sectors, especially agriculture, attractive for private sector investment and by strengthening specialized financial institutions like RRBs, cooperatives and MFIs to meet the credit needs of these priority sectors and stimulate positive feedback effect on the growth of these sectors.

Appendix A. Case Studies: Experience with Directed Credit Policy

This appendix examines the experience of Japan, Korea, China, Brazil, and Thailand in using directed credit programs to accomplish their economic development goals, taking into account the impact on intended beneficiaries and the overall economy. Lessons from this experience are summarized in Chapter 1 of this report.

Japan: Window Guidance

After World War II, the Government of Japan undertook the ardent task of reconstructing the economy by fostering development of a strong industrial sector through targeted credit policy. The policy aimed to do the following:¹³³

- Support export-oriented businesses and large industry in which Japan enjoyed a comparative advantage.
- Restructure loss-making industries and declining sectors in which Japan was no longer internationally competitive.
- Facilitate growth of small firms.
- Provide industrial infrastructure.
- Extend financial support to some traditional and relatively inefficient industries, such as agriculture (more in response to political pressure than to the requirements of industrial policy).

Japan relied on government intervention rather than market forces to rebuild the economy to mitigate the effects of (1) the high investment costs and long gestation periods prevalent in large industries, (2) the information asymmetry that discouraged private sector lending to small and medium enterprises, and (3) the high establishment costs facing infant industries.

PLAYERS, SCOPE AND SOURCES

Japan's central bank, the Bank of Japan (BOJ), helped steer the country's directed credit policy to achieve the desired outcomes. Other institutions involved in extending policy-based credit were largely government-owned financial institutions—the Japan Development Bank, the Reconstruction Finance Bank, and the Export-Import Bank. Private long-term credit banks like the Long-Term Credit Bank of Japan and the Industrial Bank of Japan also did much to make long-term financing available to certain industries. Commercial banks largely provided support for export finance. ¹³⁴

While directed lending by government-owned institutions was funded largely by mobilizing the economy's postal savings, commercial banks contributed to lending through BOJ's "window guidance." The BOJ regularly assessed private banks' lending portfolios and quotas, instructed the banks to increase or decrease lending on a quarterly basis, and penalized banks that missed their targets, either by over- or undershooting. Loans were categorized by sector of operation (e.g., retail, real estate, manufacturing), industry (e.g., iron and steel, coal, chemicals), and size of enterprise. This information was then used to direct credit to priority industries, such as large-scale manufacturing, which were perceived as contributing to overall economic development.¹³⁵ This directed credit policy was a major source of funds for industries in the 1950s and early 1960s and was practiced until 1991.

An important feature of Japan's directed credit program was monitoring and supervision. The loan approval process was stringent and the BOJ closely monitored it as well as the process for loan disbursement. This monitoring and the process for selecting industries to support with credit—and the government's absorption of losses accrued by declining industries such as coal—led to lower loan losses in the economy.

IMPACT ON THE ECONOMY: MIXED EVIDENCE

Opinion on the impact of directed credit policy on Japan is mixed. Advocates say it "primed the pump" in Japan's war-stricken economy and by "crowding in" private investment attracted money to industries that could revive the country's economy.¹³⁶ Studies show that the government's initial support of certain industries (primarily through government financial institutions) helped build a strong foundation and stimulated growth, and that these industries gradually relied less and less on directed credit. The machine tool industry in particular benefitted tremendously from directed credit in the 1960s to 1970s as it introduced new technology and expanded to achieve economies of scale.¹³⁷ According to the literature, directed credit in Japan was extended to a firm only once. This credit provided initial support to large, capital-intensive firms with high investment requirements. Then growing, such firms managed to attract private funds that enabled them to attract more investment and to innovate. Government credit therefore stimulated investment in Japan, was positively correlated with private credit, and led to rapid economic development.

Opponents of directed credit are skeptical of the claim that Japanese economic growth in the late 20th century was due to policy-directed capital. They cite two primary facts. First, industries were selected not on the basis of their productivity but on likely spillover effects on other industries. For example, coal mining and ship building received large initial assistance because they could "jumpstart" industrialization overall and not because they were productive themselves. Second, the government's absorption of loan losses resulting from payment defaults or the failure of certain industries (despite close monitoring) had high social costs. Preferences for certain industries also imposed opportunity costs by diverting funds from other firms or from consumers. These costs lessened the net benefit of directed credit at the macroeconomic level, the impact of which has not been assessed using empirical analysis.¹³⁸

In sum, the impact of directed lending on the growth of priority sectors in Japan, primarily large-scale industry, was mixed. Industries such as machine tools and machinery experienced tremendous growth between the 1960s and 1990s, but it would be a mistake to attribute that growth entirely to

directed credit. The government's role in modernizing the industry and setting up appropriate infrastructure must also be taken into account, along with other factors. Japan's experience also suggests that government financial institutions can be more effective than commercial banks in directing capital to priority sectors and monitoring the disbursement of such credit.

In recent years, the influence of government-affiliated financial institutions (GFIs) in Japan has faded. As of 2010-11, their total assets in the financial system declined to 11 percent from 21 percent, a decade ago.¹³⁹ Furthermore, the directed credit policy (undertaken through GFIs) has been modified to offer support to small businesses in Japan through introduction of specialized programs like the SME Financing Facilitation Act. However, in the context of the global financial crisis, natural disasters, and weak equity markets, bank lending to SMEs remains weak, while it has improved for large corporations.

Korea: Export-oriented Directed Credit

The experience of Korea exemplifies how an impoverished state, largely dependent on foreign aid, can coordinate directed credit and industrial policy to lay the groundwork for industrialization. In the 1960s, directed credit was used to promote exports, earn foreign exchange, and build industries. Once industrialization started, export promotion was strengthened to accelerate development. During this time, government control over credit was the strongest, with nearly all major banks nationalized and national banks regulating interest rates. In the 1970s, attention shifted to heavy and chemical industries (HCIs) and industrial policy provided for credit subsidies and protection of HCIs. In the 1980s, policy focused on macroeconomic stabilization to check inflation (a result of downward regulation of interest rates) and lopsided industrial development. Policies focused on lending to small industry, liberalizing trade, and privatizing commercial banks. Government continued to control credit, but in a reduced fashion.¹⁴⁰

PLAYERS, SCOPE, AND SOURCES

In the 1970s, Korea's extensive directed credit programs amounted to about 50 percent of lendable resources. In the 1980s, after commercial banks were privatized, the directed credit programs channeled about 30 percent of resources. As in Japan, the government-owned central bank, the Bank of Korea (BOK), played a major role in directing credit to economic development, however dependence on the central bank credit was much greater in Korea. While the Korean Development Bank and export-import banks were established to direct lending to export-oriented industries, the nationalization of nearly all banks led to commercial banks being very involved in policy-based lending.¹⁴¹ Despite dependence on foreign debt capital, foreign banks operating in Korea were not required to extend policy-based loans in the country.¹⁴² The same was also true for nonbanking financial institutions.

Central bank credit was the most important source of policy-directed credit, followed by deposits mobilized by the Deposit Money Banks. BOK's contribution to export credit was about 51 percent of total central bank lending during 1973-1981, then fell to about 7 percent during 1987-1991. Foreign debt capital, largely raised in the United States and Japan, was also an important source of policy-based lending in Korea.

As in Japan, the Korean government tightly monitored loan approvals and required thorough documentation. Nevertheless, it carried huge losses because of the ambitious expansion of HCIs and the NPAs accumulated by nationalized banks under the directed-policy regime.

IMPACT ON THE ECONOMY

The impact of directed credit policy can be gauged by its impact on the availability of credit to priority sectors (exports and HCIs), the growth of those sectors, and the cost to the overall economy. BOK survey data from 1973 to 1990 suggests that export sectors and HCIs both enjoyed better access to capital and lower borrowing costs. It is difficult, however, to attribute export sector growth to directed credit because other factors, such as the 1964 currency devaluation, also played their role. The impact on HCIs is clearer. The share of bank credit to HCIs went from 22.6 percent in the 1970s to 32.1 percent in 1980, and HCIs' contribution to GDP nearly doubled, rising from 8.6 percent in the 1970s to 16.5 percent by 1980. The share of HCIs in exports increased from 12.8 percent to 38.3 percent in the same period.¹⁴³ Directed credit definitely led to the growth of the HCI in Korea's economy.

What were the overall costs of directed credit policy? The banking system became inefficient and economic development imbalanced. The drive to use bank credit to promote priority sectors and government control of credit led to inadequate screening of projects and an alarming accumulation of NPLs. From 1971 up to 1987, the ratio of NPLs to credit outstanding increased eightfold. In addition, prioritizing heavy industries concentrated economic power in HCIs, especially in the manufacturing sector. By 1981, thirty Korean conglomerates were responsible for 41 percent of manufacturing sales.¹⁴⁴

China: Policy-based Lending

In China, directed lending was used to promote large state-owned enterprises with the government providing explicit official guidance to Chinese banks, including state commercial banks, on their lending operations.¹⁴⁵ From the 1980s to the late 1990s, this policy of directed lending provided unviable state-owned enterprises with funds for working capital and new investment to create jobs and meet objectives for housing, education, health, and pensions.¹⁴⁶ In 1994, the policy changed. The state banks were commercialized¹⁴⁷ and policy-based lending was channeled through three new banks, the Export-Import Bank, the Agricultural Development Bank, and the China Development Bank. The new banks extend five types of loans on the basis of the priority sector to which they are directed:¹⁴⁸

1. Investment loans for power and transport infrastructure
2. Fixed-asset loans to enhance the technology of state-owned enterprises
3. Rural area development (including poverty alleviation) loans
4. Working capital loans to priority state-owned enterprises
5. Loans for subsidized sectors, such as education and health.

China established the policy-based banks to serve sectors important for economic policy but which might not be able to meet the lending criteria of commercial banks.

PLAYERS, SCOPE, AND SOURCES

The main function of the State Development Bank is to finance construction and infrastructure projects and the growth of certain key industries. These include the following:

- Highways, railways, ports, and power
- Basic industries such as steel, chemicals, and raw materials
- Emerging industries, such as electronics and automobiles
- Important state projects in other sectors, such as forestry and agriculture.

The State Development Bank finances its lending with capital from the Ministry of Finance and from existing funds for construction projects, bonds issued to the public, and a portion of deposits from the People's Construction Bank of China (PBCB).

The Export-Import Credit Bank (Exim) provides credit to buyers and sellers for export and import activities. The source of loan funds is capital extended by the Ministry of Finance. The Agricultural Development Bank finances agricultural development and state procurement of agricultural products.¹⁴⁹ It gets its loan funds from bonds issued to financial institutions.

Over the years, the government has encouraged the policy banks to commercialize by expanding beyond directed lending. For instance, Exim now serves private businesses even though its main purpose is still to promote foreign trade by providing credit to domestic exporters.¹⁵⁰

IMPACT: BAD LOANS AND INFLATION

According to a 2005 study, policy-based lending in China contributed to approximately one-third of bank credit.¹⁵¹ China's policy-directed lending cross-subsidized state-supported sectors and price control schemes in agriculture and export-import products. These sectors, however, did not experience increased growth or productivity, and many loans were diverted or turned bad.¹⁵² In fact, NPAs resulting from directed lending far exceeded the initial subsidies and NPAs¹⁵³ were approximately 25 percent of GDP at the end of 2005. In sum, the directed lending policy resulted in low capital efficiency and inefficient use of capital.¹⁵⁴

Policy loans that were a major channel of the central bank's credit also resulted in credit expansion, inflationary pressure, and price instability.¹⁵⁵ The monitoring and supervision of policy-based lending in China proved difficult, partly because decision making had devolved from central government to local governments and institutions. As a result, funds were diverted to non priority sectors.¹⁵⁶

By separating policy-based lending from commercial lending, China was able to provide funding to priority sectors through three policy banks while other banks operated from an independent business point of view. This reduced the need to monitor and supervise policy-based lending and associated costs.

Brazil: Earmarked Credit

Brazil is Latin America's the largest economy and one of the world's leading developing countries. Its socioeconomic conditions are improving as are its indicators of financial access.¹⁵⁷ Total credit

rose from about 27 percent of GDP in 2003 to 48 percent in 2011. Despite this progress, extreme poverty and inequality—attributable largely to high and persistent inflation, external shocks, and economic dependence on agriculture—continue to hinder development.¹⁵⁸ Unsurprisingly, a primary objective of the government is to reduce poverty, in part through credit policy focused on rural areas, agriculture, infrastructure, and housing.¹⁵⁹ Such directed or “earmarked” credit is a very important aspect of Brazil’s credit policy.

PLAYERS, SCOPE, AND SOURCES

Brazil’s largest public banks, Banco do Brasil and the Caixa Econômica Federal, are entrusted with the task of ensuring that credit is available for rural areas, agriculture, infrastructure and housing. Mandatory private sector programs also earmark credit: 25 percent of demand deposits (unremunerated by law) of all banks must be devoted to rural finance, and 65 percent of passbook savings deposits must be earmarked for housing loans. Of the earmarked 65 percent, 80 percent must be allocated to the government-run Housing Financial System (SFH).¹⁶⁰ In 2003, all banks were mandated to lend about 2 percent of total demand deposits to micro financing, with interest capped at 2 percent a month (~26.8 percent a year), a rate too low to cover operational costs.¹⁶¹

In sum, government credit and private credit in the form of demand deposits are major sources of directed credit in Brazil. Other sources include the government-run Fundo de Amparo ao Trabalhador (FAT), a workers’ support fund; Fundos Constitucionais (FCOs), mandatory tax allocations to rural credit in the northern, northeastern, and central-west regions; and the National Treasury.

IMPACT ON THE ECONOMY

With the exception of microfinance institutions, Brazil’s earmarked credit programs have not reached the intended beneficiaries and have crowded out private credit. Inequality in land ownership, for example, has resulted in inequality in credit allocation, with the wealthiest 2 percent of borrowers receiving more than 57 percent of the loans, while the poorest 75 percent receive a mere 6 percent. Because most directed credit is mandated, banks cross-subsidize, raising interest rates for loans to non priority sectors and increasing the overall cost of financing in those sectors. The concentration of subsidies among wealthy landowners has pushed up land prices, thus contributing to general inflation.¹⁶²

The balance of payments crisis of 1998–1999 led to a decline in the volume of directed credit in the mid-2000s.¹⁶³ This resulted in a restructuring of state-owned banks and “removal of a substantial volume of directed credit from their books in exchange for government debt.”¹⁶⁴ Directed lending thus declined from about 54 percent of total credit in June 2000 to about 38 percent by March 2002. The global financial crisis and an increase in the “non-earmarked” segment led to a further decline in directed credit, which fell to 28 percent of total credit in September 2008. Directed credit rebounded to 35.7 percent (including credit to agriculture and infrastructure) in November 2011 because of the international crisis and the need to shelter the economy from the crisis. Thus, despite the negative impact of directed lending on Brazil’s economy, it continues to be a strong component of credit policy even today.

Thailand: Interest Rate Ceilings

Among Southeast Asian economies, Thailand has seen the least involvement by government in the financial sector. Until the late 1980s, the Bank of Thailand (BOT) maintained financial stability.¹⁶⁵ It also influenced credit allocation for specific sectors like exports, small industry, and agriculture by establishing institutions to cater to the credit needs of these sectors, including the Bank for Agriculture and Agricultural Cooperatives (BAAC) under the Ministry of Finance, and the Industrial Finance Corporation of Thailand to provide long-term loans for private industry.

PROGRAMS, SCOPE, AND SOURCES

As in the other countries described above, commercial bank credit was an important source of directed credit in Thailand. Since 1975, the government has specified that a certain share of credit of banks and financial institutions go to agriculture and agribusiness. The initial target for agriculture was 5 percent of an institution's previous year's deposit. In 1987, the target was increased to 14 percent for agriculture and 6 percent for agribusiness. If an institution missed the target, it deposited credit with the BAAC.¹⁶⁶

An important aspect of Thailand's financial sector was the ceiling on interest rates. Starting at 19 percent, the ceiling was lowered to 17.5 percent in 1983, increased to 19 percent in 1984, then lowered to 15 percent by 1986 (finance companies paid 18.5 percent).¹⁶⁷

IMPACT OF FINANCIAL SECTOR DEREGULATION

In 1989-1992 ceilings on lending and interest rates imposed by the BOT on commercial banks were removed.¹⁶⁸ This was followed by a relaxation of portfolio requirements, although the BOT continued to exercise control over the financial sector. Interest rate deregulation improved priority sectors' access to financial services. Before deregulation, BAAC operated using funds that commercial banks were mandated to place with it as part of a priority sector lending program for agriculture. With rates deregulated and the requirement that BAAC hold funds lifted, rural deposits became the most important source of funds for BAAC. The bank became self-sufficient and efficient and by 2003 had 5.2 million farm households as registered clients.¹⁶⁹

Unfortunately, rapid liberalization of the financial system without regulatory safeguards or adequate supervision contributed to Thailand's financial crisis of 1997. Liberalization of the country's capital account and the bursting of the real estate bubble drove out foreign capital and triggered the crisis.¹⁷⁰ The crisis forced a transformation in BOT's role and regular assessment of financial institutions' procedures.

Thailand's experience shows how deregulation and strong institutional management can improve access to financial services for rural people and the performance of the financial institutions.¹⁷¹

Appendix B. Credit Categories under Priority Sector Lending

The original priority sectors were agriculture, small-scale industry, and exports. The following comprehensive classification of six types of credit was later developed on the basis of recommendations by a working group in the Reserve Bank of India.¹⁷²

1. **Agricultural credit.** Agricultural credit is direct or indirect. Direct credit consists of loans to individual farmers; groups of farmers, such as self-help groups or joint liability groups; and corporations, including farmers' producer companies, engaged in dairy, fishery, beekeeping and other agricultural and allied activities, as well as the activities under the Kisan Credit Scheme. Direct credit also consists of *bank-managed* loans to Primary Agricultural Credit Societies (PACS), Farmers' Service Societies (FSS), and Large-sized Adivasi Multi-Purpose Societies (LAMPS) for on-lending to farmers.¹⁷³ Farmers can also seek export credit for exporting their own produce. Indirect credit consists of loans to corporations (i.e., farmers' producer companies, PACS, FSS, and LAMPS) working in dairy, animal husbandry, poultry and other agricultural and allied activities. Loans to microfinance institutions (MFIs) for on-lending to farmers are another form of indirect credit.
2. **Micro and small enterprise credit.** Lending to micro and small enterprises (MSE) is also direct or indirect. Direct credit consists of loans for equipment procurement, loans to the food and agro-processing sector and the Khadi and Village Industries sector, and export credit. Indirect credit includes loans to individuals and producer cooperatives in the decentralized sector and provision of credit to MFIs for on-lending to MSEs.
3. **Education Credit.** Credit extended to individuals for educational purposes, including vocational courses in India and abroad.
4. **Housing Credit.** Loans to individuals, government agencies and housing projects for the construction of dwellings for families and for the weaker segment of society. Housing Finance Companies (HFC) can also avail themselves of loans approved by the NHB for refinance or on-lending for the purchase, construction, or reconstruction of dwellings.
5. **Export Credit.** Credit extended by foreign banks (with fewer than 20 branches) is considered a PSL target. Export credit is not a separate category under PSL for domestic banks and foreign banks that have more than 20 branches.
6. **Other.** Loans to distressed persons, to State Sponsored Organizations for Scheduled Castes/ Scheduled Tribes, and to individuals establishing off-grid renewable energy are all categorized as other PSL loans.

Appendix C. Regression Analysis

Table C-1 describes the variables used in the regression analysis and presents regression equations used in the analysis.

IMPACT OF PSL ON NPAs ACCOUNTING FOR BANK TYPE

The impact was assessed using simple Ordinary Least Squares Regression (OSL) analysis, with NPA from PSL as the dependent variable and the PSL loans as the independent variable.

1. Impact of PSL loans on NPAs generated in the PSL sector

$$\text{Log (NPA (PSL))} = f(\text{Log (PSL loans, dummy (public bank, private bank, foreign bank)})$$

2. Impact of non-PSL loans on NPAs generated in the non-PSL sector

$$\text{Log (NPA (non PSL))} = f(\text{Log (non PSL loans, dummy (public bank, private bank, foreign bank)})$$

Table C-1
Results of Regression Analysis

Independent Variables	Estimates			
	Model 1–NPA from PSL		Model 2– NPA from Non PSL	
Intercept	7.39	***	9.08	***
Log priority sector lending	0.22	***		
Log non-priority sector lending			0.08	
Bank Type				
Foreign banks	(3.1)	***	(1.86)	***
Private sector banks	(1.9)	***	(0.88)	***
Public sector banks	-			
Number of observations	32		32	
R - Square	98%		81%	
F - Value	384.4		40.6	

Note: Levels of significance = 1 (***) , 5 (**), and 10 (*) percent

IMPACT OF PSL ON SECTOR GROWTH RATE

The impact was assessed using Simultaneous Equation Modeling (SEM) analysis.¹⁷⁴ In an SEM, there is a two-way relationship between the variables being studied, which makes the distinction

between dependent and the independent variables of the regression dubious. It is therefore better to club them together so as to determine them simultaneously, using the remaining set of variables. This is explained in the following regression equations:

1. Impact of PSL to export sector on the export GDP: Since the volume of exports, and hence export GDP is highly dependent on the exchange rate movements, we incorporate the same as the exogenous variable in regression 1. Similarly, since real interest rate prevailing in the economy, affect borrowing of funds and also PSL (because lending rates on PSL loans are also linked to the base rate), we include it as an independent variable in the second regression equation.

$$\text{Log (Export GDP)} = f(\text{Log (PSL to Export)}, \text{Log (Exchange Rate)});$$

$$\text{Log (PSL to Export)} = f(\text{Log (Export GDP)}, \text{Log (Real Interest Rate)});$$

Table C-2

Results of Regression Analysis: Export Sector

Independent Variables	Estimates			
	Model 1 – Export GDP (Dep Var)		Model 2 – PSL to Export (Dep Var)	
Intercept	3.65		-3.00	
Log PSL to Export	0.76	***		
Log Exchange Rate	0.63			
Log Export GDP			0.97	***
Log Real Interest Rate			-0.28	
No of Observations	15		15	
R - Square	91%		91%	

Note: Levels of significance = 1 (***) , 5 (**), and 10 (*) percent

2. Impact of PSL to MSE sector on the Manufacturing GDP: Employment (or labor input) is an important determinant of the output generated in a sector. Hence we include it as an independent variable in regression 1. However, since high multi-collinearity was observed between employment and the PSL to MSE sector, to account for the same, the residual of the regression of PSL to MSE sector on the employment in the sector was used as the independent variable in the regression. Total number of MSMEs and the real interest rate were used as the independent variables in the second regression.

$$\text{Log (Manufacturing GDP)} = f(\text{Log(PSL to MSEs)}, \text{Residual from Employment and PSL to MSEs equation});$$

$$\text{Log (PSL to MSEs)} = f(\text{Log (Manufacturing GDP)}, \text{Log (Total number of MSMEs)}, \text{Log (Real Interest Rate)});$$

Table C-3*Results of Regression Analysis: MSE Sector*

Independent Variables	Estimates			
	Model 1 – Manufacturing GDP (Dep Var)		Model 2 – PSL to MSEs (Dep Var)	
Intercept	10.17		-29.53	
Log PSL to SMEs	0.41	***		
Residual from Employment and PSL to SMEs equation	0.09			
Log Manufacturing GDP			2.84	***
Log Total Enterprises			-0.18	
Log Real Interest Rate			0.20	
No of Observations	15		15	
R - Square	95%		93%	

Note: Levels of significance = 1 (***) , 5 (**), and 10 (*) percent.

- Impact of PSL to agriculture sector on the Agriculture GDP: Area under agriculture and the annual rainfall are used as independent variables in regression 1, while real interest rate is used as the independent variable in regression 2.

$$\text{Log (Agriculture GDP)} = f(\text{Log (PSL to Agriculture)}, \text{Log (Area under Cultivation)}, \text{Log (Rainfall)});$$

$$\text{Log (PSL to Agriculture)} = f(\text{Log (Agricultural GDP)}, \text{Log (Real Interest Rate)});$$

Table C-4*Results of Regression Analysis: Agriculture Sector*

Independent Variables	Estimates			
	Model 1 – Agriculture GDP (Dep Var)		Model 2 - PSL to Agriculture (Dep Var)	
Intercept	7.29		-90.53	***
Log PSL to Agriculture	0.11	***		
Log Area Under Cultivation	0.93	***		
Log Rainfall	-0.05			
Log Agricultural GDP			7.50	***
Log Real Interest Rate			-0.28	
No of Observations	15		15	
R - Square	91%		87%	

IMPACT OF PSL ON NPAs

- Impact of PSL loans on NPAs generated in the PSL sector

$$\text{Log (NPA (PSL))} = f(\text{Log (PSL loans)})$$

- Impact of non-PSL loans on NPAs generated in the non-PSL sector

$$\text{Log (NPA (non PSL))} = f(\text{Log (non PSL loans)})$$

Table C-5*Results of Regression Analysis*

Independent Variables	Estimates			
	Model 1 – NPA from PSL		Model 2–NPA from Non PSL	
Intercept	7.46	***	8.11	***
Log Priority Sector Lending	0.22	***		
Log Non-priority Sector Lending			0.17	***
Number of Observations	17		17	
R - Square	81%		49%	
F - Value	63.5		14.5	

Note: Levels of significance = 1 (***) , 5 (**), and 10 (*) percent.

Appendix D. Cost of Credit

This appendix describes how the cost of credit is calculated and gives the calculation variables.

Funding Cost. The interest rate offered on savings accounts is the lowest possible rate at which banks can raise their money.

Credit Loss. Risk and capital losses arise from the probability of borrower default on loan repayment. This loss of credit for the bank is a function of the following:

- Probability of default (PD). The probability that the borrower will not make full and timely repayment of financial obligations. In this study, PD is computed as the distribution function of total NPAs from PSL (for the bank) as a percentage of the total PSL advances of the bank from the year 2007 to 2012.
- Loss given default (LGD). This parameter quantifies the loss the bank will suffer in case of default. This is determined by 1 minus the recovery rate of bank loans.¹⁷⁵
- Exposure at default (EAD). This is basically the expected value of the loan at the time of the default.¹⁷⁶ In this study, it is computed as the average of PSL advances over the total advances of the bank from 2007 to 2012.

Thus,

$$\text{Credit Loss} = PD * LGD * EAD.$$

Risk Cost. As mentioned, the risk cost is the expected loss against which the banks are expected to hold reserves. It is thus the mean or expected value of the credit loss function, whether default happens or not. Thus,

$$\begin{aligned} \text{Expected Loss} &= (1-PD) * \text{Loss Given No Default (=0)} * EAD + PD * LD * EAD^{177} \\ &= PD * LD * EAD \end{aligned}$$

Capital Cost. In addition to expected loss due to default based on borrower history is the possibility of unexpected losses that might exceed the average or expected losses. The standard deviation of the credit loss function is thus used to compute these unexpected losses. To establish the appropriate amount of capital to cover unexpected losses, the bank must establish an adequate confidence level. Confidence level indicates the probability that a bank will not fail in some business line because of extreme losses. Confidence levels used in risk management usually range from 95 percent to 99 percent and higher. Thus,

$$\text{Unexpected Loss} = a * \text{Standard Deviation (PD)},$$

where “a” signifies the confidence level = 3 for 99 percent confidence interval.

To bear this unexpected loss, the bank and its shareholders must be assured of a minimum threshold return known as the hurdle rate. The hurdle rate is computed in compliance with the Basel II accords.¹⁷⁸

$$\text{Hurdle Rate} = [\text{Expected Return on Equity} / (1 - \text{Tax Rate})] - \text{Risk-Free Rate},$$

where,

$$\text{Risk Free Rate} = \text{Yield on 10 Year Government Bond} (= 8 \text{ percent}),$$

$$\text{Tax Rate} = 33 \text{ percent}.$$

Thus,

$$\text{Capital Cost} = \text{Hurdle Rate} * \text{Unexpected Loss}$$

Transaction Cost. For the purpose of this report, the transaction costs of extending loans of INR 10,000 and INR 25,000 to a private sector bank have been taken from the Rangarajan Committee Report.¹⁷⁹ Since for a public sector bank, the report gives the transaction cost for a loan of size INR 25,000 only, to compute the cost of transacting INR 10,000 worth of loan by a public sector bank, we have assumed that the ratio of transaction cost of INR10, 000 loan to INR25, 000 loan remains the same for private and public sector banks. The same along with other costs have been provided in the table below. Due to lack of availability of appropriate data for foreign banks, the transaction costs for foreign banks have been assumed to be same as that of private banks.

The table below shows the computation of various costs.

Table D-1
Computation of Cost of Delivering Credit

Parameter	Public Sector Bank	Private Sector Bank	Foreign Bank
Funding Cost	4.0%	4.0%	4.0%
Risk Cost (Expected Loss)	1.9%	1.2%	0.3%
Mean Default Rate due to PSL	7%	4%	1%
Exposure at Default	29%	27%	27%
Loss Given Default	1	1	1
Capital Cost (Unexpected Loss)	0.4%	0.6%	0.2%
Standard Deviation of Default due to PSL	1%	2%	1%
Hurdle Rate	16%	14%	11%
Transaction Cost	32.9%	21.6%	21.6%
Total Cost of Credit	39%	27%	26%

SOURCE: Funding Cost: ICICI Bank Website, <http://www.icicibank.com/interest-rates.html>, Standard Chartered FAQs, <http://www.standardchartered.co.in/help-centre/faqs-save.html>, Economic Times (August 12, 2013, All about Savings Bank interest rates!, http://articles.economictimes.indiatimes.com/2013-08-12/news/41332914_1_interest-rate-savings-bank-3-lakhs

Risk and Capital Cost: Data taken from RBI and Annual Reports of Banks. ICICI Bank Website,

End Notes

Introduction

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² This report was completed with the support of the Prosperity Fund of the Foreign and Commonwealth Office.

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⁴ Buttari, Juan J. 1995. Subsidised Credit Programs: The Theory, the Record, the Alternatives.

⁵ Narayana, D. Directed Credit Programmes. A Critique of Narasimham Committee Report.

⁶ Vittas, Dimitri, and Je Cho Yoon. 1995. Credit Policies: Lessons from East Asia. World Bank, Financial Sector Development Department.

⁷ Knoop, Todd A. (2013). *Global Finance in Emerging Market Economies*.

⁸ Knoop, Todd A. 2013. *Global Finance in Emerging Market Economies*.

⁹ Buttari, Juan J. 1995. Subsidized Credit Programs.

¹⁰ Vogel and Adams.

¹¹ Vogel and Adams.

¹² de la Torre, Augusto, Juan Carlos Gozzi, and Sergio L. Schmukler. 2007. *Innovative Experiences in Access to Finance: Market Friendly Roles for the Visible Hand?* Financial and Private Sector Development Unit and Development and Research.

¹³ Vogel and Adams.

¹⁴ RBI (2012), Report of the Committee to Re-Examine the Existing Classification and Suggest Revised Guidelines with Regard to Priority Sector Lending Classification and Related Issues

¹⁵ Schwarz. M. Anita. How effective are Directed Credit Policies in the United States?

2. India's Directed Credit Policy – Priority Sector Lending

¹⁶ Muraleedharan, D. 2009. *Modern Banking: Theory and Practice*. New Delhi: PHI Private Learning Limited.

¹⁷ Base rate is the minimum interest rate a bank is allowed to charge. RBI stipulates that no bank can offer loans at a rate lower than the base rate.
http://articles.timesofindia.indiatimes.com/2010-06-30/india-business/28279491_1_base-rate-bplr-system-home-loan-rates

¹⁸ RBI. Master Circular, Priority Sector Lending-Targets and Classification (July 1, 2013). Detailed descriptions of sectors and subsectors are in Appendix B

¹⁹ Adjusted net bank credit refers to the net bank credit plus investments by banks in commercial assets other than those mandated by the RBI to maintain liquidity. In other words, it refers to the Net Bank Credit ((*bank credit – bills rediscounted with RBI = net bank credit*)) less bonds in the nonstatutory liquidity ratio category. Off-balance sheet exposure is computed on

the basis of the master circular on exposure norms issued by RBI's Department of Banking Operations and Development.

²⁰ Draft technical paper by the internal working group on priority sector lending. (September 2005) RBI.

²¹ ANBC* refers to ANBC or the credit equivalent amount of the off balance sheet exposure, whichever is higher.

²² These foreign banks must comply fully with these norms over a period of five years, starting in 2013.

²³ RBI. Priority Sector Lending, Targets and Classification.

²⁴ NABARD, India's biggest agricultural development bank, was established in 1982 to "promote sustainable and equitable agriculture and rural prosperity through effective credit support, related services, institution development, and other innovative initiatives."

²⁵ RBI. Master Circular.

²⁶ <http://download.nos.org/srsec319/319-35.pdf>

²⁷ Aggregated over public, private, and foreign sector banks only.

²⁸ Subbarao, Duvvuri. Banking Structure in India: Looking Ahead by Looking Back. RBI (August 2013).

²⁹ RBI data as of March 2012.

³⁰ ICICI Bank. E-Finance for Development – An Indian Perspective (2002) and <http://www.icicibank.com/aboutus/pdf/iMobileBanking.pdf>

³¹ Individuals with investable assets of USD1 million or more. <http://businesstoday.intoday.in/story/india-high-networth-hni-population-grows-by-20-percent/1/19634.html>

³² Kapoor. Ashok. Foreign Banks in India – Establishment, Operations and Challenges: as Reflected from the Records of the Reserve Bank of India. RBI Archives.

³³ http://articles.timesofindia.indiatimes.com/2006-08-12/open-space/27790559_1_atm-india-credit

³⁴ Targeted PSL for year $t = 40$ percent of total credit of bank category (public, private) for year $t-1$. For foreign banks, targeted PSL for year $t = 32$ percent of total credit of bank category.

³⁵ Source: RBI's Trend and Progress of Banks in India; and Ministry of Finance Annual Reports.

³⁶ Business Standard (September 6, 2013). Commerce department pushes new RBI Governor for priority sector lending to exports. http://www.business-standard.com/article/economy-policy/commerce-department-pushes-new-rbi-governor-for-priority-sector-lending-to-exports-113090300780_1.html

³⁷ Targeted agricultural lending for year $t = 18$ percent of total credit of bank category (public or private) for year $t-1$.

³⁸ Targeted export lending for year $t = 12$ percent of total credit of bank category (foreign) for year $t-1$.

³⁹ This does not imply that private and foreign banks lack concern for social welfare; the ICICI Foundation and Citi Foundation, for example, have made ample contributions to health and education.

⁴⁰ Master Circular on Branch Authorization. (RBI) (July 2013). Page 9.

⁴¹ http://www.rbi.org.in/scripts/bs_viewcontent.aspx?Id=2035

⁴² Subbarao, Duvvuri. Banking Structure in India: Looking Ahead by Looking Back.

⁴³ RBI has assigned percentage weights to each of such assets. See <http://www.bankingindiaupdate.com/car.htm>

⁴⁴ <http://economictimes.indiatimes.com/all-about-capital-adequacy-ratio/how-are-risk-weight-assigned/slideshow/6222221.cms>

⁴⁵ Net NPA ratio = net NPAs/total advances = (gross NPAs - provisions)/(gross advances - provisions) http://www.abhinavjournal.com/images/Commerce_&_Management/Jul12/5.pdf

⁴⁶ RBI. Glossary. <http://www.rbi.org.in/scripts/Glossary.aspx>

⁴⁷ RBI data as of March 2012.

3. Impact of Priority Sector Lending in India

⁴⁸ 16 percent in 2012-13, as per data from Planning Commission and RBI.

⁴⁹ GDP from Agriculture and Allied Sector to Total GDP (at constant 2004-05 prices). Source: Planning Commission. Available at http://planningcommission.nic.in/data/datatable/2504/databook_%2029.pdf

India's Imports and Exports of Agricultural Commodities. Source: Ministry of Agriculture. Available at http://eands.dacnet.nic.in/Publication12-12-2012/Agriculture_at_a_Glance%202012/Pages242-316.pdf

⁵⁰ Source: India Stat. Total subsidies include food, electricity, fertilizer, irrigation, and insurance subsidies. Electricity subsidies include subsidies to electricity boards and corporations. Estimates of electricity subsidy accountable exclusively to agriculture are not available. Estimates of electricity and irrigation subsidies for 2009-2010 were not available.

⁵¹ NABARD. 2012. Agricultural Credit – Accomplishments and Challenges.

⁵² RBI data.

⁵³ NABARD. 2012. Agricultural Credit.

⁵⁴ NABARD, Annual Report 2012-13.

⁵⁵ RBI data.

⁵⁶ Value added in agriculture measures the output of the agricultural sector less the value of intermediate inputs. Agriculture comprises value added from forestry, hunting, and fishing as well as cultivation of crops and livestock production.

⁵⁷ Data at current prices. Source: RBI, Planning Commission.

⁵⁸ Gross NPAs over total advances of the bank.

⁵⁹ NABARD, Annual Report 2012-13.

⁶⁰ As of 2010-11, NABARD Annual Report 2012-13, page 4.

⁶¹ NABARD Annual Report 2012-13, page 4.

⁶² <http://rbidocs.rbi.org.in/rdocs/Publications/PDFs/82931.pdf>

⁶³ Report of the Task Force on Credit Related Issues of Farmers. Ministry of Agriculture. (2010)

⁶⁴ Regulation of Informal Financial Institutions: A Study of Money Lenders in Kerala (2007). RBI. (page 2) <http://rbidocs.rbi.org.in/rdocs/Publications/PDFs/82931.pdf>

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- ⁶⁵ Abdullahi, D. Ahmed, Enjiang Cheng, and George Messinis. 2008. The Role of Exports, FDI and Imports in Development: New Evidence from Sub-Saharan African Countries. Available at <http://www.cfses.com/documents/wp39.pdf>
- ⁶⁶ Abdullahi, D. Ahmed, Enjiang Cheng, and George Messinis. 2008. The Role of Exports, FDI and Imports in Development: New Evidence from Sub-Saharan African Countries. Available at <http://www.cfses.com/documents/wp39.pdf>
- ⁶⁷ Average annual growth rate of GDP from 2002-03 to 2012-13.
- ⁶⁸ RBI implemented the scheme to help make credit more readily available to exporters. Under the scheme, all creditworthy exporters, including those in small and medium sectors with good records, would be eligible for the gold card issued by individual banks as per the criteria laid by the latter. See <http://www.rediff.com/money/2004/may/18rbi10.htm>
- ⁶⁹ RBI. April 2013. Report of the Technical Committee on Services/Facilities to Exporters.
- ⁷⁰ Ibid.
- ⁷¹ Contessi, Silvio and Francesca de Nicola. 2012. The Role of Trade Financing in Good Times and Bad. Federal Reserve Bank of St. Louis. Available at <http://www.stlouisfed.org/publications/re/articles/?id=2199>
- ⁷² RBI. June 2013. Financial Stability Report.
- ⁷³ Foreign banks with fewer than 20 branches still follow the norm of lending 32 percent of the ANBC to priority sectors, mainly exports and MSEs.
- ⁷⁴ <http://www.tradingeconomics.com/india/balance-of-trade>
- ⁷⁵ In the registered sector, micro and small enterprises account for 99 percent of micro, small, and medium enterprises. Registration implies filing of a memorandum with the District Industries Centre.
- ⁷⁶ MSME Ministry, Annual Report 2012-13.
- ⁷⁷ Analysis based on CAGR of MSME gross output and index of industrial production, 2004-2005 to 2011-2012. IIP data from Ministry of Commerce and Industry; MSME Gross Output data from Annual Report 2012-13. Note: MSME gross output data based on estimates of output from registered and unregistered MSMEs as per the Fourth All India Census of MSME.
- ⁷⁸ IFC. Micro, Small and Medium Enterprise Finance in India. November 2012.
- ⁷⁹ IFC. Micro, Small and Medium Enterprise Finance in India. November 2012.
- ⁸⁰ RBI Data.
- ⁸¹ IFC. Micro, Small and Medium Enterprise Finance in India.
- ⁸² Planning Commission. Sub- Group on Flow of Private Sector Investments for MSME Sector <http://planningcommission.gov.in/aboutus/committee/wg_sub_pvtsec_MSME.pdf>
- ⁸³ IFC. Micro, Small and Medium Enterprise Finance in India.
- ⁸⁴ Regression results and models provided in Appendix C to the report.
- ⁸⁵ A statistically significant relationship at 1 percent level of significance implies that we can say with 99 percent confidence that a relationship between the variables has not been estimated when none existed.
- ⁸⁶ Regression modeling is limited due to unavailability of extensive data.
- ⁸⁷ In the absence of the MSE GDP for the time period of the regression analysis (1997-98 to 2011-12, manufacturing GDP has been used as a proxy for the GDP of the MSE sector.

⁸⁸ The RBI has used the 90 days' overdue norm to identify NPAs since March 2004. By this definition, a loan or an advance is nonperforming if (i) the interest or installment of principal term loan is overdue for more than 90 days; (ii) the account remains "out of order" (i.e., the outstanding balance remains continuously in excess of the sanctioned limit for more than 90 days, in respect of an overdraft/cash credit); (iii) the bill remains overdue for more than 90 days in the case of bills purchased and discounted; (iv) in the case of direct agricultural advances, the overdue norms are specified in terms of crop seasons; (v) any amount to be received remains overdue for more than 90 days in respect of other accounts.
http://www.rbi.org.in/scripts/BS_ViewMasCirculardetails.aspx?id=5761#L2

⁸⁹ Sikdar. Pallab, Makkad. Munish. 2013. Role of Non Performing Assets in the Risk Framework of Commercial Banks: A Study of Select Indian Commercial Banks. *AIMA Journal of Management & Research*. Volume 7, Issue 2/4.

⁹⁰ Regression analysis is "concerned with the study of the dependence of one variable (the dependent variable) on one or more other variables, the independent or explanatory variables." It helps quantify the relationship between the variable of interest (the dependent variable) and other independent explanatory variables that are chosen a priori based on economic theory.

⁹¹ A Hundred Small Steps. Planning Commission.

⁹² Infrastructure Financing By Banks In India: Myths and Realities (August 2013) RBI.
http://www.rbi.org.in/scripts/BS_SpeechesView.aspx?Id=831#T1

⁹³ Report of the committee to re-examine the existing classification and suggest revised guidelines with regard to priority sector lending classification and related issues. Nair Committee Report

⁹⁴ <http://www.kpmg.com/NG/en/IssuesAndInsights/Documents/Risk%20based%20pricing.pdf>

⁹⁵ Global Association of Risk Professionals. Credit Risk Management. Presentation available at <http://www.garp.org/media/489989/credit%20slides.pdf>

⁹⁶ Enrique, Navarette. 2006. Practical Calculation of Expected and Unexpected Losses in Operational Risk by Simulation Methods. Available at http://mpr.aub.uni-muenchen.de/1369/1/MPRA_paper_1369.pdf

⁹⁷ A detailed explanation of the calculation of the cost of credit is in Appendix C.

⁹⁸ Subbarao, Duvvuri. Banking Structure in India: Looking Ahead by Looking Back.

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4. Recommendations

¹⁰⁰ The purpose of the Kisan Credit Card scheme is to provide farmers with adequate and timely credit for cultivation or other purposes through a "single window." The Government of India provides public, regional rural, and cooperative banks with an interest subvention of 2 percent up to Rs 3.00 lakh for short-term production credit they provide to farmers so long as that credit is at 7 percent per annum.

¹⁰¹ Letter from the RBI General Chairman. See <http://rbidocs.rbi.org.in/rdocs/notification/PDFs/SBVF280912C.pdf>

¹⁰² A joint liability group is an informal group of 4 to 10 people engaged in a similar activity who come together to get a bank loan against a mutual guarantee. A self-help group is a homogeneous group of microentrepreneurs or women formed to save whatever amount they conveniently can out of earnings. Members agree to contribute to a common fund from which small loans are given to the members to meet productive and emergent credit needs at such

rate of interest, period of loan, and other terms as the group may decide. See <http://www.unionbankofindia.co.in>

¹⁰³ Mohan Rakesh. Agricultural Credit in India: Status, Issues and Future Agenda.

¹⁰⁴ Bhoir, Anita. UBS AG to Exit Banking Business in India. *Economic Times* (June 21, 2013). http://articles.economictimes.indiatimes.com/2013-06-21/news/40119315_1_banking-licence-banking-business-wealth-management-business

¹⁰⁵ NABARD. Annual Report 2012-13. (page 4)

¹⁰⁶ Value added in agriculture measures the output of the agricultural sector less the value of intermediate inputs. Agriculture comprises value added from forestry, hunting, and fishing as well as cultivation of crops and livestock production.

¹⁰⁷ Report of the Working Group on the Risk Management in Agriculture. Planning Commission.

¹⁰⁸ http://planningcommission.nic.in/reports/genrep/rep_irr2112.pdf

¹⁰⁹ The scheme runs in 24 states and 2 union territories, covers all food crops and oil seeds and offers a 10 percent subsidy on premium to small and marginal farmers. <http://financialservices.gov.in/insurance/gsois/nais.asp>

¹¹⁰ Report of the Working Group on the Risk Management in Agriculture. Planning Commission.

¹¹¹ Rani B N. Shoja. 2007. Globalization and Contract Farming in India-Advantages and Problems. Indian Institute of Management Kozhikode. (page 1)

¹¹² Ibid.

¹¹³ Ministry of Food Processing Industries. Annual Report, 2012-2013. Available at http://www.mofpi.nic.in/H_Dwld.aspx?KYEwmOL+HGpoo8DINeKVV3fE4aW5+awTGdnZC9kP6BjgyfUUMx3Nkw==

¹¹⁴ Dun & Bradstreet India. Emerging SMEs of India: Food Processing. <http://www.dnb.co.in/food%20processing/overview.asp>

¹¹⁵ NABARD, Annual Report, page 21.

¹¹⁶ RBI. Report on Trends and Progress of Banking in India 2011-2012.

¹¹⁷ NABARD, Annual Report, page 29.

¹¹⁸ Misra, Biswa Swarup. 2006. The Performance of Regional Rural Banks In India: Has the Past Anything to Suggest for the Future? RBI Occasional Papers. Volume 27: (1 and 2). Available at <http://rbidocs.rbi.org.in/rdocs/Publications/PDFs/73534.pdf>

¹¹⁹ RBI. Report on Trends and Progress of Banking in India 2011-12.

¹²⁰ NABARD, Annual Report, page 29.

¹²¹ According to RBI, starting April 1, 2011, bank credit to MFIs under indirect finance categories of agriculture and MSE sectors will be eligible as PSL provided certain conditions are met. At least 85 percent of the total assets of the MFI (other than cash, balances with banks and financial institutions) are in the nature of "qualifying assets", i.e. satisfy the following conditions: the loan is without collateral and is extended to a borrower whose household annual income in rural areas is less than INR 60,000 and for non rural areas it is less than INR 1,20,000, total indebtedness of the borrower is less than INR 50,000, the tenure of loan is not less than 24 months when loan amount exceeds INR 15,000 with right to borrower of prepayment without penalty, and the loan is repayable by weekly, fortnightly or monthly installments at the choice of the borrower. Besides these conditions, the lending banks must ensure that the MFIs comply with a 12 percent margin cap.

Source: RBI. Master Circular, Priority Sector Lending-Targets and Classification (July 1, 2013).

¹²² Mohanty, Sangeeta, Rashmi Ranjan Mohapatra, and Sashikanta Khunita. Microfinance: A Poverty Reduction Tool. *International Journal on Advanced Computer Theory and Engineering*. Available at http://www.irdindia.in/Journal_IJACTE/PDF/Vol2_Iss1/13.pdf

¹²³ http://www.microsave.net/files/pdf/AP_MFI_Crisis_Report_MicroSave_CMF_Ghiyazuddin_Gupta.pdf

¹²⁴ Ibid

¹²⁵ Banjaree, Ayan. 2011 Benchmarking Performance and Practices of Microfinance Institutions in India. NABARD. Available at http://www.birdlucknow.in/doc/Aadhaar_MFI%20Benchmarking%20Study_final.pdf

¹²⁶ Pilla, Viswanath. May 2013. MFI loan portfolio grew 23% in FY13. *Livemint*. <http://www.livemint.com/Industry/5Sjk1bDDkZltXA80Q4eA3K/MFI-loan-portfolio-grew-23-in-FY13.html>

¹²⁷ A Hundred Small Steps. Planning Commission.

¹²⁸ A Hundred Small Steps. Planning Commission.

¹²⁹ A Hundred Small Steps. Planning Commission.

¹³⁰ Livemint. (July 200). Scheme brings no relief to conscientious debtors.

¹³¹ A District Industries Centre is a government agency created in each district to deal with all requirements of small and village Industries.

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[http://www.kpcindia.com/Pdf/Business/Micro,%20Small%20and%20Medium%20Enterprises%20Development%20Act,%202006%20\(MSMED%20Act,%202006\).pdf](http://www.kpcindia.com/Pdf/Business/Micro,%20Small%20and%20Medium%20Enterprises%20Development%20Act,%202006%20(MSMED%20Act,%202006).pdf)

IFC. Micro, Small and Medium Enterprise Finance in India. November 2012.

¹³³ Vittas. Dimitri and Je Cho Yoon. 1995. *Credit Policies: Lessons from East Asia*. World Bank.

Appendix A

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¹³⁶ Pump priming is the government's injection of funds into the economy to encourage private investment and boost economic development. Crowding in of private investment occurs when such spending stimulates private investment in productive capacity.

¹³⁷ Calomiris, Charles and Charles Himmelberg. 1995. Government Credit Policy and Industrial Performance. (Japanese Machine Tool Producers, 1963-91). World Bank.

¹³⁸ Ibid.

¹³⁹ International Monetary Fund. 2012. Japan: Financial Sector Assessment Program – Technical Note on Credit Intermediation.

¹⁴⁰ Cho, Yoon Je and Kyung Kim Joon. 1995. *Credit Policies and the Industrialization of Korea*. World Bank Discussion Papers.

¹⁴¹ RBI. Draft Technical Paper by the Internal Working Group on Priority Sector Lending.

¹⁴² Since the 1980s, nonbank financial institutions and foreign banks in Korea have been subject to certain loan portfolio requirements for small and medium enterprises.

¹⁴³ Ibid.

¹⁴⁴ Ibid.

¹⁴⁵ Goodfriend, Marvin and Prasad Eswar. 2006. A Framework for Independent Monetary Policy in China. International Monetary Fund, Working Paper, Research Department.

¹⁴⁶ Ibid.

¹⁴⁷ Mehran, Hassanali, Marc Quintyn, Tom Nordman, and Bernard Laurens. 1996. Monetary and Exchange System Reforms in China: An Experiment in Gradualism. International Monetary Fund, Occasional Paper.

¹⁴⁸ Caijing. September 2009. China's Policy Banks. *Caijing Magazine*.

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¹⁵¹ RBI. Draft Technical Paper by the Internal Working Group on Priority Sector Lending.

¹⁵² Vittas, Dimitri, and Yoon Je Cho. 1995. Credit Policies: Lessons from East Asia.

¹⁵³ Including the stock of nonperforming loans originally transferred to asset management companies, equivalent to some 8 percent of 2005 GDP

¹⁵⁴ Lou, Jiwei and Shuilin Wang. 2008. Public Finance in China: Reform and Growth for a Harmonious Society. World Bank

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¹⁵⁶ RBI. Draft Technical Paper by the Internal Working Group on Priority Sector Lending.

¹⁵⁷ Centre for Global Development. 2012. Policy Innovations to Improve Access to Financial Services: The Case of Brazil.

¹⁵⁸ Independent Evaluation Group. 2006. The Effectiveness of World Bank Support for Community-Based and -Driven Development. http://ieg.worldbankgroup.org/Data/reports/cdbbdd_brazil.pdf

¹⁵⁹ Access to Financial Services in Brazil.

¹⁶⁰ Klapper, Leora, and Rida Zaidi. 2005. A Survey of Government Regulation and Intervention in Financial Markets.

¹⁶¹ Centre for Global Development. 2012. Policy Innovations to Improve Access to Financial Services: The Case of Brazil.

¹⁶² Klapper and Zaidi.

¹⁶³ Brazil in the 2000's: Financial Regulation and Macroeconomic Stability.

¹⁶⁴ Access to Financial Services in Brazil.

¹⁶⁵ Corpuz, J.M., and N.W.S. Kraft. N.W.S. Policy Options in Agriculture and Rural Finance: The Experience of the Philippines and Other Asian Countries.

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¹⁷⁰ Corsetti, Giancarlo, Paolo Pesenti, and Nouriel Roubini. 1999 What caused the Asian currency and financial crisis?

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Appendix B

¹⁷² RBI. Lending to Priority Sector.

¹⁷³ A PACS is a cooperative set up to provide financing for agricultural and allied activities. An FSS is a registered cooperative organized to provide integrated credit services to small and marginal farmers, rural artisans, etc. LAMPs were established to improve the social and financial conditions of the Adivasi, an Indian ethnic and tribal group.

Appendix C

¹⁷⁴ In an SEM, there is a two-way relationship between Y and X, which makes the distinction between dependent and independent variables of the regression analysis of dubious value. It is therefore better to lump together a set of variables that can be determined simultaneously by the remaining set of variables. See Basic Econometrics by N. Gujarati Damodar.

Appendix D

¹⁷⁵ Blun, Christian, Ludger Overbeck, and Christoph Wagner. 2003. An Introduction to Credit Risk Modeling. Available at [http://www.stat.fsu.edu/~jfrade/PAPERS/Credit%20risk%20modeling%20papers/An%20Introduction%20to%20Credit%20Risk%20Modeling%20-%20Bluhm,%20Overbeck%20%26%20Wagner%20\(2003\).pdf](http://www.stat.fsu.edu/~jfrade/PAPERS/Credit%20risk%20modeling%20papers/An%20Introduction%20to%20Credit%20Risk%20Modeling%20-%20Bluhm,%20Overbeck%20%26%20Wagner%20(2003).pdf)

¹⁷⁶ Global Association of Risk Professionals. Credit Risk Management. Presentation available at <http://www.garp.org/media/489989/credit%20slides.pdf>

¹⁷⁷ Ibid.

¹⁷⁸ The threshold for the hurdle rate is given by the risk-adjusted return on risk-adjusted capital, which is calculated as *expected gross earnings – expected unit costs – expected losses / amount of the risk* and is a pretax number. See <http://www.kpmg.com/NG/en/IssuesAndInsights/Documents/Risk%20based%20pricing.pdf>

¹⁷⁹ Report of the Committee on Financial Inclusion. (January 2008).