

# Three Essays in Development Economics

Submitted by  
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to  
**The University of Exeter**  
as a thesis for the degree of  
Doctor of Philosophy  
in  
**Economics**  
January 2019

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# Acknowledgements

I thank my supervisors Surajeet Chakravarty and Pradeep Kumar for their valuable advice and great support in my journey. I also thank Chetna Sinha, the founder of Mann Deshi for being the mentor in both public and personal life.

I thank staff from Mann Deshi, especially Rekha Kulkarni, Anil Khandare, Shakti Gurav, Vanita Shinde, Manisha Katte, who provided valuable insight of the organisation for my research. Also, I am grateful that Prof Richard Harris and Prof Neeraj Hatekar for comments and providing insight on the methodology and Dr Sandhya Mhatre for providing insight into datawork. I appreciate the assistance on the project offered by Prachi Kulkarni and Parth Sinha.

I am also thankful to Helen Bell and Kate Gannon for the compassionate support throughout.

I appreciate Sarunas Girdeas, Satyajit Narvekar and Yamini Hule for being the tolerant friends when it wasn't easy to be that way.

I am grateful to Lazaros Rinotas and Inmaculada Adarves-Yorno for being my family for half the days of last two years.

I thank my family members who have been the co-passengers on this exciting adventure for being around with their distinctive characteristics, my sister Sameena and my brother-in-law Rajedeep Pakanati for being so cool and helpful, and my parents for setting examples of their philosophies - my mother, Shama Dalwai for "Not a failure but.." and my father, Husain Dalwai for "karmanye vadhikaraste..", Yan Huang, my wife and partner in life and a partner in so many aspects of my life, Eshan Huang, my three-year old son, getting me across all the dark patches.



# Overview

To find a route on the map to reach the destination, one starts by looking for the current location. Development economics studies underdevelopment. The primary matter of interest are the individuals, groups and societies that have lagged behind and the reasons for the same. It is imperative to look for solutions that would help bridge the gap. The 20th century's debate of market orientation or intervention is stark in 21st century development strategies for the underdeveloped. But there is also growing consensus on making the choices based on strong empirical evidence.

The supporters of market oriented strategies put great emphasis on the efficacy of the efficient capital markets to solve the problem of poverty. Microfinance is seen as the magic bullet that can eradicate poverty through the market by being innovative enough to reach out to the poor. It does that while achieving women empowerment. How exactly it achieves the transformation of lives of the underserved is inevitably a question of interest for a development economist. Chapter One of this thesis seeks to explore the development of microfinance in India by looking at the experience of the Mann Deshi Bank, which established in 1997 as the first microfinance women bank in India. The qualitative and quantitative methods are employed to analyse the contribution of the bank. The narratives of the borrowers of the bank highlighting the role of credit are analyzed. Subsequently, the descriptive statistics of the joint liability loans is reported and their growth and financial performance are discussed. This chapter further argues that the innovative financial products introduced by Mann Deshi to address the cash flow needs of clients can serve as a potential template for greater financial inclusion around the world. The conclusion is on how the work

of Mann Deshi Bank can serve as a new benchmark in the microfinance industry in India.

It follows also to explore the strategy employed by the microfinance institutions to enhance their performance. Most microfinance banks, which have become a key provider of credit in developing countries use agents to acquire new borrowers, manage the account and collect repayments. Chapter Two of this thesis studies the incentives provided to such financial agents and the effect such incentives had on the outcome desired by the microfinance bank. Mann Deshi Bank, a microfinance bank operating in western India, changed its remuneration scheme from pure commission to a mix scheme with a combination of a base salary and other incentives. This chapter examines the effect it had on the effort and the output of the agents by using a panel data of 39 agents working on the bank's joint liability lending product for five years. The results show that although the bank was able to reduce its wage bills for the loan product, it came with the poorer performance by the agents. The supply of credit to new borrowers reduced, both in terms of the rate of reaching out to new borrowers as well as the loan amount disbursed to them. However, interestingly, borrowers delay their repayments less with the new agents on the mixed contract.

On the other hand not just for the supporters of the interventionism but also for all for the sake of curbing the market failure arising due to public goods, the efficiency of the government to deliver remains of great interest. Enabling the citizens to monitor their government through a right to information is hoped to improve the public goods distribution. To what extent it indeed happens, if it does and does it particularly show any potential in achieving the developmental goals quicker is currently a burning question. Chapter three of this thesis considers the efficacy of Right to Information Act (RTI) in India for achieving developmental goals for poor Indian citizens. Nations worldwide have enacted freedom to information to provide greater transparency to government operations and to allow citizens to monitor their governments more effectively. Does this lead to better public services? The efficacy of the RTI since its inception in 1997 is analyzed. Also, the kind of public goods

which can be improved is identified. Lastly, whether these public goods are beneficial for the poor population is examined. Two indicators are applied; electrification and health. Electrification is used to understand how much attention a state pays to its rural voter- since electrification is nearly complete in urban India but many rural areas either do not have electricity connections or do not receive any electricity the whole week. For health, an analysis of effect of RTI is employed on infant mortality. Infant mortality is a key health outcome and a good indicator of the quality of health care provision in a society. So a more accountable government due to RTI will provide better health care and therefore the state or country is likely to have lower infant mortality. The key explanatory variable in the study is RTI implementation.





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# List of Abbreviations

MFIs	Microfinance Institutions
JLG	Joint Liability Group
SHG	Self Help Group
CCLs	Cash Credit Loans
MFIN	Microfinance Institutions Networks
RBI	Reserve Bank of India
NBFC	Non-Banking Finance Company
SFB	Small Finance Bank
NPA	Non-Performing Assets
NGO	Non-Governmental Organisation
IPO	Initial Public Offering
CoC	The Chamber of Commerce
CEO	Chief Executive Officer
CAO	Chief Administrative Officer
TL	Term Loan
MSME	Micro, Small and Medium Enterprise
RCC	Reinforced Cement Concrete
RTI	Right To Information
HH Electrification	Household Electrification
IMR	Infant Mortality Rate
NSSO	The National Sample Survey Organisation



## Chapter 1

# Evaluating the development of microfinance through Mann Deshi Bank



# Abstract

This chapter seeks to explore the development of microfinance in India by looking at the experience of the Mann Deshi Bank, which established in 1997 as the first microfinance women bank in India. The qualitative and quantitative methods are employed to analyse the contribution of the bank. The narratives of the borrowers of the bank highlighting the role of credit are analyzed. Subsequently, the descriptive statistics of the joint liability loans is reported and their growth and financial performance are discussed. This chapter argues that the innovative financial products introduced by Mann Deshi to address the cash flow needs of clients can serve as a potential template for greater financial inclusion around the world. The conclusion is on how the work of Mann Deshi Bank can serve as a new benchmark in the microfinance industry in India.

## 1.1 Introduction

One of the ingredients of economic development of a nation is the availability of credit to entrepreneurs (Banerjee 2003). However, the poor entrepreneurs due to a lack of collateral are unable to prove their creditworthiness to financial institutions. For example, Banerjee and Duflo (2007) show examples of the poor in India who rely heavily on borrowing from informal sources such as relatives or money lenders. Therefore, they continue to remain poor as they are without any access to capital for investment (Galor and Zeira, 1993; Aghion and Bolton, 1997).

The microfinance movement was started by a noted economist, Professor Muhammed Yunus in 1970s. He started to lend small loans to villagers by using his own money to help them buy materials for projects, which led to the foundation of the Grameen Bank in 1976 in Bangladesh. The strategy adopted by this bank was to encourage the formation of groups to avail credit rather than seeking credit as individual borrowers. These groups came from the rural households who were poor and would have been ineligible for borrowing as individual borrowers. People were invited to form groups from different households. Initially, only a single sex was allowed within a group. During the first few years, there were more male groups than female groups. But by the 1990s, nearly all the groups were made up of only women<sup>1</sup>.

The first generation of Grameen model is to have a group of five borrowers. Once a group was formed, compulsory savings were required to be deposited into a joint account and could not be withdrawn for ten years. 8 groups would meet in one Centre regularly to repay the loans. The repayment of a loan was a fixed amount each week over a year. The interest rate was about 20% which was similar to the borrowing rate for unsecured loans in the United States<sup>2</sup>. If the repayment was on time and there was no default, a bigger loan could be granted. This lending model was successful for almost a decade with a repayment rate above 98%<sup>3</sup>. However, when there was a severe flood in 1998, lots of households suffered losses. This led

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<sup>1</sup><http://grameenresearch.org/history-of-grameen-bank/>

<sup>2</sup><http://www.grameen-info.org/grameen-bank-interest-rate/>

<sup>3</sup><http://www.muhammadyunus.org/index.php/design-lab/previous-design-labs/37about/about/371-grameen-bank-at-a-glance>

to an increase in the default rate of the loans. It even made it difficult for the bank to boost its capital. The rigid and inflexible rules were the major roadblocks. Once a borrower defaulted, especially under a shock, it was very difficult for her to come back on track under those rules. Therefore, certain changes were proposed by Professor Yunus to reshape the scheme. One change was to make the single loan term and repayment schedule to longer terms up to 3 years . Also, if new loans were required for new investment, a top-up of the original loan amount was allowed. If a member cannot repay, the loan term can be rescheduled to longer period with lower instalment. All these approaches considered uncertain cash flow patterns of poor households and gave them more flexibility when defaults were not under their control. This modified version of joint liability loans found success and caught the attention of economists and policy makers.

Attempts at financial inclusion were mainly interventionary in the early decade of post-colonial period in developing countries. This standardized JLG products made commercialization of microfinance possible. For example, BancoSal in Bolivia and Bandhan Bank in India successfully completed the conversion to microfinance bank. According to the Microfinance Barometer (2018)<sup>4</sup> issued by Convergences, microfinance financial institutions in the world had a client base of 139 million with loan size of USD 114 billion by 2017. The total loan amount increase continues its momentum from 2015 (8.6%) to 2017 (15.6%). However, the number of borrowers has decreased from 2015 (13.4%) to 2017 (5.6%). Latin American (44%) and Asian (24%) countries top the list in terms of total loan amount issued by microfinance institutions.

This case study is important for comparison with formal banking system, particularly in terms of institutions, borrowers and mechanisms. Institutions and borrowers (and their needs) are not the same in microfinance as compared to the formal banking system. Mechanisms are studied and quantitative methods have also been applied (e.g. Mersland and Strom, 2010; Banerjee et al., 2015). However, the quali-

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<sup>4</sup>Microfinance Barometer 2018 [http://www.convergences.org/wp-content/uploads/2018/09/BMF\\_2018\\_EN\\_VFINALE.pdf](http://www.convergences.org/wp-content/uploads/2018/09/BMF_2018_EN_VFINALE.pdf)

tative understanding of microfinance institutions and borrowers, attempted to offer in this chapter, is needed for the understanding of microfinance mechanisms to be well grounded. Borrowers types and their needs are different for microfinance. For finding solutions to their types and needs, different mechanisms are innovated. To deliver these tailored mechanisms for the particular type of clientele, the institutions are evolved accordingly. On the one hand, borrowers' needs change, on the other hand, untapped borrowers also come within the purview of microfinance institutions. This requires further innovations in mechanisms. However, the efficiency of delivering any mechanism depends on the way the institutional structure is evolved. In the process of structural evolution, institution's capacity to deliver certain kind of mechanisms enhances. Hence, it is imperative to have a qualitative study of the types of borrowers, their needs and the institutions that are catering to their needs.

Many of the institutions in this sector are social enterprises and might be profit making organisations but are not necessarily run as a profit motive. The observation in qualitative work helps in understanding the perspective of the people running the social enterprise. This in turn is crucial to grasp the intentions behind their decisions. While quantitative studies in microfinance underline economic rationale of market model, qualitative studies are able to update the assumptions to better frame the economic theory.

This chapter seeks to evaluate the development of microfinance in India by looking at the experience of the Mann Deshi Bank, which established in 1997 as the first microfinance women bank in India. The next section presents a critical literature review of microfinance, followed by an overview of microfinance in India. This paper utilizes a mixed-method - qualitative and quantitative analysis, to assess microfinance operations in India. The third and fourth qualitative sections capture the story of the Mann Deshi group and its work. They also paint a picture through the stories of the borrowers of Mann Deshi Bank. In the fifth section, an empirical analysis of the joint liability loans of the bank's borrowers is carried out. The sixth section then sheds light on an innovative financial product introduced to address



the cash flow needs of clients by the bank, that can serve as a potential template for greater financial inclusion around the world. The final section concludes the chapter by showing how the work of Mann Deshi Bank serves as a new benchmark in microfinance operations in India.

## 1.2 Microfinance

Microfinance aims at providing small loans/savings/insurance to low income households, especially the ones who are excluded from the formal banking sector. It is being evaluated as a celebration of the marriage of poverty alleviation with capitalism.

A big portion of the literature sheds light on the mechanisms of microfinance which are successful in generating higher repayment rates. Ghatak and Guinnane (1999) points out four potential problems which would affect loan repayment negatively when comparing formal banking institutions and microfinance institutions. They are adverse selection, moral hazard, auditing and enforcement problems. Joint liability adopted by microfinance institutions (MFIs) is supposed to mitigate asymmetric information between borrowers and banks. Therefore, the first three problems can be targeted (Banerjee et al. 1994; Stiglitz, 1990; Karlan, 2007). Enforcement problems can be addressed through social sanctions which are against defaulters and not possessed by financial institutions. However, there are still some unresolved issues in microfinance. For instance, hidden costs, collusion of borrowers, emerging tensions, group formation and size etc. (Ghatak and Guinnane, 1999; Armendariz and Morduch, 2000) call for more research and finding solutions.

A great deal of the literature also attempts to look into the determinants of the success of microfinance beyond group lending. On the one hand, some studies argue that dynamic incentives such as threatening to stop lending or progressive lending play a role in improving loan performance (Besley, 1995; Godquin 2004). On the other hand, frequent repayment schedule does not only help borrowers to establish

financial discipline but also utilize social ties so as to reduce default rates (Besley and Coates, 1995; Abbink et al. 2006). Other incentive schemes such as making repayment public, cross-reporting, information collected by staff and so on also show positive impact on loan performance (Rai and Sjoström, 2004).

### **1.2.1 Issues addressed by microfinance**

#### **Lack of collateral**

Lending contract is exposed to issues such as adverse selection, moral hazard and non-enforceability. For a well functioning debt market these issues are needed to have resolved. Usually, collateral is the solution. As long as the value of the collateral, at least to the borrower, is higher than the debt, it attracts the right type of borrowers, aligns the choices of borrowers regarding the utilisation of the loan to that of the interest of the lender and motivates the borrowers to repay. Lending to the poor becomes challenging with poor people's inability to offer collateral. At lower income marginal propensity to save might be low leading to lower creation of wealth. Even when there are assets owned by the poor, these may not come with well defined property rights. (De Soto, 2007) This reduces the value of the asset. Hence, poor are not able to offer a collateral leading to a market failure in the debt market for the poor.

#### **Adverse selection**

One problem of credit market failure is adverse selection due to asymmetric information between lenders and borrowers. Banks cannot easily differentiate safe and risky borrowers, especially when there is weak enforcement of repayment. This will eventually make the lending program more attractive to risky borrowers and crowd out safe ones. Then banks will end up with loans exposing to 'bad risks'. Group lending is considered to provide a screening mechanism by taking advantage of information available among borrowers to mitigate the problems of adverse selection. The theoretical models proposed by Varian (1990) and Ghatak (1999) support the 'positive

assortative matching' which shows borrowers to cluster by themselves according to their own risk profile. Borrowers who are similar types have more incentive to form groups so as to protect their own interests (Stiglitz, 1990). This relies on the close ties between individuals who can assess the ability of their group members to repay. This model can be utilized only when the financial institution allows groups to self-form.

In addition, Guttman (2008) constructs a theoretical model and argues that when there is financing threat, the positive assortative matching does not hold. He shows that the marginal effect on the probability of group default, to a safe borrower is less than the corresponding marginal effect, to a risky borrower. Therefore, risky borrowers would be willing to pay more to have a safe borrower as a group member than a safe borrower is willing to pay. However, when there is absence of side-payment, safe borrowers are preferred by both safe and risky borrowers. Kritikos and Vigenina (2005) investigate 108 groups in Constanta. The group quality variable is constructed by asking group members to give an assessment on her group members' riskiness of projects. The results show the positive correlation between the group quality and the subject's own risk quality. This provides evidence of assortative matching. However, it is still debatable whether the performance of homogeneous groups is better than the heterogeneous groups. Zeller (1998) suggests that the homogeneous risk among group members would have negative impact on loan repayment. Moreover, more profitable and higher risk projects, which would spread risks among members, could be chosen by members.

### **Moral hazard**

Peer monitoring enables microfinance institutions to mitigate the issue of moral hazard (Wenner 1995; Stiglitz 1990). Because group members would lose access to future credit if the group defaults, they have incentives to monitor each other and to enforce repayments through potential social sanctions. Hence, the default rates can be reduced and debt repayments can be strengthened (Armendariz de Aghion,

1999). Even when monitoring cost is high, Ghatak and Guinnane (1999) claim that loan repayment can be improved through group lending. Although Stiglitz (1990) firstly identify peer monitoring in the context of group lending, he assumes an enforceable contract can be made by group members to choose certain projects. These assumptions are not realistic since the court cost could be high. Wydick (1999) shows evidence that members' monitoring costs affect the repayment rate negatively. Furthermore, willingness to utilize social sanctions on defaulters play important roles in mitigating moral hazard problems.

### **Enforcement**

Even when information is symmetric between borrowers and financial institutions, the enforcement problem still exists. It is either too costly or difficult to enforce the loan contract for a financial institution when there is a default. Sometimes even the threat of future loans might not work. Enforcement of loans can be enhanced through group lending which can impose sanctions on group members who have defaulted irresponsibly. Sanctions include social ostracism, or even more aggressive measures such as seizing the delinquent member's property. Montgomery et al. (1996) document cases of property loss of defaulters in Bangladesh. As observed by Besley and Coate (1995), when there is a default in a group, group members have incentives to apply sanctions even if it is costly because they might lose access to future loans. They also compare group lending with individual lending and conclude that loan performance in terms of repayment rates is better in group lending if social sanctions are imposed. Wydick (1999) examines 137 Guatemalan groups and concludes that peer monitoring and intra-group insurance drives the success of group lending whereas social sanctions just play a secondary and supporting role. He argues that in the area where social ties are strong, group members are more compassionate towards the one who defaults. Then the group lending loses its charm. Paxton et al. (2000) find that social ties are more important than social sanction. Most of defaulters in the sample are categorized as uncontrollable reasons

rather than irresponsible or negligent behaviour. So little or no pressure is placed. This is consistent as the findings of Zeller (1998).

### **Strategies**

Theoretical models have assigned the success of group lending in addressing adverse selection and moral hazard problems to joint liability and its exploitation of existing social capital. Besley and Coate (1995) show that strategic default is reduced if the social sanctions borrowers can impose on their joint liability group members are severe enough, such that the credible threat of social sanctions is sufficient to induce higher repayment in joint liability group lending than in individual lending. Armendáriz de Aghion (1999) shows that strategic default among borrowers can be prevented if the cost of monitoring is sufficiently low relative to the size of possible social sanctions. By relying on the assumption that only strategic default is punished, both models explain high repayment in joint-liability group lending but they fail to explain positive levels of punishment in equilibrium (Czura 2015, 120-121). This study pushes the discussion from the standard microfinance investment game on strategic default, put forward Abbink et al. (2006) and Cassar et al. (2007).

As MFIs are consolidating their operations, the need to increase profits or efficient management of operations is becoming an imperative for them. A study by Kodongo and Kendi (2013) compares individual lending versus group lending suggests a possible way out – i.e. to establish a form of credit risk assessment of individual borrowers in a group and then target them for offering progressive individual loans. This is also important for policy making as there is a need to promote stability in the macro-environment where decision makers have to ensure interest rates charged by microfinance institutions remain not just stable but also affordable.

Carli and Urasb (2017) look at proposing different structures for loan contracts and move beyond the joint liability which is the key to loans by MFIs. While existing knowledge about the structure of JLGs suggests that there should be a leader the question that arises, is how to choose such a leader? While exploiting

exogenous characteristics of loan applicants is sometimes utilized to appoint a group leader, this study suggests that when faced with homogeneity in borrowers a possible solution can be found by providing an implementation scheme that assigns the group leadership by the outcome of a lottery whose realization is unknown at the time the contract is signed.

Mersland and Strøm (2010) address the question of financial viability of MFIs and examines whether maturing MFIs move away from their core purpose – i.e. provide lending to very poor borrowers and who are not catered to by ordinary bankers. The paper after looking at the experience of MFIs over 11 years using data from rated MFIs in 74 countries for the period from 1998 to 2008 finds that the average loan size (which is used as a proxy for moving away from their mission) has not increased. They also measure mission drift by looking at MFIs outreach towards women, from group lending to individual lending; and operating in rural areas. The main argument that they imply is that mission drift may occur if an MFI seeks higher financial returns, but that this effect is neutralized if the MFI is more cost efficient. They argue that the more cost effective an MFI is, the smaller the average loan. A prediction can thus be made that further efforts to reduce costs will result in MFIs reaching out to even poorer segments, when profitability is at the same level. Rather than concentrating on an MFIs "commercialization", attention should be focused on how to reduce costs per client. This work complements the work by Cull, Demiguc Kunt, and Morduch (2007) which is the only larger cross-country study to address mission drift. Using a sample of 124 MFIs in 49 countries, they find that MFIs can stay true to their mission even when they aggressively pursue financial goals.

Pal and Mitra (2017) look at the changing nature of MFIs, from working to serve a purpose of expanding financial reach to seeking profit raises a question whether there is any change in the nature of MFIs. One possible effect of seeking profit was to assign more loan borrowers to each loan officers, which raised the question whether in seeking run a more cost-efficient operation MFIs original purpose can

be affected. The focus on loan officers monitoring loan repayments is needed as it has been found to be effective for micro-lending apart from peer selection, peer monitoring and joint liability. It uses dataset with information from 1,575 MFIs from 109 countries for the period 2006-2013 and finds that there is no corroborative evidence that there is a trade-off between the number of borrowers per loan office and MFI asset quality. MFIs have reaped the benefit of economies of scale.

### 1.2.2 Microfinance in India

According to the World Bank<sup>5</sup>, the total number of adults without a bank account over the age of 15 in India is 190 million which accounts for 14% population in 2017. A two fold growth of the banked population during the period of 2011 and 2017 was due to the strong push of biometric identification card by the government. For example, the Pradhan Mantri Jan Dhan Yojana (PMJDY), launched in 2014, gave every household a bank account and basic insurance cover. This flagship scheme of the government attracted a crowd of 15 million on the day it was launched<sup>6</sup>. Later on, the license to payments banks and small finance banks and the launch of Micro Unit Development and Refinance Agency in 2015<sup>7</sup> showed the determination of the government to promote financial inclusion to the poor. The account ownership for women experienced a rapid increase of 30% between 2014 and 2017. But still 60% of un-banked adults are women.<sup>8</sup> Based on the census in 2011, 46% of households in the rural areas and 32% of households in the urban areas do not have access to banking services.<sup>9</sup>

Microfinance segment plays a key role to bridge the gap between the unbanked population with the formal banking system. Microfinance financial institutions (MFIs) in India reached out 50.9 million low-income borrowers by 2017 with a Year on YoY

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<sup>5</sup><https://www.bankbazaar.com/saving-schemes/pradhan-mantri-jan-dhan-yojana.html?ck=Y-%2BziX71XnZjIM9ZwEflsyDYIRL7gaN4W0xhuJSr9Iq7aMYwRm2IPACTQB2XBBtGG&rc=1>

<sup>6</sup><https://economictimes.indiatimes.com/news/economy/policy/pm-jan-dhan-yojana-launched-1-5-crore-bank-accounts-opened-in-a-day/articleshow/41093413.cms>

<sup>7</sup><https://www.mudra.org.in/>

<sup>8</sup><https://www.bankbazaar.com/saving-schemes/pradhan-mantri-jan-dhan-yojana.html?ck=Y-%2BziX71XnZjIM9ZwEflsyDYIRL7gaN4W0xhuJSr9Iq7aMYwRm2IPACTQB2XBBtGG&rc=1>

<sup>9</sup>[http://www.censusindia.gov.in/vital\\_statistics/SRS\\_Reports.html](http://www.censusindia.gov.in/vital_statistics/SRS_Reports.html)

growth rate of 5.8%. India is the country with the largest number of borrowers borrowing from MFIs. The loan portfolio also increased by 26.3% in 2017 amounting to USD 17.1 billion.<sup>10</sup> There are around 165 microfinance lenders by March 2018 including banks, small finance banks (SFBs), non-banking financial companies (NBFCs), and non-banking financial companies - microfinance institutions (NBFC-MFIs) in the microfinance sector(MFIN 2017-18 report)<sup>11</sup>. Based on the data of 140 MFIs collected by Sa-Dhan in 2017 in figure 1.1 and figure 1.2, the association of community development finance institutions, NBFC-MFIs took the lead in client outreach and loan portfolio size with percentages of 41% and 31% respectively. SFBs followed NBFC-MFIs with market share of 26% and 30% in terms of client outreach and loan portfolio size. Banks fell behind SFBs marginally with market shares of 22% and 28% accordingly. The strong growth in microfinance can be attributed both to the demand of the market and to RBI's agenda of extending credit to the poor. For example, RBI requires all domestic banks with at least 20 branches to have at least 40% of loans lent to the priority sector, which MFIs are categorized as. Moreover, the agriculture, micro enterprises and weaker sections should be allocated at least 18%, 7.5% and 10% of loans. However, the public sector banks tend to fall short of the target set by RBI<sup>12</sup>. In 2017, they fell short of 7.5% of the target. The current solution for the shortfall is to require the banks to contribute to the Rural Infrastructure Development Fund for further allocation<sup>13</sup>. To control the portfolio risk and encourage lending to the poor, banks are allowed to have unsecured loans of 10%. However, Mann Deshi bank's priority lending takes up 90% of its loan portfolio. Later on, RBI issued a circular in April 2016 to allow any banks which have more than 90% priority lending to increase the proportion of unsecured loans from 10% to 35%.<sup>14</sup> Mann Deshi bank is so far the only bank meeting the criteria according to the CEO of the bank.

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<sup>10</sup>[http://www.convergences.org/wp-content/uploads/2018/09/BMF\\_2018\\_EN\\_VFINALE.pdf](http://www.convergences.org/wp-content/uploads/2018/09/BMF_2018_EN_VFINALE.pdf)

<sup>11</sup><http://mfinindia.org/wp-content/uploads/2016/10/Annual-Report-2017-18.pdf>

<sup>12</sup><https://m.rbi.org.in/Scripts/FAQView.aspx?Id=87>

<sup>13</sup><https://www.thehindubusinessline.com/money-and-banking/banks-can-now-meet-their-msme-priority-sector-lending-target-better/article22682033.ece>

<sup>14</sup><https://www.rbi.org.in/Scripts/NotificationUser.aspx?Id=10361&Mode=0>



The flagship loan products microfinance institutions offer are based on joint liability of borrowers since the clients do not have collateral and cannot access the formal banking system. There are two major types of joint liability models in India. One is Self-Help Groups (SHGs) which consist normally of 10-20 people. The other is Joint Liability Groups (JLGs) with about 5 people in one group.

In the early 1970s, informal SHGs came up as an effective tool in the rural areas to provide credits to the poor in rural India. The fundamental of this model is mutual trust and peer pressure. In 1992, National Bank For Agriculture and Rural Development launched a pilot program targeted 500 SHGs to allow banks to finance SHGs. The success of the program in the next few years built up the confidence for the Reserve Bank of India to implement this practice to connect the unbanked with the formal financial services in the whole banking system in 1996.<sup>15</sup> This SHG-Bank Linkage Program, which is the largest microfinance program in the world, reached 110 million households and totaled outstanding loan of Rs. 75,500 crore in 2017.<sup>16</sup> Although this model still prevails in the movement of outreach of the poor, there are problems. For example, the group can apply for loans only after regular saving in 6 months. This creates a threshold for easy access to credit. Also the allocation of a loan within a group is discretionary among group members. This limits the use of fund being allocated to the one who is in need of credit but lack of power within the group. These restrictions result in high NPA of 6.5%<sup>17</sup> compared with the NPA (0.5%)<sup>18</sup> of joint liability loans with smaller group members.

MFIs and banks replicated the model with fewer group members and received great success in 2000s. According to the National Bank for Agriculture and Rural Development, the number of joint liability groups was 1.2 million during the period from 2017 to 2018 in India. And the loan disbursed to JLGs amounted to Rs. 13,955 crore. The cumulative joint liability groups by March 2018 were 3.5 million and

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<sup>15</sup><https://www.nabard.org/CircularPage.aspx?cid=504&id=2882>

<sup>16</sup>Status of Microfinance in India 2017-18 <https://www.nabard.org/auth/writereaddata/tender/-1907183104SMFI%202017-18.pdf>

<sup>17</sup>The Bharat Microfinance Report 2017 <http://indiamicrofinance.com/wp-content/uploads/2017/12/The-Bharat-Microfinance-Report-2017-Final.pdf>

<sup>18</sup><https://economictimes.indiatimes.com/small-biz/money/indian-microfinance-industry-will-continue-to-demonstrate-sustainable-growth/articleshow/58311757.cms>

the total amount was Rs. 40,803 crore<sup>19</sup>. Due to favorable regulations and strong demand for loans from borrowers who are not reached by the formal financial sector, the period of 2005 to 2010 witnessed an exponential growth in the commercialization of microfinance sector.

SKS Microfinance, the largest MFIs in 2007, became the first Indian microfinance IPO in 2010 and attracted interests from NGOs to hedge funds from abroad. It was 13 times over subscribed and eventually the IPO raised \$358 million<sup>20</sup>. Spandana Sphoorty and SHARE Microfin, the second and third largest players, were also planning to go public<sup>21</sup>. This exponential growth came to a screeching halt when it was stopped by the Andhra Pradesh crisis in 2010. An ordinance on MFIs was promulgated by the state government in response to the increasing media coverage of suicide incidents of microfinance clients. MFIs were blamed for their high interest rate, multiple lending and intimidating collection practices which mirrored the practices of moneylenders. The act restricted the operation of the MFIs (registration with the government, government approval required for every second loan issued to the same client, public collection rather than door to door collection of repayment etc.)<sup>22</sup> and it had an immediate effect on the MFI repayment rate which fell from 99% to 20%<sup>23</sup>. It is interesting to note that 57 branches of SHARE and Spandana were closed in 2006<sup>24</sup>, due to similar problematic practices blamed in 2010 but did not raise a similar public outcry despite reportage of many cases of suicides. The period from 2010 to 2016 witnessed the reshuffle of microfinance sector with a number of MFIs shutdown.

In 2011, RBI categorized MFIs as Non-Banking Finance Companies (NBFCs). It recommended a margin cap of 10% with a loan portfolio of Rs. 100 crore and 24% for interest on individual loans for MFIs. However after April 2014, RBI lifted

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<sup>19</sup>Status of Microfinance in India 2017-18 <https://www.nabard.org/auth/writereaddata/tender/-1907183104SMFI%202017-18.pdf>

<sup>20</sup><https://www.reuters.com/article/sksmicrofinance-ipo-price-idUSSGE67209X20100803>

<sup>21</sup><https://www.livemint.com/Money/xLwf7CWnl81a2JBzV9fUgL/After-SKS-success-Share-Microfin-Spandana-Sphoorty-may-go.html>

<sup>22</sup><https://www.livemint.com/Opinion/Z3YLSgcdQxb4VygrbRW6EL/Microfinance-To-hell-and-back.html>

<sup>23</sup><https://economictimes.indiatimes.com/industry/banking/finance/microfinance-crisis-mfis-with-sizeable-presence-in-andhra-pradesh-on-the-brink-of-closure/articleshow/7272192.cms>

<sup>24</sup>Ghate, P.,(2007) Consumer protection in Indian Microfinance: Lessons from Andhra Pradesh and the Microfinance Bill, Economics and Political Weekly 42(13),1176-1184

the cap to help MFIs to link interest rate with their cost of funds. MFIs can choose the lower interest rate between the cost of funds with a maximum 10% margin or 2.75 times of the average based rate of the top five commercial banks<sup>25</sup>. Also, in 2014, Microfinance Institutions Networks (MFIN), established in 2009, was appointed by the Reserve Bank of India to be the self-regulatory organization for the microfinance sector. MFIN has 90% of microfinance players including NFBF-MFIs registered as members/associates with them<sup>26</sup>. There was a strong push by the Reserve Bank of India to transform MFIs into SFBs. In 2015, 10 institutions were granted the licence of small finance bank and 8 of them were MFIs<sup>27</sup>. RBI also set up mandatory requirements to maintain the agenda of serving the poor for SFBs. For example, "75% of their adjusted net bank credit (ANBC) will go towards priority sector lending and 50% of the loan portfolio will constitute loans up to Rs.2.5 million"(RBI, 2014)<sup>28</sup>. Although SFBs now have access to more capital and a more diverse loan portfolio, they are regulated by RBIs.

Microfinance experiences impressive growth over the last few decades in India. With an increasing client base who have completed multiple loan cycles and more of them getting connected to the formal banking, it is time to review the future of microfinance. Microfinance helps the poor who does not have collateral to get joint liability loans to build up their credit record. But borrowers might still not be eligible to join the formal banking system due to insufficient collateral even after the completion of microfinance loan cycles. One effective dynamic incentive to attract or keep the microfinance borrowers is larger amount of loans. With the support from RBI which lifted the cap for individual loan amount from Rs. 50,000 to Rs. 100,000, MFIs and banks reshape their strategies accordingly to adapt to the changing competitive environment. This will hopefully become an effective tool to help these borrowers to eventually get in the formal banking system with stronger

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<sup>25</sup>[https://www.rbi.org.in/scripts/BS\\_ViewMasCirculardetails.aspx?id=9827](https://www.rbi.org.in/scripts/BS_ViewMasCirculardetails.aspx?id=9827)

<sup>26</sup><https://economictimes.indiatimes.com/industry/banking/finance/microfinance-institutions-are-struggling-for-survival-heres-why/articleshow/60931020.cms>

<sup>27</sup><https://www.livemint.com/Industry/1Jqz0fDRUpIUeYSJs8tCmK/RBI-grants-small-banks-licence-to-10-applicants.html>

<sup>28</sup><https://www.rbi.org.in/Scripts/NotificationUser.aspx?Id=10497&Mode=0>

credit record.

Chetna Sinha, the chairman of the Mann Deshi Group, shared similar views on the future of microfinance. She mentioned in the interview that Mann Deshi bank was established to meet the needs of the poor women who were left out by commercial banks due to high cost. The bank implemented the Grameen model with no more than 5 people in one group successfully over the last two decades with a high repayment rate of nearly 100%. Now there are two major challenges the bank is facing. One is how to localize the JLG products to take into account of the local community and culture. This is essential when microfinance wants to penetrate into new areas. The other is how to provide the "right" financial tools to those borrowers who have completed several loan cycles and are ready to scale their business or get into new business but still struggle to get into the formal banking system due to various reasons. This group of borrowers have different requirements of cash flows and loan amount. So new types of products should be explored to meet clients' needs(see the box below for text of interview).

**Chetna Sinha, Chairman of Mann Deshi Group**

**1. What made you establish Mann Deshi bank?**

I was in anti emergency movement with famous Gandhian Jaiprakash Narayan, who encouraged youth to work in India. I taught economics for a year in Mumbai and then went with my husband to work in the rural

community in Mhaswad. Then I found that many women could not open a bank account even when they had money to save. The banks felt the saving amounts were too little and the maintenance costs were too high. So my journey started.

**2. What were the challenges you faced when establishing the bank?**

It was difficult to get a banking licence. It was more difficult to get a licence for a microfinance bank. The Reserve Bank of India rejected us at the beginning based on the fact that the women directors were illiterate. Our women were very determined to learn so we started a 5-month intensive training on literacy including financial literacy. I went back to the bank with 15 women and we challenged officers from the central bank. In the end, we got the licence. We are the first and the only all-women microfinance bank in India.

**3. What is your view on the poverty trap in microfinance?**

Many of our women clients are from families which are in the poverty trap. For example, Vanita Pise, who is our current community leader and a member of board of directors, was broke when she came to us because her husband was in debt which the family could not repay. With the joint liability loans, clients are able to come back to their feet and build up their credit record. Vanita is one successful example to climb the ladder from a customer using JLG loans to micro-entrepreneur loans in the bank. Our JLG loans repayment rate is almost 100% due to the peer repayment model and flexible terms to help women who are in difficult position to repay loans. Also our Foundation program provides a lot of non-financial support such as Business school to help women gain financial knowledge to build up their business. Our motto is "never provide poor solutions to poor."

**4. Where do you see the future of microfinance?**

The JLG loans are the mainstream microfinance product which attracts lot of investment due to its regular repayment and short tenure of loans which are normally one year. We have been successfully implementing this product

in Satara district and now we are trying to explore new areas such as Mumbai where we just established our branch this year. But we are aware of different community and culture in the new areas. The product needs to feature those elements which help maintain its high repayment rate. In 2010, I came across a few vegetable vendors in the weekly market who saved with the bank but borrowed from the money lender because of the flexibility they got from the money lender. So we ran financial diaries to collect data and launched our weekly market product which is a 3-year contract and the first contract's loan amount cannot be more than 20,000 rupees. Agents provide door-step service to issue and collect the loan. The data shows that clients saw 20 times increase in the capital. This is the new product we are currently running based on the concept of JLG but incorporating the cash flow demand of clients from the weekly market. There are challenges but also big potential. Microfinance should not only focus on helping clients to meet with basic living standards, it should also help women become entrepreneurs who will be the leaders in India. Our group's vision is to transform 1 million women entrepreneurs by 2020. Women in India should have the ownership of capital, knowledge and technology. As a home grown bank, many of our clients have gone through the first stage which has several loan cycles through JLG, so now they are ready for the next stage of transformation: becoming entrepreneurs. But they still face issues such as insufficient collateral to borrow from the formal banking system. Entrepreneurs are different than JLG loan borrowers. They have different cash flows. Now investors might want to hear the voice of micro-loan entrepreneurs.

### **1.2.3 Why Mann Deshi?**

The institutions engaged in Microfinance vary in their purpose. Some have profit motive whereas some have developmental goals. Within institutions with develop-

mental goals, there is further variation in the type and approach in development that they desire and hence their purpose varies. Among these institutions, Grameen bank from Bangladesh is the pioneer which demonstrates an applicable and successful model in providing credits to the poor.

Though both Grameen and Mann Deshi operate in the same industry with development goals, their approaches have been a bit different. From Grameen's point of view, women were seen as the best medium for achieving development of microfinance whereas from Mann Deshi's point of view, Microfinance was seen as the best medium for achieving development of women. Grameen started with Microfinance for the development of poor. They had male and female groups. Later on as female groups were significantly more efficient to maintain, they grew with female groups. Hence, women were seen as the best medium for achieving development of microfinance. Mann Deshi on the other hand started with financial inclusion from a women's development point of view. "A woman to have a greater control on her finances" was the goal Mann Deshi wanted to achieve at the time of its inception. This was from the point of view of women to have more liberty. More opportunity to invest, having more assets in name and having a fair share in ownership of family assets was seen as the ways to gain higher liberty for women. Hence, the motivation is to have financial inclusion for women.

Mann Deshi, as the goals differences with Grameen, differs in other aspects at the phase of inception. There are two salient points to be made. Grameen started with lending. Lack of access to capital was identified as a reason for low productivity and low income in poor. Mann Deshi started with savings. Lack of saving opportunity for women was identified as the problem. Banks were not ready to accept these poor rural women's deposit as such small deposits were not seen viable by the banks. Women needed access to save because they understood the benefits of having the savings both as precautionary money and as an investment. But, not having control on their finances they were not able to save. Quite often the men in the family would force the women to spend the money. Many times in a life of subsistence living,

women find themselves having lack of discipline and patience. Hence, an external secured option to save was in demand. Mann Deshi started with an objective to offer that. Another aspect is that Grameen had the external support in terms of grant as a gift or as a loan until 1998, that is for more than first 20 years. The donors included the International Fund for Agriculture and Development, the Ford Foundation, the governments of Bangladesh and so on (Armendariz and Morduch, 2010). Mann Deshi raised the money as a capital by the rural poor women whom they were committed to serve. It is not an investor driven institution as it is a cooperative which means every member's vote carries equal weight irrespective of the investment the member has in the organisation. This limits Mann Deshi's growth as poor women did not have much to offer to start with.

Microfinance is seen as an untapped market opportunity. Large section of poor population is not connected to the formal banking system. This limits the development of poor. This untapped market is potentially also a business opportunity for the financial institutions. There are various institutions which are engaged in microfinance. For example, Banks, Non banking financial Companies, Cooperative unions and Non Governmental Organisations (NGOs) (Charitable organisations). Certain institutions operate exclusively in Microfinance whereas others do it as part of their overall business. Mann Deshi's size is relatively small compared to the industry average based on 107 microfinance institutions data provided by Mix Market as shown in Table 1.1. However, the gross loan portfolio, assets and deposits per active borrower is higher for Mann Deshi. Also, portfolio at risk (>90 days) is 2% for Mann Deshi whereas the figure is 3% for the industry. This is particularly important within industry which is known for low default rate while serving the "high risk" clientele as its flagship achievement.

It is challenging to place Mann Deshi into the firm's legal status categorized by MIX market since Mann Deshi is a co-operative bank. When compared with the average of two credit union/Co-operative (Annapurna Cooperative and MCM) provided by the database, the differences narrow and some figures such as gross loan



portfolio, assets, deposits, paid-in capital and portfolio at risk (>90 days) for Mann Deshi are higher than the average. But when in comparison with banks, Mann Deshi shows similar results as compared with the industry.

One possible comparable institution is Shri Mahila Sewa Cooperative (SEWA) Bank, a sister institution of the Self Employed Women's Association, established in 1974. It aims at meeting the financial needs for poor women in India. "Saving-first" is one of the philosophies of the bank. This is similar as Mann Deshi bank. SEWA's group loan focus is on self help group. This type of loans was the initial product Mann Deshi provided. Along the timeline, Mann Deshi shifted to smaller size joint liability loans and reduced SHG loans significantly. These updates in mechanisms adapted by Mann Deshi were fitting to their own clientele as SEWA has 30% members from rural areas<sup>29</sup> whereas the figure for Mann Deshi is 80%. Different clientele characteristics and loan products result in different financial outcome as shown in table 1.2. Although SEWA has larger size in the client base and higher numbers in financial figures, the total deposits, loans and profit per member is smaller than Mann Deshi.

Overall, the mechanisms developed and applied by the MFIs can be learnt by other MFIs. When focusing on the mechanism, any organization is representative regardless of its purpose and size. Mann Deshi organisation is representative because the clientele they serve is typically the clientele faced by most MFIs. From the chart of the trends in the rural-urban share of MFI borrowers shown in the Bharat microfinance report 2017, the focus on rural clients by MFIs dropped from 69% to 33% from 2012 to 2015 whereas there was an increased urban clientele focus from 31% to 67% over the same period. The trend reversed during the period of 2016 to 2017. This is due to the exclusion of 6 SFBs. The shift from rural to urban clientele makes microfinance more important in the rural areas as 80% of the poor population in India live in rural areas <sup>30</sup> The poverty rate is 25% in rural areas whereas it is

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<sup>29</sup>Bipasha Baruah, Women and Property in Urban India

<sup>30</sup>World <https://www.worldbank.org/en/news/infographic/2016/05/27/indiaspovertyprofile>.

14% in urban areas according to the figures compiled by World Bank in 2016 <sup>31</sup>. The characteristics of clients vary in terms of income, assets, castes, occupations, pattern of employment (wage or self employment), education, purpose of borrowing. Mann Deshi has around 80% of its clientele from rural areas. Therefore, it gains a greater prominence within the sector.

### **1.3 Mann Deshi Group**

There are two organizations within the Mann Deshi Group. One is Mann Deshi Foundation, established in 1996 to help rural women have sustainable livelihood by providing non-financial tools. The other is Mann Deshi Mahila Bank which was founded in 1997 to provide different financial products to women as individual or group. The mission of the founder, Chetna Sinha is to empower women with knowledge, skills, courage and capital access to achieve financial independence and self-sufficiency. The new objective is to transform 1 million women entrepreneurs by 2022.

#### **1.3.1 Mann Deshi Foundation**

The non-financial services provided by the Foundation include skills development, mentoring and technical support to empower women entrepreneurs and their communities. There are a week-long, fifteen day-long, and one-year Deshi MBA courses on financial and adult literacy and business development which are run in 18 business schools utilizing 8 mobile buses. The mobile buses carrying a minimum of 7 staff go to the rural areas to provide door-stop training. The 14-hour financial literacy course, offered by Mann Deshi Udyogini, is a key component to Mann Deshi bank's successful operations. Completing the financial literacy course is the must-do requirement for each of Mann Deshi bank's loan clients. The course covers topics such as the importance of savings, timely loan repayment, and consulting the bank whenever financial hardships become an issue. In 2017, 31,038 women attended the

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<sup>31</sup><https://www.worldbank.org/en/news/infographic/2016/05/27/indiaspovertyprofile>

course. Since making financial literacy compulsory for loan clients, loan default has decreased from 4% to less than 1%. Nearly 40% of women who take the financial literacy course started saving. Nearly 50% of them became clients of the bank<sup>32</sup>. Apart from the Business Schools, a Chamber of Commerce (CoC) was established to provide support for existing entrepreneurs on how to expand their businesses. The support includes networking, mentorship and access to new market. This is a customized financial education for women entrepreneurs to establish a sound business. There are three CoCs serving 65,818 women by 2017. According to Figure 1.3, the number of women involved in the business school and the Chambers of Commerce reached 320,243 over the last five years. The financial impact on women shown in Figure 1.4 shows positive outcome in saving activities and assets owned. Also, Figure 1.5 shows that there is significant increase in total annual income of all beneficiaries after training. The projected income for all beneficiaries in 2017 is 90 crores compared with 73 crores in 2016<sup>33</sup>.

### **1.3.2 Mann Deshi Mahila Bank**

Mann Deshi Mahila Bank is India's first rural financial institution to receive a cooperative license from the Reserve Bank of India. It is a cooperative bank run by and for women in rural Maharashtra. When there was upheaval in the microfinance sector reshuffle since 2010, the bank was only hit in the first few months and then retained its market share through its long-stand brand image and its close ties with local borrowers. Also, it had limited presence in other areas where competitors had to shut down branches. The bank is known for its groundbreaking work in the area of financial inclusion. It has a majority of loans belonging to priority lending which exceeds the minimum requirement of 40% by RBI. The data over the last ten years shows that around 90% of the clients were from the "priority or weak sector" defined by the Reserve Bank of India. 70% clients were from backward casts. 50% of borrowers own small enterprises, including rope making, tailoring and dairies. The rest

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<sup>32</sup>Vanita Shinde, CAO, Mann Deshi Foundation

<sup>33</sup>Mann Deshi Foundation Annual Report 2016-17

of borrowers are street vendors or day laborers etc. It provides financial services to over 155,000 clients. These services include loans, savings, pension, and insurance, and doorstep banking which are provided by field agents who travel to clients' doorsteps. By 2000, the bank became fully sustainable. Mann Deshi has eight branches covering 7 districts (Satara, Solapur, Sangli, Raigarh, Ratnagiri, Pune and Kolhapur) in Maharashtra with 10,000 transactions daily. There are in total 74 employees including 15, who work in the headquarter office<sup>34</sup>.

The bank has maintained healthy performance over the last decade. It is shown in Figure 1.7, the bank accumulated deposit of Rs. 975,240,956 (61 percent comes from individual deposits) by March 2018. The credit-deposit ratio maintains at around 60% which indicates strong lending activities with the core fund. The deposit and loans/advances also have a compound annual growth rate (CAGR) of more than 70%, although the annual growth rates slowed down in the last five years. It is interesting to note that the growth rate of loan dropped to 2% in 2015 since the bank was restricted at 10% cap on the unsecured loans which is their strongest growth area. The bank was at the forefront in convincing RBI that higher priority lending requires higher upper limit for unsecured loans. When RBI came up with a circular in 2016 to allow any banks which have more than 90% priority lending to lift the original cap on unsecured loans of 10% to 35%, Mann Deshi is the only bank in India to fulfill the criteria. Therefore, the lending activities, especially unsecured loans got back on the growth track. The bank believes 35% of unsecured loan will be achieved by March 2019 after the new office setup in Mumbai this year<sup>35</sup>.

There are two kinds of unsecured loan products, JLG loans and weekly market credit. Currently JLG loans and weekly market credit take up 20% and 13% of total loan portfolio, respectively. The weekly market credit loan is a growing product and reached 250,000 clients. The micro-entrepreneur loan which is one of the secured loans reaches 30% of the loan book. In terms of loan performance, the non-performance-asset remained stable with net ratio of two percent, which is far below

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<sup>34</sup>Rekha Kulkani, CEO, Mann Deshi Bank

<sup>35</sup>Chetna Sinha, Chairman, Mann Deshi Group

the industry average of 10%. The JLG loans with repayment rate of 99% outperform other loan products. The capital adequacy ratio, which measures a bank's credit risk exposure, remains in a range between 14% to 18% which is much higher than 9% which is required by RBI for commercial banks. The bank's net profit is 1% due to high operating cost, especially the door-step service which is 3%. There are in total eight types of loans. Apart from the two unsecured loans, other six secured loans are for housing, agriculture allied, gold, vehicle loan and business loans<sup>36</sup>.

From the interviews with Rekha Kulkani, CEO of Mann Deshi Bank and Vanita Shinde, CAO of Mann Deshi Group (see the Appendix 6.1), Mann Deshi group is the biggest non-government institution that the poor have the access to locally. It is more flexible than the government. The poor are identified to be lack of opportunities to improve their own lives as an individual and from communal level. The group supports both individual and communal development. The capital access provided by the bank and the training provided/dams constructed by the foundation increase the opportunities for the poor to improve their livelihood - pushing the ceiling up. However, it is well noted that the failure to deal with the shocks can have crushing effects on the poor who are lack of the shock management mechanism. The group is attempting to come up with solutions such as insurance by the bank or the cattle camp by the foundation to help the poor to survive from the shock and minimize their loss - pulling the floor up.

With respect to the bank's future, the CEO embraced the development of technology and acknowledged the importance of it. This is due to the competition from both small finance banks and MFIs. In the old times, the bank was in competition with the money lenders and now the game players are institutional players who have better capacity to scale business. The bank has to react quickly with the help of technology. With the introduction of ATM, mobile app and online banking, the bank can reduce its operational costs to remain in the game. One example is the change of agent's remuneration schemes from commission-based to flat salary plus

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<sup>36</sup>Rekha Kulkani, CEO, Mann Deshi Bank

performance-based scheme so as to cut down the staff costs. It is also interesting to mention that the bank is shifting its focus to more customized products such as weekly market cash credit loans by researching the needs of customers. Also for secured loans, the bank is trying to increase its loan amount to provide dynamic incentives for their existing borrowers and attract new customers.

### **1.3.3 Mann Deshi Impact**

In this section, we will look at a few stories of impact that have left a deep imprint on the customers of Mann Deshi, which have not been highlighted in research so far. As we know, most studies rely strictly on empirical data, but a look at these stories reveals the nuanced way in which microfinance loans affect the poor and un-banked clients and how the various challenges - adverse selection, moral hazard, auditing and enforcement problems, affecting microfinance play out. To complement the stories of the customers, the chapter contains interviews of Rekha Kulkarni, CEO, Mann Deshi Bank, Vanita Shinde, CAO, Mann Deshi Foundation, Anil Khandare, JLG Head of Mann Deshi Bank and Manisha Katte, Weekly Market Cash.

#### **Stories of borrowers**

##### *Nandini Lohar*

Nandini Lohar's home doubles as her workplace, with the tools of her trade lining the blue walls of her rickety corrugated tin house. The 29 year old woman is a member of the Lohar caste, whose members are traditionally blacksmiths and welders. Members of this community typically live hand to mouth, earning only a few rupees a day, such as sharpening farm equipment and building metal fences, subject to seasonal demand. There are traditionally high rates of alcoholism and abuse and low rates of education. Nandini approached Mann Deshi Mahila Bank to microfinance loans to finance her growing business making frames for small posters of Gondavle Karmaraj, the local deity of Gondavle, in order to sell them to the pilgrims that visit the temple town each year. Nandini used her initial loans to buy the raw materials,

tools, and machines necessary for her business. Every year she travels to a neighboring city to buy wood, glass, plywood, glass cutting instruments, and posters, and returns home where she cuts them to size, and nails them together into frames. Her husband operates the larger plywood cutting machine they bought with one of her loans. Nandini has invested extensively in the infrastructure for her business over the last few years, slowly building her capacity to meet her long term visions of expansion. Nandini and her husband are extraordinary in the entrepreneurial vision they brought to the decision to convert their existing skills to make something new and market worthy. Her slow but steady upward mobility has isolated her from her caste, but she believes it has shown her a better alternative. She has surrounded herself with a community that values education and discourages drinking, and she intends to instill those same values in her young children.

#### *Vaishali Pise*

Vaishali Anile Pise got married at age 17. Soon after, her husband was driven out of his family business due to family feud. This left them in a dire situation with no source of income. With no formal education or skills under her belt, Vaishnavi was forced to work as an agricultural wage labourer and fended for herself. But with the birth of her first son, Vaishali wanted to find another source of income. She decided to start her own Vada Pav (street food consisting of bread and vegetable gravy) stall. With the little money she was able to save, she set up her stall beside an auto stand. With her new born baby on her hip, she would sell Vada Pav earning profit of just Rs. 40 per day. Eager to expand her business, she decided to move her stall outside of her relative's hotel. She was able to borrow the hotel's equipment at night, only after they had used it, to make her Vada Pav. Only selling her Vada Pav at night, Vaishali knew she could earn more if she had her own equipment. This is when Vaishali approached the Mann Deshi Bank for a loan of Rs.5,000. She used this money to purchase her own cooking equipment. Now she was able to make and sell Vada Pav all day, without the need to depend on any one. Naturally, her income grew from Rs.40 a day to Rs.70. Encouraged by this, Vaishali enrolled into

the Mann Deshi business School to learn how to run her business more effectively. She listened to Mann Deshi Radio for business tips. She learnt that by listening to her customers and understanding their needs would make her successful. When her customers enquired for mineral water, she decided to take another loan of Rs.10,000 to purchase and sell mineral water. This loan allowed her to expand into a wider variety of other food items like tea, rice and dal, and baked goods. She built a shed to store and protect her raw materials. Today Vaishali earns a Rs.1,500 a day and can save Rs. 5,000 per month. She is the major bread winner in her family and manages to send her children to school. She hopes to run her own restaurant one day. Vaishali's inspiring story is what helped her become a recipient of the 2017 Successful Entrepreneurship Award from Mann Deshi.

#### *Vanita Pise*

Vanita Pise is a typical story of a Mann Deshi woman entrepreneur, yet she is unique in her journey. She has organised over 500 women into self-help groups and assisted many of them set up their own enterprises and become financially independent. Vanita now runs Mann Deshi's newest programme; the Farm to Market project, which organizes small and marginal farmers, aggregates their produce and supports them access markets directly. Vanita was born in a respectable middle class family and was married at the age of 18, when she had just completed her 9th standard of schooling. Her husband's family was prosperous and ran a poultry farm, or so she assumed. The mirage of plenty shattered when Vanita's husband brought her to his poultry barn. She assumed he wanted to show her his wealth; he assumed she would clean the shed three times a day. As the unhappy years of increasing poverty, debt, and hard physical labor wore on, she tried to hide her roughened hands from her parents and sisters, but instead became the object of her family's pity. In 1997 her husband's poultry business finally collapsed, leaving him in debt. Vanita then applied for loan from Mann Deshi Mahila Bank. She began rearing buffaloes and goats while selling their milk from house to house. With Mann Deshi she discovered an opportunity to be part of and build Self Help Groups of women, which became



her source of excitement and joy. As she narrates, “When I was moving around in the villages to organize women, I saw that they were giving me respect for the first time and after a lifetime of frustration and pity this was a welcome change.” Despite her natural charisma and charm, it still was not easy for Vanita to start the SHGs. In order to be part of an SHG, all members must save; Vanita was unable to do so herself because she was supporting her 18- person extended family. Ever resourceful, she taught herself to stitch by candle-light and began a tailoring business on the side, the earnings from which went directly into her savings account with the SHG and Bank. In starting the SHGs, Vanita also had to overcome her deep-rooted fear of taking a loan and falling further into debt. Despite her poverty and Backward Caste, Vanita came from a middle class family, and had to build relationships with lower-class women and gain their trust, while ignoring her husband’s family’s continual efforts to subvert her work. Her eyes sparkle as she says, “Whenever you work with women, the most important factor is how you develop the trust and confidence.” Vanita has organized 35 SHGs and began organizing the women in her SHGs to buy goats and buffalo for their own milk-vending businesses. In 2004 Vanita decided to take a 15,000 rupee (\$375) loan for a machine to make paper cups for prasad or prayer offerings. She bought the raw material and made and sold 5,000 cups each day. When she realized how successful her business was, she started a dealership of the machines so other women could also profit. Through this initiative, Vanita has facilitated 17 women in the purchasing of their own machines. Vanita serves as the co-guarantor on a loan that each woman takes from Mann Deshi Mahila Bank for a machine. Then she brings the raw material to the women and collects and markets their final product for sale. Each woman makes 5,000 cups each day, and earns an income of 2,500 rupees (\$63) per month, thanks to Vanita’s entrepreneurship. Vanita herself earns an income of 3,000 rupees (\$75) per month. She also earns income from her buffalo, goats, tailoring, and land.

In April 2006 she was declared one of two national winners of the Woman Exemplar Award, sponsored annually by the National Confederation of Indian Industries.

She received the award at Delhi from Prime Minister Manmohan Singh. The Exemplar Award is designed to honor “grass-roots, poor, under privileged community level women who have excelled in their contribution in the development process and empower others”. She had been doing exactly this for years.

*Nilofar Wahida Patwekar*

Nilofar used to help her mother who stitched Saree blouses for neighbourhood women. After being married off just after finishing her class 10th, she came to live in Pachwad, Satara. While her husband runs a chicken shop, she runs her own tailoring shop and tailoring class. She took a loan of Rs 20 Thousands from Mann Deshi Mahila Bank, five years back. She was part of a JLG group of five women. The same group subsists now. From her first loan, she purchased two to three tailoring machines and spent also on materials such as lining, buttons etc. She daily cuts up to 20 blouses and gets them stitched from her workers. She employs three full time workers. She has a turnover of around 15 thousand rupees in a fortnight. Nilofar took a loan of Rs40 thousand last December from Mann Deshi. This is the biggest loan amount that Mann Deshi can offer to a single borrower, without collateral. But her need was far more. Hence she took another loan from Bandhan, an MFI, which was of Rs120 thousand. She finds it hard and cumbersome to deal with two loans at the same time and to manage the loan installments every week at two places. She stated in her interview that it would be best if she could get a larger loan from Mann Deshi itself which is currently not possible. This will also create a better credit rating as she will be dealing with a bank rather than a money lender or an NBFC. However, current RBI policy does not allow Mann Deshi bank to offer a non collateral loan of greater than Rs40 thousand. Nilofar feels she is constrained by the slow credit availability.

*Reflection*

The first thing that we see from these three stories is the obvious fact that they are all entrepreneurial women who have overcome immense structural challenges thrown at them in life - from crushing poverty to cruel patriarchy from lack of capital to

denial of family support. Women are *not allowed to fail* in patriarchy; if they fail in one venture, it becomes impossible for them to ever take on another. Hence they work endlessly to ensure success. That is a reason also why their credit return is so high to their bank- Mann Deshi has very low default rate.

These women's enterprise shows a multiplier effect- when they learn something they bring in others and expand the scope of operations. We see from Vanita Pise that she is an entrepreneur and provides leadership through example. Nandini Lohar is now living unlike others in her community, who have a hand to mouth existence and their family life is rife with alcoholism and domestic violence. And Vaishali Pise is running a busy tea shop in a street corner crowded by men- flouting notions of female modesty by confidently conducting business in the public zone. The women of Mann Deshi have surpassed their chains by their grit.

Mann Deshi's borrowers still have more potential than their bank and the sector is able to tap. They have low default rate. So their credit rating is proven to be high. Yet Mann Deshi is not allowed to give these women higher loans without collateral. Nilofar is a case in point. It was found that in other two cases - namely Vaijayanta Kakde from Lonand, who runs a grocery shop and Vijaya Pise, who is a farmer in Piliv who had taken loan for purchase of diary animals - similar problems arose. Despite returning the previous loans on time and successfully managing their current loan repayment instalments, they are unable to get bigger loans from Mann Deshi. Therefore they have been compelled to take out loans from money lenders or other micro-finance institutions. The fact that they manage the instalments of multiple loans at the same time is a testimony of their creditworthiness. They all claim that it would be easier and beneficial in the long run to get all credit from one institution which is their women's bank.

### **Impact studies**

In 2006, the bank assessed 60 clients in four branches to evaluate the economic and social impact on them. 75% of the respondents enjoyed an increase in income after

taking the loans from the bank. The investment of extra income went to the health and education of the family. For example, meal quality which is part of livelihood improved significantly by eliminating the poor section of 26% before being clients of the bank. One third of the clients in the sample positioned themselves higher in the community (Mann Deshi impact studies 2006).

The study done by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH in 2015 attempted to evaluate the impact of two loan products, a term loan (TL) and a cash credit loan (CCL) by using a randomized controlled approach over one year period from 2014 to 2015. There are in total 360 market vendors in the sample to form groups of 3 for the loans. 31% of CCL clients, comparing with 2% of TL clients had a large increase in profits. Also the daily average sales was 23% higher for CCL clients than for TL clients. This could be attributed to better quality of goods with higher profit margin for CCL clients. It seems that CCL clients utilize the loans well with 68% of clients reaching the maximum withdrawal amount. It is worth noting that vendors' personal consumption increased by 20% in the CCL group.

Another study in 2016 focusing on the impact of the one-year Deshi MBA business programme, launched in 2015 by Mann Deshi Foundation, was conducted by Grameen Foundation India to evaluate the impact of the programme on 286 participants. The participants have to meet the requirements of a minimum two-year business experience and a minimum turnover of \$3,000. The results suggest that the programme enhanced women's confidence to run good business by providing not only a platform to learn how to expand the business and tools to utilize in the business but also creating a social business circle. The business performance improved with an increase in profit margin from 19.9% (baseline) to 22.3% (endline). Furthermore, more women (10% higher during endline compared with the baseline) have experience of saving products at banks. 61% of them have saving account with Mann Deshi bank. In terms of credit experience, 36% of the participants borrowed a loan over the last one year and 94% of them are from banks. Also, the loan

application rejections reduced by two thirds in the endline survey compared with the baseline survey. This is an encouraging sign for the financial inclusion with the support of financial training programmes.

## **1.4 Joint Liability Loan Products**

Mann Deshi Bank has two joint liability loan products, namely, joint liability group loans (JLGs) launched in 2010 and weekly market cash credit loans (CCLs) launched in 2014. They are both unsecured loans which the bank has a special quota of 35% cap in terms of the proportion in the loan portfolio from RBI.

### **1.4.1 Joint Liability Group Loans (JLG Loans)**

The original JLG loans the bank issued were for self help groups with more than 20 members. Loans were taken by a group leader on behalf of the group and then loans were distributed with the agreement among team members. The CEO of the bank mentioned in the interview that due to large size, discretionary loan use and dispersed geographical residence of group members, it is difficult for the bank to have sufficient control of the performance of loans. Therefore, JLG loans for smaller group (maximum 5 members) with weekly repayment schedule were launched in 2011 and with monthly repayment schedule launched in 2013. Mann Deshi Mahila Bank's business processes currently operate on two distinct levels as shown in Figure 1.8: the field and the office. The office is further divided between branch offices and the head office. JLG Loan agents carry out all operations in the field. These operations include travelling to clients' doorsteps, collect deposits and loan repayments, and travelling to the appropriate branch office each day to transfer data. Each branch office is responsible for opening loan and savings accounts, depositing the collected funds, distributing loans and matured savings, and transferring all data into the system. Loan officers will evaluate the information collected by the agent and make a decision on the loan application. The information of JLG loans will be sent to

both JLG product head and branch managers. The JLG product head and each branch reports this data to the general manager who will report to the CEO of the bank. Once it is reviewed, it will be compiled into a report submitted to the Reserve Bank of India for monitoring.

JLG loans experienced an impressive growth over the years. This product consists of 28% of loan portfolio in 2018. The compound annual growth rate of JLG loans in terms of loan amount is 114% during the period from 2011 to 2015. This is largely due to the significant growth rate in the first three years after the product is launched. The loan groups increased from 74 in 2011 to 1,189 in 2015. The loan cycle now reached the fifth round.

#### **Borrowers' description**

Over the period of 2011 to 2015, we have digitized 4,914 first JLG loan application forms. A third of the borrowers are in their 30s and the other one third of borrowers are in their 40s. As shown in Figure 1.9, more than half (54.35%) of the borrowers are self-employed as tailors, street vendors of fruits and vegetables, bakers, cobblers and so on. One out of three (34.35%) borrowers work as wage labour. A majority of them are farm hand or builders. Only 6.88% of the borrowers are in salary jobs whereas 4.42% of women have household duties. 75% of the borrowers have a family size between 3 to 5. 82% of co-applicants are husbands whereas 12% of co-applicants are sons. Out of five borrowers, two come from a household with monthly income ranging from Rs. 10,000 to Rs. 15,000, one comes from the income range from Rs. 5,000 to Rs10, 000 and another from Rs15,000 to Rs.20,000, respectively. Nearly 90% of borrowers contribute less than half to the family income.

Figure 1.10 and Figure 1.11 summarize the distributions of occupation and caste category. The forward caste clients happen to be 20%, out of which 16% point is Maratha, which is the most populated caste in the region. 31% of borrowers are from schedule caste which were traditionally considered "untouchables". 10.48% are from Mahar and 10.07% are from Matang. As per the national definition of Other

Backward Caste (OBC), 43% of the borrowers are in this category. Among 48 castes in OBC category, 7.59% are Ramoshi and 4.93% are Mali. Vadar, Dhangar, Lohar, Nhavi and Wani are represented in descending order from four to two percent. 12.58% are Muslims, which is the largest religious minority in the region. This shows that the borrowers are well diversified in the caste and communities. Moreover, traditionally under-represented communities from the formal banking sector happen to be well represented in Mann Deshi bank.

Borrowers are checked if they own any cattle or goat. These could be seen as important assets in the rural economy. It is a sign of wealth as well as potential income. 30% of the borrowers own either of these animals. Only 2% of the borrowers own a bull. This might be because most of borrowers do not have land or machines are increasingly replacing the traditional farming methods using bulls for transport and ploughing. 12% of the borrowers own a buffalo and 15% of the borrowers own a cow. It is worth noting that only two out of three borrowers who have either buffaloes or cows owns only one. This shows the significance of the value of the buffaloes. On the other hand, productivity is restricted by the lack of access to capital to scale it. One out of five borrowers own a goat. One out of 40 borrowers owns a herd bigger than ten goats and half of them only owns one goat. Goats require less investment and infrastructure and they can provide milk for household, which could be important for children nutrition. Also, they can be insurance for the family against any shock.

67% of the borrowers have only one phone and 28% of them have more than two phones which can be due to a bigger family size. This technology is well penetrating in the rural areas and among the poor population. With respect to white goods, 84% of the borrowers have a TV and 29% have a fridge. 70% of the borrowers have at least one cylinders. For vehicles, 61% of the borrowers do not have bikes and 52% of the borrowers do not have two wheeler. For land, 68% of borrowers do not have land. 82% of the borrowers own the properties they stay and the rest of them are in rental. More than half of the borrowers live in a brick-wall house with

roof made of sheet. Out of four borrowers, one lives in a house with a single room and two live in a house with two rooms.

For the purpose of loans illustrated in Figure 1.12, 54% of the borrowers have taken loans to buy an animal. Among these borrowers, more than two third of borrowers do not have prior experience in this activity. One out of three have got loans for business. Half of these borrowers did not report having any experience in business. This suggests an expansion of entrepreneurship.

### **Analysis of loans**

From Table 1.3 , we can observe that May 2011 to January 2016, there are in total 17,700 loans. 12,219 (69%) of them are by the borrowers who have borrowed from the bank for the first time. Out of these, 7,525 borrowers (62% of first time loans) have yet to repay at the end of the window period. These are live accounts since the end date of the repayment is beyond the window period. Among 4,694 borrowers who have repaid their first loans, 80% (3,732) got into the second loan before the end of the window period. The rest of the borrowers who did not get into the second loan yet may or may not have applied for the loans beyond the window period. 1,706 (nearly half of the second loans) borrowers have completed the second loan cycle. There are in total 1,500 borrowers who borrowed for the third time. Considering the duration of the loan is at least one year and the window period is less than five years, not many loans have completed this loan cycle. Only 18% of borrowers have completed and out of which 89% went into the fourth loan. There are only 13 loans in the fifth loan cycle. They are all live. This table shows majority of borrowers are the first time borrowers which indicates the strong growth of this product. Furthermore, many borrowers get to the next round of borrowing which shows borrowers have dynamic incentives to repay well. From Table 1.4, as the borrowers get the next loan, the amount of loans they received successively goes on increasing. The second loan is 56% larger in amount than the first. There is a cap of Rs40,000 for unsecured loan to an individual offered by a bank as per RBI rules,



hence, the change increase goes on diminishing.

We consider period from 2011 to 2015 to look at loan amount disbursed and repayment frequency. It is shown in table 1.5 that in 2011 when the JLG loans were launched with weekly repayment schedule, all of loans started at Rs10,000 except less than 10% starting at Rs15,000. As it gained momentum, in 2012, the number of new loans increased nearly six fold with a proportion of loans starting at Rs10,000 remaining unchanged. In 2013, the first loans of amount value of Rs20,000 were disbursed, consisting of one third of the total first loans for the year. Proportion of Rs20,000 first loans kept increasing and it reached 93% of total first loans in 2015. The shift to disburse the first loans at Rs20,000 can be attributed to the following factors. The bank has confidence in identifying more reliable clients and is mature in monitoring system to retain the high repayment rate. The inflation rate during 2011 to 2015 was above 5% and 2011 even reached two digits. Considering this, RBI also doubled the cap of unsecured loans soon after the end of the window period.

As the bank opened its Dhayari branch in the suburb of the busy metropolitan city of Pune in 2013, the monthly repayment scheme was launched considering the monthly cash flow cycles observed in the urban areas. 36% of the loans are monthly cycle loans. The growth of this product comes from the establishment of new branches which seek new borrowers in new areas and existing branches expanding their geographical areas of operation.

Most of the loans with weekly repayment schedule have duration of one year (49%) and one and half years (46%). A major proportion of loans (89%) with monthly repayment schedule have a duration of two years. It is worth mentioning that nearly 80% of borrowers took 40 days to start the next loan. This further strengthens the growth of the product.

The JLG loan proves its success with nearly 100% repayment rate. This mature loan model can give the bank spare time to focus on other aspects of the product such as how to reduce the wage bill or provide better dynamic incentives. The bank shifted from commission-based package to flat salary plus performance-related

bonus package to agents in 2013 so as to reduce the staff cost without affecting the staff performance. Also the bank is in the discussion of having higher individual loan amount to attract existing or new clients.

JLG loans continue its journey with a diverse customer base from both rural and urban areas. In recent years, there seem to be increasing challenges from competitors. For example, NBFCs which are not supervised by RBI have more flexibility in adjusting loan specification such as loan amount. The JLG head of Mann Deshi bank suggested that the future of maintaining the customers is to introduce an individual loan with higher amount which can become a strong incentive for borrowers.

#### **1.4.2 Weekly Market Cash Credit Loans (CCLs)**

Mann Deshi bank has been seeking a new product under the unsecured loan category so as to diversify its portfolio. It shifted its attention to the weekly market which is considered by villagers as a big event. According to Kashyap and Raut (2010), there are about 47,000 weekly markets which engage 50% of the population in India. The market is a place where village people come to buy/sell products and interact with their friends or relatives. Local or non-local products ranging from agricultural goods to industrial goods are presented in the market. Vendors either sell self-grown/made products or buy agricultural goods from farmers/wholesalers to sell. The profit margin can be up to 30% (Mann Deshi Foundation). The bank was aware of the demand of working capital for vendors to purchase goods, especially the benefits of buying goods as a cash buyer.

In 2012 the bank collected data of daily cash flows of Mann Deshi's clients and potential clients to understand vendors' cash needs. The activity on particular day of every week could be observed to be very high. This day being the weekly market day for the town where the person lived. This once again underlined the significance of weekly market in economic lives of the rural poor. Mann Deshi noticed the need of credit by vendors including farmers and traders who do not have sufficient access or no access to formal financial tools in the banking system in the weekly markets.

Vendors tend to use money lenders to fulfill their cash needs, even the interest rate can be up to 10% daily. Also, they found borrowing from the bank would be too time consuming due to the complicated procedures.

A follow-up preliminary study was conducted in 2013 to see if it can fill in the gap by providing a door-step financial product which would meet the unpredictable cash needs for the clients without collateral. They targeted 4 towns - Dahiwadi, Gondavale, Mhaswad and Piliv to collect data through interviewing 134 randomly selected vendors weekly for one year. There were in total 3,689 data points collected. The sample has traders, farmers and vendors. 77% of vendors involved in selling vegetables or fruits. The study justified the market gap observed by the bank. First of all, wholesalers normally give credit up to 1.4% daily interest rate to vendors. The quality of goods is poorer for vendors on credit than the vendors on cash due to lower negotiation power for vendors on credit. Second, the working capital of a vendor varies but there is a perpetual demand. The range of capital need is from 0 to Rs. 100,000. Finally, the profit margins for vendors were high, which allowed vendors to be able to recover when bad days came. During the same period of collecting data, the bank launched a pilot Cash Credit Loan (CCL) product in Satara and Mhaswad, which proved to successfully address the market failure to connect vendors to the formal financial system.

In 2014, the bank officially launched Weekly Market Cash Credit Loans (CCLs) to meet the demand of cash flows by vendors and cope with the risk of variability of sales and profit and the perishable characteristics of the trading goods. The CCLs are for groups of three women doing business in the same market with at least 2 years of experience as retailers. It is another kind of joint liability group products offered by the bank. The drawing limit ranges from INR10,000 to INR40,000 with an interest rate of 24% per annum. The minimum weekly repayment is 10% of the total drawing power and the minimum interest is 0.5%. The CCLs are serviced by Field Serve Agents (FSAs). The majority of agents are paid on commission. Before 2015, the commission rate is 20% of their interest revenue or 4.8% of the agent's

loan portfolio. After the structural change of salary scheme in 2013, agents are paid with a flat fee plus variable compensation. 3 to 4 weekly markets are assigned to every FSA. Each FSA manages around 170 clients. By 2017, there are 10,000 clients from 48 markets in 150 villages of Satara, Pune and Solapur district. The loan amount was Rs20,628,335 by November, 2018. This is 3% of the loan portfolio. The net profit of this product maintains at 5% but the current repayment rate for this product is 95% which is significantly less than JLG loans. The head of weekly market cash credit loans mentioned that this is due to the complication of geographical location of clients and the feature of weekly market which makes it more difficult for the agent to track down the repayment. The bank recognized the challenges of this new type of joint liability loans and is on the way to develop a better system in screening and monitoring by utilizing the experience learned from JLG loans. For example, the maximum number of group increased from three to five.

CCL is an innovative product which provides access to credit for working capital purpose targeting the poor who do not have collateral for loans. Big banks offer similar overdraft products to businesses to boost their working capital which is risky in nature. Charging borrowers only at the credit needed at the point takes away the risk from the business. Hence, it is a costly loan for a borrower. However, CCLs are for the poor so the ticket size is small and more controllable from the MFIs' point of view. So only MFIs can offer this type of product which is resource-intense especially more monitoring is required.

### **1.4.3 JLGLs vs.CCLs**

Mann Deshi's JLG loan is a term loan which targets a group of 4 to 7 people. The amount of loans is fixed by bank in a range from 10,000 to 40,000 rupees. And a lump sum is distributed to borrowers at the beginning of the loan term. The tenure is normally from one to two years. Interest rate is 26% Borrowers are expected to pay an equal and fixed amount of weekly or monthly instalments over the period. This product has shown a consistent record of high repayment rate, however it

may not closely match with the cash needs of all potential borrowers, especially entrepreneurs whose demand for cash is more uncertain and fluctuating. Therefore, Mann Deshi initiated the weekly market cash credit product which was designed for business women in the local weekly market. This product is an overdraft facility therefore the amount of loans issued and instalment depends on borrowers' liquidity at the time. This gives borrowers more control on their cash demand to match with the business. As shown in the table 1.6, similar credit limit and interest rate are available for borrowers but the size of group is smaller and only weekly repayment is provided. This product currently has lower repayment rate than JLG loans. This is largely due to the feature of the weekly market where borrowers run business at.

From the interviews with Anil Khandare, Head of JLG loans and Manisha Katte, Head of weekly market cash credit loans in Appendix 6.1, both joint liability loan products were developed to fill in the market gap. JLG loans address the needs of rural women who do not have banking infrastructure near home or incur higher cost to use the banking services whereas the weekly market cash credit considers the cash flow of vendors in the weekly market. Although the weekly market cash credit loan is still in its initial stage, it has potential as the bank does not only have experience from implementing the JLG loans to learn from but also there is a strong market demand. When running these products, the bank was able to come up with different strategies to deal with the challenges. For example, the bank recognized the reasons why borrowers default and improved its customer screening process to avoid such defaults. When borrowers could not repay loans, the bank was ready to offer flexible repayment scheme (such as paying only interest or extending the repayment period) just like Grameen bank's model to keep the clients on track. Also, repayment frequency for JLG loans started with weekly but added monthly when the bank went into urban areas. The number of group members allowed also changed according to the loan performance. JLG loans started with up to ten people and then identified the effective number of group as five. But the bank tends to keep certain flexibility to enlarge its client base. So it allows more than five in one group

if the group has a good repayment record. The weekly market cash credit loans started with three people in one group. But the bank observed the heavy burden for group members to pay off others' share. Hence the bank increased the group number to five at maximum. These changes in strategies provide strong evidence for how the bank is gaining its experience and competitiveness through trial and error with flexibility to deal with issues. They also show the adaptation of the bank reacting to the complication over different periods of time.

## **1.5 Conclusion**

The last two decades witnessed the journey of Mann Deshi bank for its outreach to the poor women in rural Maharashtra. Due to the restriction on the unsecured loans by RBI to maintain a diverse portfolio, the bank can have 35% of loan portfolio belonging to unsecured loans after the special order from RBI. This target will be fulfilled in early 2018 according to the CEO of the bank. The JLG loans are the flagship products with outstanding repayment rates of 99%. Although the development of microfinance sector is like a roller-coaster, Mann Deshi Bank keeps expanding its share in JLG loans with a diverse client base. Also the bank has a deep understanding on customers' cash needs. One innovative product to reflect this is the weekly market credit product to serve the credit needs for vendors in the weekly markets. This is a growing product although it is currently facing some challenges such as repayment collection and social tie between group members. This product can potentially become another flagship microfinance loan product which is closely linked with customers' cash requirement over the period.

Now the management team is seeking for more growth areas apart from developing the weekly market credit loans. The mission of connecting the poor to have access to credit has a mature model and getting close to its full capacity in certain regions. Apart from exploring new regions with the awareness of localization of the product, the management team starts to look for other opportunities to keep those

clients who do not have collateral but have completed a few loan cycles in the unsecured loans with good credit record. Therefore, the bank's mission now is shifted from group lending to micro-entrepreneur lending which has lower cost of borrowing (18%). Micro, small and medium enterprises (MSMEs) contributed 28.77% of GDP in India in 2015 with 51% from the rural sector. The female ownership in the rural MSMEs is only 20%. In terms of the size of enterprises, female distribution in micro-, small- and medium size enterprises are 20%, 5% and 3% (Ministry of Micro, Small and Medium Enterprises,2017). This shows the size of market which Mann Deshi Bank can potentially benefit from with their new strategy. The Mann Deshi Foundation already started the programs to set up a business community to help entrepreneurs to scale their business. There are a few challenges the bank is facing. One is the capital. Being a co-operative bank, there is limited use of capital to expand their loan portfolio. Second, even the bank's strength is in unsecured loans, there is a cap by RBI to restrict its momentum. Finally, the secured loans to individuals will be exposed to the competition with other commercial banks or public sector banks which have advantages in cost of fund. For the bank to continue the journey further, the following questions remain on the agenda: are the borrowers' needs being met? Are they able to get into the formal banking sector? If not, can microfinance adapt to their needs? Also is there a substantial change in the type of needs that they have?

Microfinance institutions' success depends on their ability to commit to the continuous process of identifying the financial and ancillary business needs of the poor, innovative engineering the impeccable solution and scaling to its full potential. On the one hand, to identify the needs and to provide the solution, an MFI needs to be flexible. On the other hand, standardisation with great precision and strict discipline would allow an MFI to penetrate the currently costly markets. How well the balance is achieved by MFIs will decide the future of microfinance.

Although microfinance attracts world-wide attention and has been growing quickly, especially in developing countries, many unresolved issues still remain. Does mi-

crofinance actually reach the very poor? This issue of “mission drift” was well documented by Hulme (2000) and Zeller et al., (2011). For example, Duvendack (2010) examines the microfinance programme of Self Employed Women’s Association (SEWA) in India and argues that microfinance may only benefit “a slightly better off group”. The paper also addresses that the impact of microfinance claimed by other studies might be because of the differences in the borrowers’ characteristics. The reasons that microfinance cannot reach the poorest of the poor can be the difficulty in being accepted in a group (Hulme and Mosley, 1996) or the structure of the products such as saving before borrowing (Mosley, 2001). Furthermore, microfinance is a resource-intensive industry which requires lots of funding. There is a gap between the supply and demand in microfinance. According to the president and CEO of the Grameen Foundation <sup>37</sup>, MFIs supplied around \$15 to \$25 billion loans while microfinance service required funding around \$300 billion in 2008. Some MFIs raise funds from equity or bond markets whereas majority of them receive funds from donation or banking sector (Bystrom, 2008). Although there is a strong need for the commercialization of microfinance, it might cause “mission drift” due to investors’ expectation of profits (Bateman 2010). Whether the mission of microfinance can be retained with profit-driven motive is still to be answered.

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<sup>37</sup>[https://ssir.org/images/articles/2008SU\\_feature\\_Counts.pdf](https://ssir.org/images/articles/2008SU_feature_Counts.pdf)



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## 1.6 Appendix

### 1.6.1 Interviews in September 2018

**Rekha Kulkani, CEO of Mann Deshi Bank**

#### **1. What is the strategy of loan portfolio in the next 5 years?**

Portfolio of loans above 5 lakh are 43%. In future we want to decrease this percentage and give more loans below 5 lakhs. One more good thing, unsecured loan is 40,000 per person right now. Proposal has been given to RBI to increase it to 1.5 lakhs. We think they will increase it. What that means is that clients who have taken multiple loans from various banks can take only one loan from Mann Deshi.

#### **2. What is the current development of technology in the bank?**

We are launching online Banking soon. Plus ATM is also being set up in 4 branches -Satara, Mhaswad, Dhayari and Kamothe. Mobile app costs 12 lakhs so far (excluding monthly recurring) and one ATM card costs 300 rupees. Technology seems to become more and more important in our business model.

#### **3. What challenges did the bank face with the products before JLG loans?**

We started with self help group loans with bigger numbers of group members. But the borrowers tend to spread in a wider range of geographical locations which causes problems in monitoring and repayment collection. For JLG loans, clients are concentrated. Also they are smaller in size so there is a higher level of peer pressure which leads to higher repayment rate and better monitoring. JLG loans now are mature products which do not have issues in implementation, product design and staffing. We maintain a good pool of agents who facilitate loans and locate new clients. When we launched the product at the beginning, all agents were paid by commission which created high cost for the bank. So we decided to change the salary scheme to a flat fee plus commission based on a matrix. This change reduced our paycheck but did not affect agents' performance.

#### **4. What are the challenges for the weekly market credit product?**

The current repayment rate of the product is 95% which is starkly lower when comparing with the repayment rate of 99% for JLG loans. Though this is also a door-step service, it is not to the residence but the place of business which does not have any permanent settlement. The client does business in a weekly market. She only turn up on that particular market day in one market. Her schedule of visiting different markets is normally fixed. If she changes her schedule, an agent will put more effort to track her down to her residence. Her co-borrowers interaction with her might also be limited to that particular market in a weekly basis. Hence the expected transaction cost for the co-borrowers and the cost of enforcement for the agent increases.

**5. Who are your competitors and how do you differentiate Mann Deshi Bank from them?**

NBFCs are one of our competitors. However, they don't have saving products and their presence in our area is limited. We provide technical support to our clients through our business programs in our foundation. After the demonetization, many NBFCs face collection problems and suspend new disbursement. Another competitors are small finance banks (SFBs). Quite a few of them used to be NBFC-MFIs. RBI showed a tendency to support such kind of shift in recent years by issuing more SFB licences. SFBs are still at the initial stage to compete with us since the infrastructure such as branches would require more establishment.

**Vanita Shinde, CAO of Mann Deshi Foundation**

**1. What made you start the Business school for rural women?**

A few years back, many women came to us and asked us to train them how to use certain things such as a phone. And then they asked if we can provide basic training for them to upgrade their business skills. That is how the Business school started. Once those women are confident and more experienced, they request for support to help them break into the new market to get more money. So we started Chambers of Commerce and Deshi MBA.

## **2. How successful are the programs? Any measurement?**

We have been doing survey annually to collect data from our beneficiaries so that we can get a better picture of the impact our programs bring to the community. The results are quite promising. For example, the figure of the percentage of women who started saving after the Business school program increased from 38% in 2012 to 42% in 2016. The total annual income of all beneficiaries after training increased from 42 crores to 73 crores in 2016.

## **3. Do you face any challenges in promoting those programs?**

Originally we had on-site Business schools which required women or girls to come for the training. Then we realized that many women or girls live further away and so could not come for the training. We started to launch mobile business schools on buses which will take trainers to different villages to provide door-step training. This proved to be very popular and attracts more young girls. In terms of the community development, we promoted water conservation projects to build dams for local community. This is because a majority of the women we work within Satara belong to farming communities in Mann Taluka of Satara district, which is one of the most drought prone areas of rural Maharashtra. This area receives four to five inches of rain a year. Many of whom traditionally belong to the local shepherd community, are forced to migrate hundreds of kilometers in search of work in the dry season. Migration causes many problems including health, nutrition and education of children. Women came to us for help. By 2017, we have 3 check dams built and 102 wells rejuvenated. New businesses such as fisheries emerged together with the stability of traditional farming increased farmers' incomes by two times. During the drought time in 2012, we also started the cattle camp which is open to public for feeding their animals with water for free. More than 50,000 animals came to the camp from more than 52 villages.

**Anil Khandare, Head of JLG loans, Mann Deshi Bank**

### **1. Why did you come up with the JLG loans?**

We identified three main issues for rural women. One is that they do not have frequent connection with urban areas where more financial access is concentrated. Also, the cost is too high for these women to come to town to get or repay loans. The last thing is about the paperwork required for loans. Therefore, we launched the JLG loans which have joint liabilities as collateral and provide door-step service to ensure the repayment of loans. We started with a group of up to 10 members and then we reduced to five. Now we allow the well-performing groups to increase the group size.

**2. What were the challenges you faced in JLG loans?**

Over the period, we did not have any significant challenges for JLG loans. This product has a repayment rate of 99%. During demonetization, NBFCs experienced repayment issues since they did not accept big notes. But our bank still accepted big notes, so JLG loans did not get affected much.

**3. Who are the main competitors in JLG loans? How would Mann Deshi deal with the competition?**

The competition is greater than it used to be. Especially NBFCs in recent years become more aggressive in JLG loans. Since they are not banks and not under the supervision of RBI, their lending is less stringent. For example, they will issue loans to clients who have two or three loans in other institutions whereas we don't issue loans to such clients. Also, their JLG loan amount starts at Rs30,000/40,000 while our product starts at Rs20,000 for the first time borrowers. To adapt with the competition, we also sanction loans to first-time borrowers at Rs30,000 if they have good credit record. Our customers will also have more initial cost to take the loan since we are a co-operative bank. Customers need to buy shares to become members who can take loans. But customers also understand banks are under supervision of RBI and would be more reliable.

**4. What are the common reasons for the defaults of JLG borrowers? How does the bank deal with it? How effective are these approaches?**

As of the beginning of December, 2018, there are 93 JLG borrowers having loan

overdue or defaulting three times in the instalment repayment. Most of these default cases are old loans. One common reason for the default is that a borrower borrows loans on behalf of others who do not have a good credit record. We have increased our scrutiny and improved our screening process to avoid such cases.

### **5. What is the future of JLG loans?**

We have a stable growth in JLG loans in recent years and expect to maintain such growth. We are aware of the competition in this area and have been in discussion on how to keep customers. One approach is to sanction higher amount of loans to customers. We had a pilot project on a loan called Unnati which amounts Rs. 1 lakh with an interest rate of 20%. This can be a potential product for our JLG clients who require bigger amount of loans with lower interest rate and have built good credit record through JLG loans. This product is launched in August 2018 and it is for both individual and group.

**Manisha Katte, Head of weekly market cash credit, Mann Deshi Bank**

### **1. How did the bank come up with the weekly market cash credit products?**

A few clients said to us that they only required certain proportion of loans for a particular period of time. But with the loan terms, they will have to stick to the loan amount sanctioned for the whole duration. It does not match with their business cash flows. They might even spend the amount which does not need to put into business. So we ran a cash diary for around 150 women vendors in 4 weekly markets to capture the cash flows demand of vendors. We found that vendors take loans in the morning when markets opened and mostly repay the amount before markets closed in the afternoon. Also they found it too much hustle for them to go to the bank and deal with loan issues while they were busy with their business. Many of them also have business in different markets. So we launched our weekly market cash credit which provides credit as request and door-step services.

### **2. What is the model of weekly market cash credit?**



Women, who have business in the market at least two years, form a group of 3 to get a joint liability loan range from Rs20,000 to Rs40,000 over a period of 3 years. They can withdraw cash anytime in the market where they have formed the group by given a notice to the bank. They can repay the loans in any market where the bank has agents. If any member defaults, other members will take up the repayment. The interest rate of this product is 26%.

### **3. What are the challenges for this product? Any solutions?**

Our repayment rate is 95% which is significantly lower than JLG loans. The main problem is that group is formed in a particular market and if one member does not turn up, it is quite costly to send agents to chase the repayment from residential areas which could be quite disperse geographically. Also with a group of 3 members, the repayment burden including the instalment would be quite heavy when default of one member occurs. Then it will discourage the rest of members to pay their own proportion. To deal with these issues, we increased the group size up to 5 in April 2018. Also we currently require members to cover the interest payment only for the one who defaults.

### **4. What is the future of this product?**

We currently have this product in 28 markets with 8 agents. Up to date, there are around 2,600 accounts in six branches. The growth rate of this product is quite promising. We are planning to explore more local markets which attract good number of buyers and sellers from a good coverage of villages.

## 1.6.2 Tables

Items	Mann Deshi	Industry	Bank	Credit Union or Cooperative	NBFI	NGO	Other
sample		107	5	2	67	29	3
Offices	8	109	377	21	133	35	13
Number of staff employed for one year or more	74	470	1,397	268	581	376	44
Number of active borrowers	13,870	382,745	1,541,944	57,013	426,927	191,305	23,486
Number of active borrowers - Rural		178,884	484,917	3,771	197,093	149,210	17,293
Number of active borrowers - Urban		103,127	501,514	53,242	117,821	63,572	6,193
Number of new borrowers	9,302	123,157	97,613	17,538	218,140	21,961	13,397
Clients below poverty line	59%	48%		40%	46%	55%	10%
Gross Loan Portfolio (in Millions)	641	12,925	25,036	516	17,183	3,748	345
Gross Loan Portfolio - Rural (in Millions)		3,919	9,628	58	4,314	3,533	213
Gross Loan Portfolio - Urban (in Millions)		2,273	10,322	955	2,063	2,146	132
Gross Loan Portfolio - SHG (in Millions)		540	-	58	1,157	14	-
Number of loans outstanding	14,356	410,265	1,566,320	57,013	470,442	190,358	23,486
Number of loans outstanding - SHG		35,352	-	3,771	75,687	1,410	-
Portfolio at risk >90 days	2.10%	2.50%	4.40%	0.70%	3.40%	1.00%	0.40%
Assets (in Millions)	1,122	15,033	36,927	688	21,097	843	208
Capital /asset ratio	14%	26%	39%	25%	24%	27%	31%
Deposits (in Millions)	975	6,116	14,018	437	9,961	88	94
CD_Ratio	66%	1149%	242%	232%	88%	2806%	128%
Paid in capital (in Millions)	61	828	2,087	13	1,065	43	5
Profit (loss) (in Millions)	7	234	64	13	361	23	15
Social goals - women empowerment	100%	61%	100%	100%	86%	31%	50%

Source: themix.org

Table 1.1: Summary of Microfinance Industry

2016-17	SEWA*	Mann Deshi
No. of Members	471,653	24,978
Total deposits (in Million Rs)	2,437.40	894.2
Loans & Advances (in Million Rs)	1,484.20	568.59
Profit (in Million Rs)	36.6	5.65

\*<https://www.sewabank.com/growth-profile.html>

Table 1.2: SEWA vs Mann Deshi

Loan cycle	Closed accounts	Live accounts	Total	Proportion in total
1	4,694	7,525	12,219	69.03
	38.42	61.58	100	
2	1,706	2,026	3,732	21.08
	45.71	54.29	100	
3	265	1,235	1,500	8.47
	17.67	82.33	100	
4	3	233	236	1.33
	1.27	98.73	100	
5	0	13	13	0.07
	0	100	100	
Total	6,668	11,032	17,700	100
	37.67	62.33	100	

Table 1.3: Number of loans in Loan cycles by account status

Loan cycle	No. of loans	Average increase in loan amount
1	12,219	—
2	3,732	56.11%
3	1,500	22.28%
4	236	15.82%
5	13	13.46%

Table 1.4: Increase in subsequent loan amounts

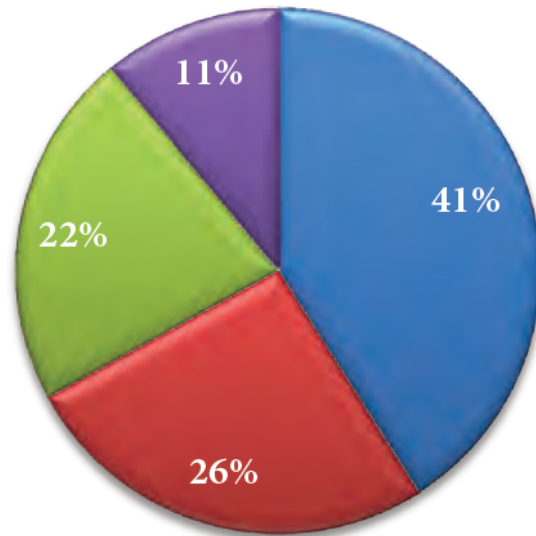
Year	10,000	12,000	15,000	18,000	20,000	30,000	Total	Proportion in total
2011	101	0	10	0	0	0	111	1%
	90.99	0	9.01	0	0	0	100	
2012	564	0	65	0	5	0	634	5%
	88.96	0	10.25	0	0.79	0	100	
2013	367	0	921	75	1,081	0	2,444	21%
	15.02	0	37.68	3.07	44.23	0	100	
2014	6	0	328	0	3,961	6	4,301	36%
	0.14	0	7.63	0	92.09	0.14	100	
2015	0	1	208	0	3,962	280	4,451	37%
	0	0.02	4.67	0	89.01	6.29	100	
Total	1,038	1	1,532	75	9,009	286	11,941	100%
	8.69	0.01	12.83	0.63	75.45	2.4	100	

Table 1.5: First disbursed loan amount by year

Items	Weekly Market Cash Credit Loans	Joint Liability Group Loans
Instalment	Varies and flexible amount	Equal and fixed amount
Loan received	Depending on the withdrawal amount up to the limit	Fixed lump sum at the beginning
Amount to be borrowed	Decided by borrowers up to the limit	Options fixed by bank
Type of loans	Overdraft	Term loan
Age	21-59	18-59
Group size	3	4-7
Credit limit	10,000 to 40,000	
Loan Tenure	3 years	1 and 2 years
Interest rate	26%	
Repayment frequency	Weekly	Weekly/Monthly
Repayment rate	95%	99%

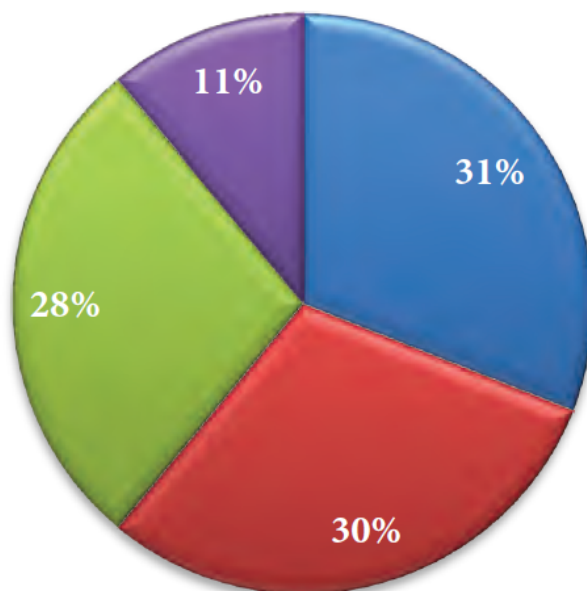
Table 1.6: Weekly Market Cash Credit Loans vs Joint Liability Group Loans

### 1.6.3 Figures



■ NBFC-MFIs   ■ SFB & Aspirants   ■ Banks   ■ Others

Figure 1.1: Player wise break up of client outreach as of March 2017 (Source: The Bharat Micro-finance Report 2017)



■ NBFC-MFIs   ■ SFB & Aspirants   ■ Banks   ■ Others

Figure 1.2: Player wise break up of loan portfolio as of March 2017 (Source: The Bharat Micro-finance Report 2017)

### The Number of Women Reached through our Business Schools and Chambers of Commerce, 2012-2017

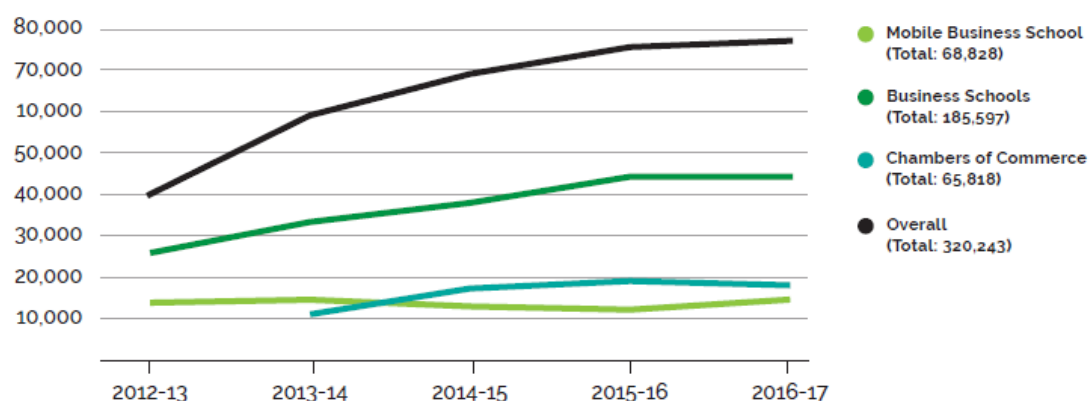


Figure 1.3: The number of women reached through Mann Deshi Foundation’s Business Schools and Chambers of Commerce 2012-2017 (Source: Mann Deshi Foundation Annual Report 2016-17)

Financial Impact	2012-13	2013-14	2014-15	2015-16	2016-17
% of women who started saving after the programme	38	35	40	41	42
% of women who started a new business or expanded their business	39	91	77	74	49
% of women who started earning an income	76	65	68	70	61
% of women who took a loan after the programme	12	12	12	12	11
% of women who have increased their assets	32	34	35	44	41

Figure 1.4: Financial impact on women who attended Mann Deshi Foundation’s Business Schools and Chambers of Commerce 2012-2017 (Source: Mann Deshi Foundation Annual Report 2016-17)

### Increase in Total Annual Income (in Crores) of All Beneficiaries After Trainings

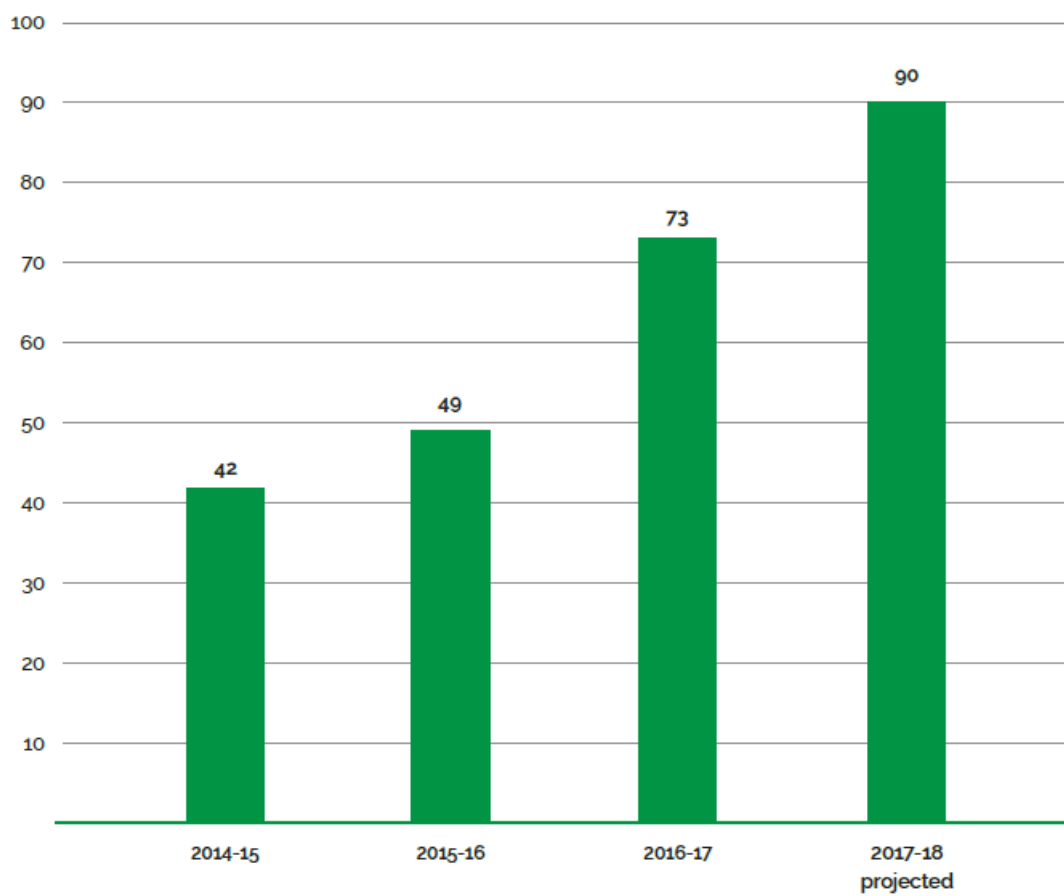


Figure 1.5: Increase in total annual income of all beneficiaries after training (in Crores) (Source: Mann Deshi Foundation Annual Report 2016-17)





LN MAH UBD 1361-  
**Mann Deshi Mahila Sahakari Bank. Ltd.**  
**Mhaswad**  
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**Mann Deshi Mahila Sahakari Bank Ltd., Mhaswad**

Figures In Lakhs

	1997-1998	2007-2008	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
1 No of Members **	1335	7630	12220	14053	17173	22699	25832	24978	26085
2 Share Capital	7.90	148.20	276.53	308.81	384.67	470.00	517.37	543.69	609.3
3 Investments	11.00	553.89	1291.33	1787.35	2292.39	2241.47	3453.73	3010.94	3431.75
4 Deposits	55.82	1326.46	4000.32	4801.19	6397.99	7633.29	8782.06	8941.99	9752.41
5 Loans & Advances	42.93	859.35	2641.83	2853.59	3950.37	5318.48	5199.52	5685.93	6413.13
6 Total Business	98.75	2185.81	6642.15	7354.78	10348.36	12951.77	13981.58	14627.92	16165.54
7 Net Profit	-1.51	3.06	31.38	33.92	39.04	51.47	41.85	56.51	66.68
8 Capital Adequacy (CRAR)	10.50	17.76%	17.54%	18.54%	15.45%	14.60%	17.00%	15.46%	14.31%
9 Gross NPA's	-	38.66	98.17	101.04	107.13	111.04	112.76	233.95	271.86
10 Net NPA's	-	24.92	59.51	44.53	35.62	25.03	26.75	129.95	128.39
11 % of Net NPA	-	2.95%	2.29%	1.59%	0.92%	0.48%	0.52%	2.33%	2.05%
12 % of Gross NPA	-	4.49%	3.72%	3.54%	2.71%	2.09%	2.17%	4.11%	4.24%
13 Working Capital	69.21	1628.96	4491.31	5370.53	7151.14	8630.87	9872.98	10169.97	11147.49
14 C.D. Ratio	76.91	64.79	66.04%	59.43%	61.74%	69.67%	59.21%	63.59%	65.76%
15 Business Per Employee	8.23	91.08	96.26	112.57	161.69	223.31	215.10	195.04	218.45
16 Priority Sector Lending			92.83%	91.50%	93.35%	90.99%	93.61%	91.19%	92.43%
17 Weaker Sector			89.87%	88.75%	91.75%	89.15%	88.45%	87.38%	89.63%
18 Advances (Clients)**			8872	7484	8653	13586	14809	13582	14356
Deposits (Clients) **			40438	35574	43349	46608	51836	54198	57657
19 No of Employee **	12	24	69	68	64	58	65	68	74
20 Total Branches **	1	3	6	6	7	7	7	7	7+
21 Audit Class	B	A	A	A	A	A	A	A	A
22 Area Of Operation (District) **	Tal-1	Dist-5	Dist-7	Dist-7	Dist-7	Dist-7	Dist-7	Dist-7	Dist-7

\*\* Number contents full Numbers.

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Figure 1.6: Mann Deshi Mahila Co-operative Bank's financial summary (Source: Mann Deshi Bank Annual Report 2017-18)

Figure 1.7: Mann Deshi Mahila Co-operative Bank's financial summary (Source: Mann Deshi Bank Annual Report 2017-18)

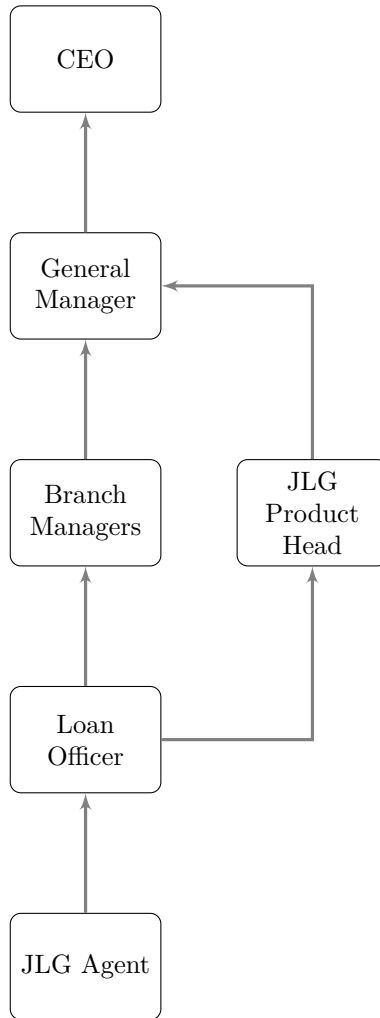


Figure 1.8: JLG Organisational Chart

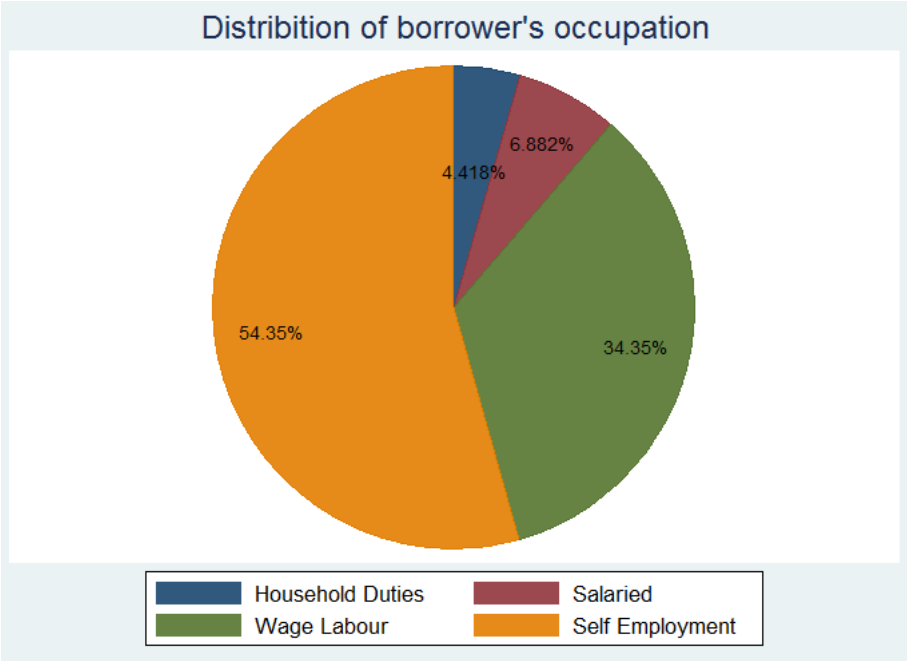


Figure 1.9: Distribution of borrower's occupation

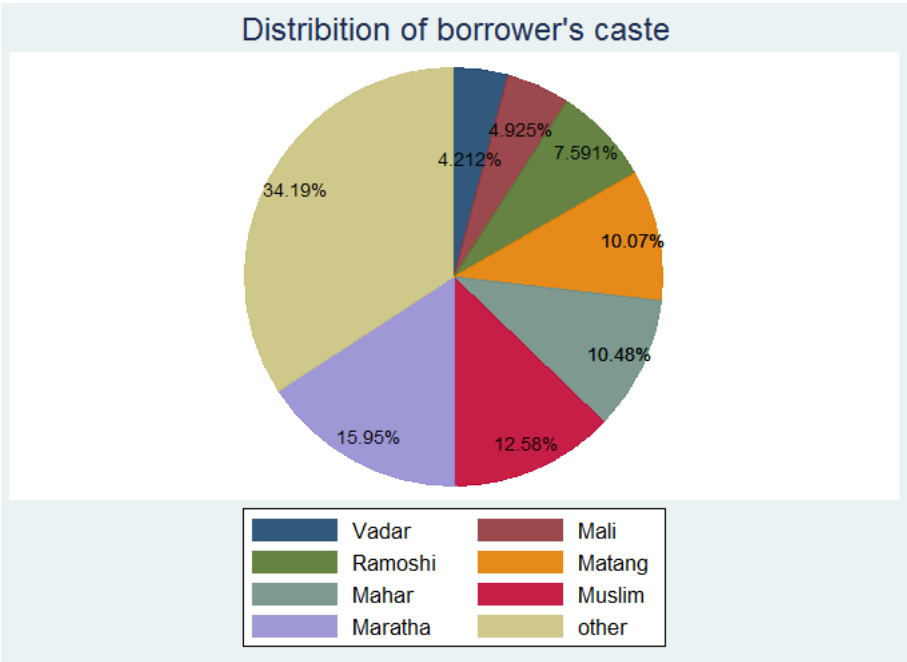


Figure 1.10: Distribution of borrower's caste

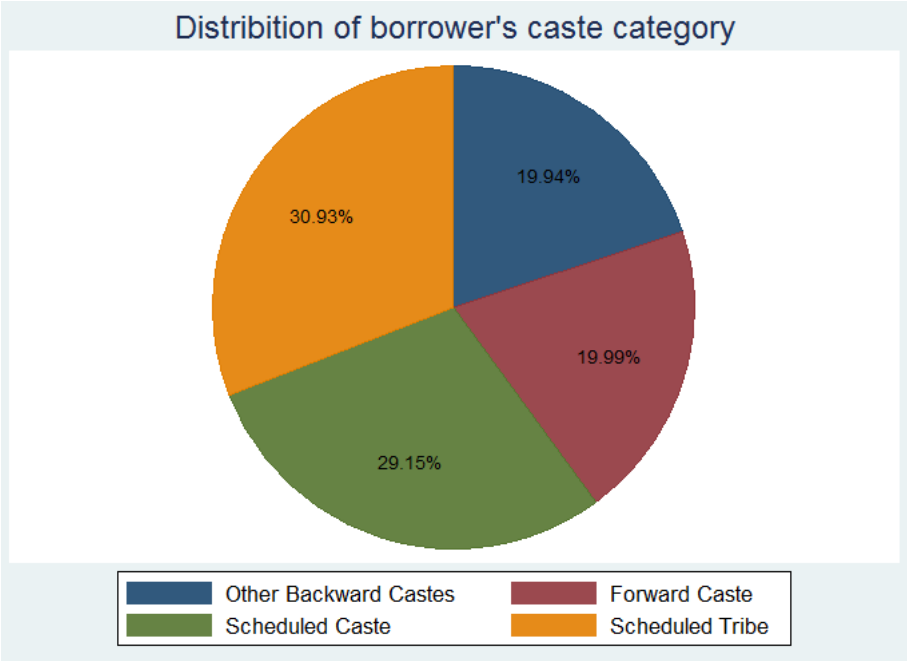


Figure 1.11: Distribution of borrower's caste category

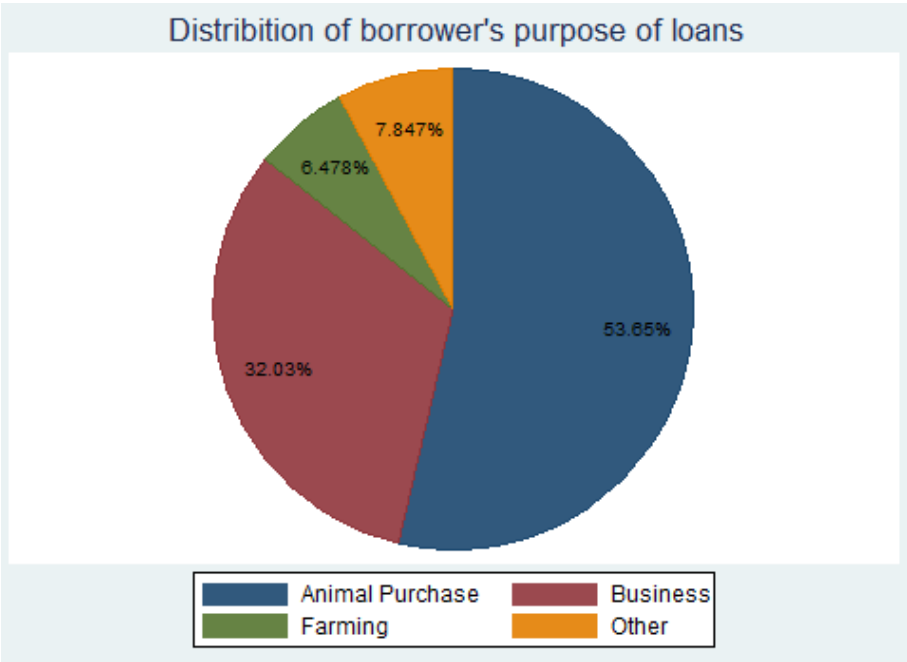


Figure 1.12: Distribution of borrower's purpose of loan

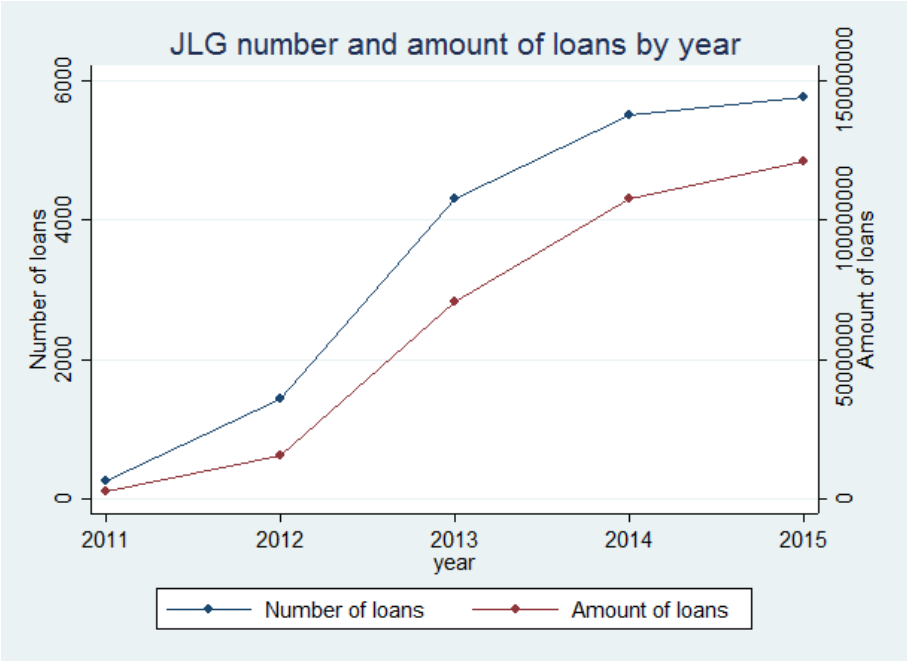


Figure 1.13: JLG number and amount of loans by years

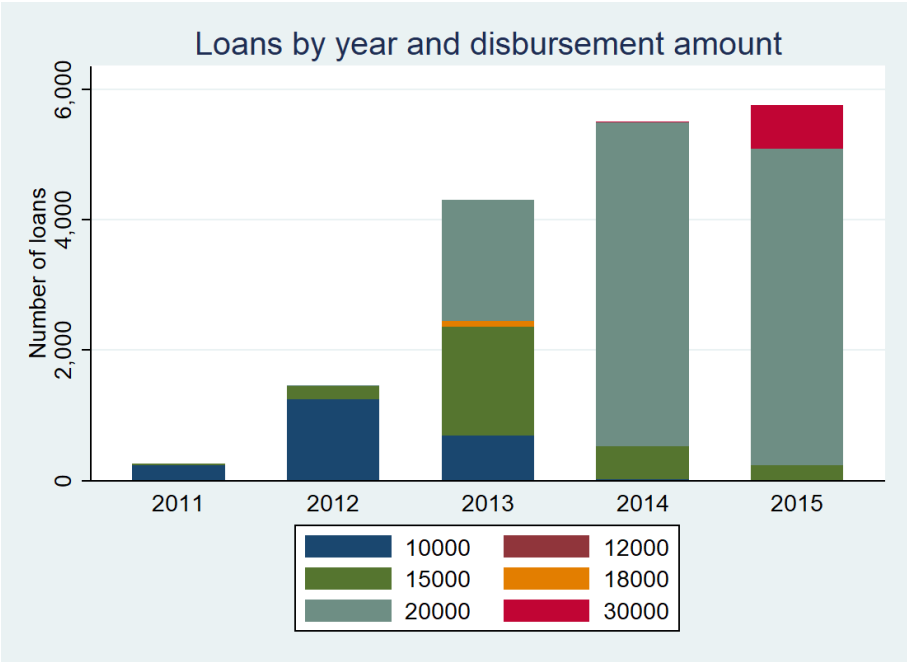


Figure 1.14: JLG number of loans by year and disbursement amount



## Chapter 2

# Incentive Design in a Microfinance Organisation





# Abstract

An important aspect of providing credit to the poor is the mechanism adopted by the credit institutions to do so. Most microfinance banks, which have become a key provider of credit in developing countries use agents to acquire new borrowers, manage the account and collect repayments. This paper studies the incentives provided to such financial agents and the effect such incentives had on the outcome desired by the microfinance bank. Mann Deshi Bank, a microfinance bank operating in western India, changed its remuneration scheme from pure commission to a mix scheme with a combination of a base salary and other incentives. This paper examines the effect it had on the effort and the output of the agents by using a panel data of 39 agents working on the bank's joint liability lending product for five years. The results show that although the bank was able to reduce its wage bills for the loan product, it came with the poorer performance by the agents. The supply of credit to new borrowers reduced, both in terms of the rate of reaching out to new borrowers as well as the loan amount disbursed to them. However, interestingly, borrowers delay their repayments less with the agents on the mixed contract.

## 2.1 Introduction

Recently provision of credit to the poor has received a lot of attention among development economists (Bertrand et al., 2010, Dupas et al. (2017)). A key reason for this is that credit provision has been identified as an important mechanism to improve the current and future welfare of the poor. Further, microfinance banks, which mostly operate with social objectives, over the last two decades have become the key institution in credit provision to the poor. An important aspect which influences the supply of credit is the cost of providing credit. Aspects, which increase cost of credit, such as adverse selection, moral hazard and lack of collateral in developing countries have been studied both theoretically and empirically (Conning and Udry, 2007). This paper studies the cost of handing out loans and collecting repayments through financial agents. It analyses if a commission contract or a salaried contract for compensating microfinance agents is a more efficient way of distributing micro-credit.

Microfinance banks employ financial agents whose task is to get new borrowers, manage loans and collect repayments. While repayments and borrower behaviour have been widely studied, the empirical analysis of cost of supplying credit largely been untouched. With access to detailed contract data for financial agents hired by a microfinance bank operating in rural western India and the data of the individual credit contracts, two types of contracts, the effectiveness of two kinds of contract, commission wage contract and salaried contract are examined, in provision of micro-credit. This paper looks into the performance of financial agents in terms of their output, getting new agents and collecting repayments, under the two different kinds of contracts.

It has been widely reported that credit markets fail to address the credit needs of the poor in developing countries. The welfare impact of market failures in credit markets in developing countries is exacerbated by the importance of credit for such economies. As highlighted by Banerjee and Duflo (2007), a key aspect of developing

countries is the larger proportion of small scale entrepreneurs and farmers. The welfare of this section of the society is hindered by poor credit as improved credit can increase scale and scope of the entrepreneurs and increase welfare. The other aspect is that since the poor live at the margin, any negative income shock like sickness or short term ill health leaves them severely short of resources to meet their daily requirements like food, health and education (see Binswanger, Khandekar and Rosenzweig (1993)). Given the importance of credit in improving welfare of poor any mechanism to increase the supply of credit would be welfare enhancing.

This paper addresses and makes contribution in two areas, one, mechanisms to improve provision of credit among poor in developing countries and two, providing empirical evidence on how commission contracts influence choice of effort and outcome in comparison to salaried wage contracts. The problem of providing credit and identifying reasons for the failure of credit market has been studied in detail. Recently, Dupas et al. (2012) looked at credit market in Kenya and the paper identifies both, problems causing poor demand of credit and poor supply of credit. Dupas et al. (2017) studied the transaction costs arising in Malawi, Uganda and Chile. Karlan and Zinman (2009) have also quantified the transaction costs arising in credit markets in developing economies, where they show that default in credit markets in South Africa can be explained largely by moral hazard and to a lesser extent by adverse selection. This paper contributes to this discussion by analysing another aspect of credit provision, that is, how should the agents supplying credit and collecting repayments should be paid. This paper is attempting to find out if by changing the contract form/structure of agents, who are engaged in handing out loans and collecting repayments, credit market outcomes can be improved (more borrowers, less delinquency and at a lower cost to the microfinance bank). This leads to the second contribution which is to analyse if commission contracts perform better than salaried wage contracts in terms of more borrowers, less delinquency and at a lower cost to the microfinance bank. There has been some evidence about how individuals respond to incentive contracts (Lazear, 2000). But there has been little

or no evidence about how agents working in social enterprises respond to incentive contracts. Governance mechanisms in social enterprises like a microfinance bank has been analysed theoretically (Besley and Ghatak, 2005, 2017). While Besley and Ghatak (2005) derive the contract for the agent whose interests are similarly aligned with that of the social enterprise, Besley and Ghatak (2017) derives the contract written for the managers of the social enterprise. The former shows that with agents who are motivated to put in effort in line with the objective of the enterprise/organisation a flat contract is optimal.

The organisation of interest and study is Mann Deshi Bank, one of the largest microfinance banks in India, located in the western state of Maharashtra, India. This bank lends exclusively to women and operates as a cooperative bank. Mann Deshi Bank, changed its remuneration contract from pure commission to a mixed one with a combination of a base salary and other incentives. This paper examines the impact this change had on the output and effort level of the agents. A monthly panel data of 39 agents who worked on the bank's Joint Liability Group (JLG) lending product for five years is used. The results show that although the bank was able to reduce its wage bills for the loan product, it came with a poorer performance by the agents. The supply of credit to new borrowers reduced, both in terms of the rate of reaching out to new borrowers as well as the loan amount disbursed to them. However, borrowers delay their repayments less with the salary based agents as compared to the commission based agents.

The rest of the paper is organized as follows. Section 2 summarizes the empirical evidence on the effect of compensation packages on productivity. Section 3 describes the Joint Liability Group (JLG) lending program ran by the Mann Deshi Bank and provides descriptive statistics. Section 4 illustrates the methodology applied. Section 5 discusses the estimation results. Section 6 concludes.

## 2.2 Literature Review

While there has been empirical work on agency theory, bulk of it has concentrated on CEO compensation (Murphy, 1999). An interesting result which Murphy (1999) finds is that firms which have external determined performance measure, CEOs respond better to incentives. The study is elasticity of 177 incentive plans of US listed companies for CEOs with respect to various measures such as revenue in three industries (industrials, finance& insurance, and utilities). This approach is using cross-firm data which may not capture other factors such as dynamic incentives when no incentive pay is provided to workers (Paarsch and shearer, 1999). The paper which is closest to ours in terms of analyzing incentives is Lazear (2000). In this paper Lazear studies effect of a change in contract form from hourly wages to a piece rate in an auto glass factory in 1994. The data covers 3,000 workers over a period of 19 months. The paper finds introducing incentive contracts increased productivity of the agents (with 44% increase in the level of output) but also attracted more productive agents. An important feature of this study is the richness of the data set used. Access to such contractual data and performance is often restricted, particularly in the financial sector. Such data is important in developmental context.

There have been other papers which have analysed compensation in financial intermediaries. Chen et al (2006) look at how incentive contract can induce greater risk taking. More recently there have been papers which have explained compensation in the financial sector and sensitivity of compensation schemes to performance. Some papers like Axelson and Bond (2015), Greenwood and Scharfstein (2013) have provided an explanation in increased compensations and transaction cost (Also see Ma, Tang and Gomez (2016) and Ben Naim and Sokolinski (2016)).

The literature on incentive schemes in MFIs is very limited although the importance of incentive pay is widely recognized by MFIs (Armedariz de Aghion and Morduch, 2005) with more than tenfold increase in the percentage of MFIs using a staff incentive scheme from 1990 to 2003 (McKim and Hughart, 2005). Conning

(1999) address the additional cost incurred to motivate credit agents select poor borrowers. Bond and Rai(2002) and Jeon and Menicucci (2005) argue that credit agents can be corrupted or dishonest. Studies by Besley and Ghatak (2005) assumes motivated credit agents whereas Aubert, Janvry and Sadoulet (2009) argue that extra audits are required to motivate agents to select the poor clients. Labie et al. (2015) also show that agents discriminate clients because incentive contracts are costly and limited budget for MFIs. A majority of studies on incentive schemes are based on industrial firms but not on MFIs. This is due to the difficulty of quantifying output and measuring the productivity in MFIs (Gramlich, 1976).

In development and social enterprise sector, there has been theoretical work in analysing motivated agents, described above, in Besley and Ghatak (2005, 2017). Transaction costs in credit markets have been highlighted, theoretically and empirically, in credit markets in different papers like Dupas et al. (2017) and Dupas et al(2012).

## **2.3 Mann Deshi Mahila Bank**

### **2.3.1 An overview**

Mann Deshi Mahila Sahakari Bank, founded in 1997, is a co-operative and non-profit bank run by and for women. It serves mainly in Mann Taluka, of Satara District in the Deccan plateau of Western Maharashtra. Mann Taluka, is known to be a land of goat shepherds and it receives one of the lowest annual rainfalls in India. The bank provides access to savings and credit to the rural poor women of the region. Credit is provided through both, group lending and individual lending. The bank also undertakes other activities such as training, support and empowerment programs for women of the region. This it does with the aim of empowerment, asset creation, leadership development, capacity building and property rights – through economic activities. The bank is headquartered in Mhaswad, a village in the Mann block. Currently, the bank operates seven branches. The first six branches are in

Satara district, namely Mhaswad, Dahiwadi, Gondawale, Lonand, Satara and Vaduj whereas the latest branch was opened in Pune district at Dhayri in 2013. The bank enlarged the number of clients from 3,800 to 200,000 since 2000. The bank manages a high repayment rate of 98% and is financially stable. It generates stable profit and remains financially sustainable. Its operations cover more than 150 villages in eastern Satara, as well as parts of Solapur and Sangali districts. The Reserve Bank of India requires a co-operative bank to lend 60% to the sections of people who are designated as 'priority sector'. Mann Deshi Mahila Sahakari Bank surpasses the expectations as 85% of its clients come from this sector. 70% of its clients come from the backward castes. It is the first bank in the country to have more than two thousand members from backward castes. Roughly half of its clients are street vendors or day labourers and the other half mainly own small enterprises, including tailoring, rope making and dairies.

As an activity of microfinance, the bank lends to individuals as well as groups. Individuals can receive loans of less than 15,000 rupees with the signature of two other women, who also serve as guarantors. Similar to the 'Grameen model', the bank lends directly to groups (described below), as well.

There are four major types of products served by the bank through agents, namely, pigmy savings, pigmy savings-linked loans, JLG loans and weekly market credit. The two pigmy schemes are for individual borrowers whereas the last two loans are for group borrowers. The JLG loan requires a group of 4 to 7 women whereas the weekly market product requires a group of 3. Agents serve their clients from loan application to repayment collection.

### **2.3.2 Joint Liability Group Loans (JLG loans)**

The joint liability group lending product was launched in May 2011. It requires a group of minimum 4 and maximum 7 women who have their residences or work places within the radius of not more than one kilometer. The borrowers, who are mostly entrepreneurs, have to be of age from 18 to 58 at the date of application.

Applicants should be either married, widow or separated. Relatives are not allowed to be in the same group. All members should be agreeable and willing to give guarantee of repayment of other members' loans. If an applicant already has an existing loan with the bank, she would not be eligible for a JLG loan. The loan amount is in a range of Rs 10,000 to Rs 20,000. The frequency of repayment can be weekly or monthly. Normally for loans of Rs 15,000, it takes one year to repay and for loans above Rs 15,000, it takes 1.5 or 2 years. The interest rate is 24% per annum.

Over the period from May 2011 to January 2016, the product has been one of the major profit contributors to the bank. There were in total 17,700 JLG loans issued. Though most of the loans were served by agents, 1% of these loans were served by employees due to some administrative issues such as the initial stage of JLG product launch. The monthly average number of JLG loans issued was 316 (with standard deviation of 204), the maximum number being 715 in October 2013. The first four months since the product was launched were the trial period and then the product rolled out. Figure 2.1 and Figure 2.2 show an upward trend of the number of loans issued over the period with an annual cyclical pattern. Growth rate of the number of loans issued in Figure 2.3 shows that the monthly growth rate in terms of the number of loans issued had been relatively stable apart from July and August 2011 which are in the trial period. The average monthly growth rate of number of loans was 9% with standard deviation of 0.45 after excluding the initial trial period. The loan amounts have similar patterns as the number of loans.

By the end of January 2016, the number of loans issued to new clients was 12,219 out of 17,700 (total number of loans). This indicates this product is growing with a large base of new customers. Table 2.3 presents the summary statistics for total loans and new loans. There are 3,233 group loans in total.

The distribution of loan cycles is shown in Table 2.4. Among 17,700 clients, 8,487 clients only had the first loan and did not apply for the second loan by the end of the sample period. But 7,207 accounts are still live accounts. This indicates



that the product is still growing with strong customer base and these clients could potentially come back for the second loan once the current loan ends. 25% of clients had two loan cycles and 21% of clients had three loan cycles. The clients who took 4 loans narrowed down to 5% whereas only 65 clients took 5 loans. These figures show customers did repeat loans. The average gap between two loans was 15 months with standard deviation of 5. When loan cycle increased from 2 to 4, the gap increased from 14 months to 17 months. But it went down to 14 months in the fifth loan.

### **The JLG agents**

The agents play key roles in servicing JLG loans. Agents are recruited through interviews by the branch managers and JLG head, based on their experience, education background and potential. The bank then assigns the areas to agents. This excludes the endogeneity problem in the analysis concerning the assignment of a specific area to an agent.

Once the areas are decided, the agent promotes the JLG products in the area by distributing flyers and organising meetings with potential clients to explain the process of application. Meanwhile, the agent collects basic information about clients in various ways including talking to them or visit their home. Once the due diligence is performed, the agent is able to recommend the identified prospective “good borrower” to the bank. This is the screening duties the bank expects the agent to perform so as to avoid adverse selection of clients. Once the loan contract is signed, the agent starts to collect repayment as per contract. It can be either weekly or monthly schedule. However, the agent does not collect repayment from each group members. Instead, the agent visits the premises of the group coordinator (each group has a group coordinator), who collects the installment for the period from all the members of her group and makes the repayment to the agent. The loan officers and the JLG head follow up and monitor the performance of agents and their loan profiles. In the whole process, the JLG agents remain in touch with clients very frequently. If the clients don't repay the loan, the agent is expected to take extra

effort to collect the repayment.

From May 2011, since the beginning of the product, till May 2013, whoever was appointed as a JLG agent would earn a commission of 3% of repayment amount collected by him over the period of the past month. (Here onward, these agents are referred as commission agent.) As shown in Table 2.5, after May 2013 the bank decided to use a compensation scheme with a combination of a base salary of Rs.8,000 and other incentives so as to reduce costs. (Here onward, these agents are referred as salaried agent.) Hence, the incentive of the commission agent is based on the repaid amount whereas that of salaried agent is based on the number and amount of loans, and regular recollection of instalment. Agents are not allowed to shift between different compensation schemes. When a salaried agent starts to work in the bank under the mix scheme, for the first month, the base salary would be pro rata according to the time they join.

There are in total 42 JLG agents who have served since the product was launched in May 2011 until January 2016. The average employment period is 19 months with standard deviation of 13 by January 2016. The longest employment period is 52 months and the shortest is 1 month. As of April 2016, there were 29 agents working. Among them, 23 are under the new scheme with a base salary and other incentives. The rest 6 are under commission. Among the ones who left, there were 8 agents under commission and 5 under the new scheme.

The average monthly payment to an agent is Rs.10,367. The nominal average daily wage for regular rural workers with above secondary education in India is Rs.298.26 (monthly Rs.8,948) according to the 2011-12 NSSO data <sup>1</sup>. The gap between the opportunity cost justifies the long period agents stayed at their jobs in Mann Deshi.

There is a punishment scheme established for agents. Salaried agents will lose additional 25% of incentives for the month for each additional overdue account. It was never applied in the window period. Also multiple sources from the bank

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<sup>1</sup>[http://mospi.nic.in/sites/default/files/publication\\_reports/nss\\_report\\_554\\_31jan14.pdf](http://mospi.nic.in/sites/default/files/publication_reports/nss_report_554_31jan14.pdf)

confirmed that it was not even mentioned to the agents by the bank other than the time they were appointed. It was required only after the demonetization in 2016. The structure actually followed is more lenient than with original 25% cut in the amount of incentives on each overdue account. But when it is applied, it is 20% cut for each five accounts. Since the sample period is between 2013 till 2015, the impact of the punishment scheme is not incorporated in the analysis.

## 2.4 Data description

There is complete data on 39 agents from different sources including questionnaires, saving ledger accounts and clients' files. The number of active agents fluctuated from 2 to 27 over the period from September 2011 till January 2016 as shown in Figure 2.4. The number of salaried agents started from 1 in June 2013 and reached to 21 in 2015. However, the number of commission agents started from 2 in September 2011 and kept increasing to 10 until March 2013. Then the number decreased to 6 by January 2015. The increase in the number of salaried agents and the decrease in the number of commission agents confirms the policy change by the bank since 2013. Most of the JLG agents presented uptrend performance in the first few months in terms of the number of loans issued to new clients (Figure 2.5). Subsequently, the number of new loans issued either stabilised or declined. This might be due to the area saturation over the time period. Moreover, Figure 2.6 shows that the number of new loans issued by commission agents tended to decrease over the period and the same figure for salaried agents increased significantly. This could be explained by the initial assignment of new areas to the salaried agents.

The characteristics of agents are summarized in the Table 2.1 for categorical variables and Table 2.2 for the the continuous variables for both the remuneration types. Among the 39 agents, 11 agents are on the commission-based contract whereas the remaining 28 agents are on the salary-based contract. There are 800 observations at the agent-month level over a period of 51 months (November 2011 to January 2016).

Out of which, 383 observations are for commission agents and 417 observations are salaried agents. Furthermore, within the sample period the agents have issued a total of 17,167 loans. Out of which, 8,315 loans are issued by commission agents and the remaining 8,852 loans are issued by salaried agents.

An agent's effort and performance can be affected by the following three factors – agent's risk appetite, agent's skills and administrative setting. This paper attempts to assess risk appetite of an agent by the information on gender, marriage, caste, house roof, number of rooms, education, household location, land holdings, number of family members, number of earners, proportion of earners in a household, share of income contribution in the household and age (Table 2.6). It is assumed that skills of agents would be captured by education, earlier finance experience and experience in the bank itself. Information on the location type (rural or urban) of areas served by the agent, repayment frequency, region (block) and whether a new area is being served can reflect the administrative setting.

Regarding the categorical data, gender, marriage status, agent's residential area, house roof, previous experience in finance, repayment frequency and areas served are reported. Considering only women can be borrowers of this bank, the gender of the agents serving them may play a role in performance of the agents. Predominantly agents are male with only 4 females who are equally divided into the two remuneration schemes. Marital status of the agent might influence his risk preferences leading to greater (or less) motivation to work. The number of agents who are married (20) and agents who are unmarried (19) are practically same. However, the proportion of unmarried agents are significantly larger in the salaried contract. Among married agents, 9 are under commission contract while 11 are under the salaried contract.

The agent living in an urban area might have a higher opportunity cost to work for the bank. Out of the total 39, 14 agents are residents in an urban area among whom 3 are under the commission contract. The distribution of agents among the four types of house roof is Reinforced Cement Concrete (RCC) (17), Sheets (14), Tiles (6) and Other (1). The proportion of RCC show no significant difference

between two remuneration schemes. But, the fact that most of agents have RCC and sheets house roof suggests relatively better economic conditions relative to the conditions in the area. The number of agents who have experience in finance is 12 whereas the remaining 27 agents do not have any experience in a finance related field. Among those 12 experienced agents, 2 are under the commission contract while the rest are in the salaried contract. The proportion of experienced agents under two schemes are not significantly different.

21 agents out of the total 39 are in charge of loans based on a monthly repayment frequency. It is worthy to note that commission agents do not have monthly repayment collection. This is mainly because the monthly recollection loans are offered in primarily large urban areas where the bank has expanded in later years only. The areas agents cover are almost equally distributed with 19 in the rural areas and 20 in the urban areas. Among the urban areas, the distribution between the two remuneration packages is 3 agents under commission and 17 agents under the salaried contract. Although areas served by the agents are assigned exogenously, the bank takes the residential location of the agents in account while making the decision.

Table 2.2 reports descriptive statistics on the time-invariant continuous variables of agent characteristics such as education level (measured by number of school years), number of household members, proportion of earners in a household, income contribution ratio, number of rooms and land holdings. The mean difference between the two types of remuneration schemes for all the time-invariant variables are found to be insignificant using a t-test.

The average number of school years of an agent is 13, which is in the range of 10 to 15. High school offers 10 years of education in this part of India, followed by college for 5 years (first 2 in Junior college). Hence, in terms of education this does not seem a very diverse group. The opportunity cost of getting education will also be similar for all the agents.

The household composition of the agent may influence his risk preference and motivation to work harder. The size of the family, the number of members of the

family that earn as well as the total income of the family along with the agent's income are collected. The proportion of the earning members within the family and the proportion of the agent's income in the family income are further constructed. Since, the differences within the agents of the two remuneration schemes are insignificant, only the statistics of the whole group of agents are discussed here. The average number of household members in an agent's family is 5. Among the family members, 1 to 3 are working and contribute to family income. The average of earners ratio is 0.42 with a range of 0.17 to 1. The income contribution averages at 75%.

The assets owned by an agent may influence the risk appetite of the agent, the number of rooms normalised by the number of family members has an average of 0.69 with a range of 0.2 to 1.3. Some agents own land, while others do not. The average area of land owned by agents is 2.54 acre. Increased land ownership may not only bring some efforts towards managing the land but can also lead to a lack of motivation.

Most agents are in their late 20s with an average age of 27 years and that within the salaried contract is 26. The average time an agent has been working in the bank is 1.15 years with a range of 0 to 4.33 years. The agents consist of 15 caste groups, in which, Maratha (11), Dhargar (6) and Mang (6) are the most common castes among the agents. The caste composition of agents roughly correlates with the proportion of population of caste in the area.

In the next section, the estimation method to evaluate the impact of the regime change will be explained.

## **2.5 Empirical model and results**

The effect of different compensation schemes on the performance of bank agents at various points in a borrower's loan cycle is examined. Specifically, this paper studies two primary tasks assigned to an agent. First, to increase the number of new

borrowers to sign for the the Joint Liability Group (JLG) lending product. Second, to collect repayment from the existing borrowers. While the bank does not observe the actual effort being made by the agents, the bank has records of the number of new borrowers and the current borrowers and how much each borrowers owes and has repaid. So the outcome of the tasks the agents perform are both observable and verifiable. Therefore the banks can potentially design payments based on these observable and verifiable signals.

The primary aim of the bank is to increase the credit access for the poor, as per the bank's stated objectives, which translates into increasing the number of borrowers. This forms a classic agency problem, where the agent exerts costly effort, and the effort is not observable by the employer. The bank observes the number of new clients and this can provide the bank with some information regarding the agent's effort level. The effort exerted by the agent at the point of signing new clients will influence not only the number of new clients but also their quality. The more initial effort the agent exerts in signing new clients, he/she will likely screen the clients better (and therefore tackle adverse selection). The banks also would like the agent to exert effort in collecting repayments as this one of the key aspects of functioning of the bank. This will be affected by the effort made at the signing stage by the agent since the better (less risky) borrowers screened and signed earlier will mean that the agent will have to spend less effort to collect repayments. Here too, the bank does not observe the agent's effort but observes the collection made by the agent.

In the context this paper is studying, the bank writes incentive contracts based on repayment or collections. Here both the types of effort add up to increase collection of repayments. It is assumed that more new clients will lead to greater opportunity for more collection of repayment later. Also it is assumed that the agent is risk averse, and the bank is risk neutral. This assumption is made on the standard grounds that agent will be risk averse and that the bank which has greater ability to diversify risks will be risk neutral. The agent has a non-negative outside

option. If he/she refuses the offer made by the bank then the agent can look for employment opportunity elsewhere. Given this standard principal agency model, the main hypothesis for the analysis is that changing the contract type from commission contract to a salary contract will adversely affect the two outcomes, signing of new clients and instalment amount collected. As pointed out earlier, it is assumed that the effort levels, both getting new agents and collecting repayments, contribute towards the banks objective.

The performance for the efforts put in by the agent at two stages is measured. At the beginning, the agent has to put efforts to get new clients. Here, considering that there is no collateral, to avoid adverse selection, the screening is crucial. The agents are able to get new clients only after this thorough screening process. It is the objective of the bank to reach out to as many potential borrowers as possible and so agent's performance is measured in terms of the number of new clients attracted by the agent in a given month. Low supply of credit is also identified as an issue for microfinance clients and so the objective of the bank to provide bigger amount of loans also checked here as the performance of the agent. The amount disbursed to the new clients is also considered as a performance indicator of the agent because of the efforts taken by the agent at this initial stage of the loan.

The second stage of the loan is recollection at monthly or weekly frequencies. The regularity with which the clients are facilitated to repay the loans is also checked as the performance of the agent. To avoid moral hazard, agent has to put in efforts towards monitoring his clients. More efforts the agent takes to monitor, less number of delays in repayment by the clients would be observed. It is important to note that the delay in repayments is also impacted by the effort from first stage as better screening would lead to more less risky borrowers, hence fewer delays.

Non-enforceability of the credit contracts without collateral is another issue faced by the credit market. However, considering all loans were indeed repaid, the efforts by the agent, if any, can't be observed. However, the zero default in this product is caused probably by the high standards of monitoring where delayed repayments are



taken very seriously by the lender. Hence, it makes sense to carefully observe the delays in repayment.

### 2.5.1 New clients and amount disbursed

The following regression model is estimated to understand the effect of the compensation contract type on an agent's performance,

$$\begin{aligned} \ln(NC_{it}) = & \delta_0 + \delta S_i + \beta X_{it} + \sum_{b=1}^B \theta_j I\{i \text{ works in block } b\} \\ & + \sum_{y=1}^Y \rho_y I\{y = year(t)\} + \sum_{m=1}^M \xi_m I\{m = month(t)\} + \alpha_i + \epsilon_{it}, \end{aligned} \quad (2.1)$$

where  $\log(NC_{it})$  the log of number of new borrowers served by agent  $i$  in time period  $t$  (month).  $S$  is the dummy variable for an agent's compensation contract, which holds a value 1 for salaried contract, 0 otherwise.  $X$  is the vector of all other regressors, whereas  $\theta_j$ ,  $\rho_y$  and  $\xi_m$  measure block, year and month fixed effects respectively. The block effects intend to capture the time invariant differences in competition and market structure the bank may face from other lenders. Since most blocks have only a single bank branch in them, block fixed effects also control for differences in administration within the bank.<sup>2</sup>

An annual cyclical pattern in number of loans issued is shown in Figure 2.2, with a trough in March and peak in September-October. Year and month dummy variables are used to capture this seasonality effect. It is observed that when the bank expands to a new area, finding new borrowers is easier in the beginning leading to a spike in term of number of loans issued. This is often followed by a gradual slow down and stabilisation. It might be occurring due to the untapped "good" borrowers in the new area during the initial period.

The compensation contract offered has remained same throughout the tenure of an agent. Hence, a random effects panel model is applied to consistently estimate the parameter on compensation contract type as well as to control for all time

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<sup>2</sup>Out of the five blocks, only one block has more than one bank branches in it.

variable regressors such as age, experience in the bank, new areas and seasonality. The same model is also used to estimate the effects of the policy variable on the amount disbursed to new clients.

### **Estimation results**

Table 2.6 shows the results of the random effects panel regression based on Equation 2.1. Column (1) doesn't have any month, year or block fixed effects, whereas column (2) includes the year and month fixed effects. Column (3) has all the fixed effects and is preferred specification. Across the specifications, salaried agents get 70%-132% fewer new loans than the commission agents on a month-by-month basis. This suggests that salaried agents perform significantly worse in terms of getting new borrowers.

The control variables in the regression shed light on various aspects such as risk appetite, motivation, social network and skills of an agent. In terms of risk appetite, it is observed that family size has a positive impact on the performance of agents. This can happen if an agent becomes more motivated due to increased responsibilities. A negative sign on the number of earners suggests that as the number of earners increases, the agent may have a lesser incentive to work harder. Increased land holdings are correlated with reduced performance, possibly either due to the agent slacking because of a better outside option or additional time is spent to take care of the land. Also, proportion of earners and number of rooms in a house are positively correlated with the performance of an agent. This can be due to richer families have a better social network and economic status possibly leading to an increased trust among borrowers.

With respect to skills, finance related prior experience is not significant and education seems to only have a weak effect. However, experience in this job is negatively correlated with the number of new borrowers. This can possibly be attributed to an increased marginal effort over time since initially an agent's primary role is to attract new borrowers whereas later on the agent has to put effort in

collections as well as getting new borrowers from an existing area which is likely to get more saturated eventually. Also, urban areas have fewer loans as compared to rural areas possibly because there is increased competition and borrowers have other options to access credit.

As expected, agents in a new area attract more new borrowers.<sup>3</sup> Agents serving areas with monthly repayment frequency attract more borrowers, which could be a sign of risk aversion.

Table 2.7 shows results for the loan amount disbursed to the new clients. The estimated parameters have signs similar to the number of new loans regression. This provides some robustness to the findings.

### 2.5.2 Delinquency

Other than getting new borrowers, a key function of the agents is to collect repayments. This is part of managing the credit contract and monitoring the borrower. While repayment rates are generally high, it is important for the bank that money is repaid on time. So in order to measure the output of the effort resulting from monitoring and recollecting, delay in repayment is used. Such a metric using borrowers' deviation (delay) from the original repayment schedule as a measure of performance is constructed. It is assumed that greater the effort employed by an agent in monitoring the borrowers, lesser borrowers will deviate from the repayment schedule.

Delinquency is defined as the number of times the installments were delayed by two or more days during the loan tenure. A margin of two days allows the analysis to account for any potential holidays and a possible delay in data input. The delinquency ranges from 1 to 84 which seems large enough to capture qualitative differences in the performance of the loan. A logit model using a borrower-level data is estimated. The binary dependent variable is defined as 1 if the loan was delayed by two or more days, for at least  $n$  number of times by a borrower. The model separately for  $n = 1, 10, 25$  and  $35$ , which are the quartiles of the distribution of

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<sup>3</sup>The new area dummy variable is defined to be 1 for the first three months, 0 otherwise.

the number of delinquencies, is estimated.

### **Estimation results**

Delinquency among loans which have delayed rarely (more than once) as well as those which have delayed as many as 35 times is studied.<sup>4</sup> Table 2.9 shows the results of the logit regression for delinquency. Column 1 reports the results where the loan repayment has been delayed more than once. Similarly, column 2-4 show results with more than 10, 25 and 35 delays respectively. Across all specifications it is observed that salaried agents experience fewer delays. The log odds ratio of a loan being delinquent decreases by 0.938 if that loan is served by a salaried agent rather than the one on commission. In other words, the odds ratio of being delinquent are 2.56 times lower among loans served by a salaried agent than those served by agents under commission, keeping all other independent variables constant.

In all the specifications in Table 2.9, higher loan amounts are negatively correlated with delays. This can happen as a higher amount borrower would have gone through stringent credit checks and is a good proxy for creditworthiness. Although, a higher loan amount also translates into bigger installments, it does not seem to affect the repayments. Also, agents may be putting in a higher effort for large amount loans as this is a higher priority for loan officers.<sup>5</sup> Duration of a loan has a significantly positive effect on delinquency. Longer duration of a loan implies higher number of installments which intuitively leads to more delays. Other borrower characteristics such as monthly income, number of rooms and number of phones are insignificant. These variables intend to measure creditworthiness of a borrower which may already be captured in the loan amount.

Most of the agent characteristics do not show any significant correlation with the probability of delay. This suggests that apart from the type of compensation contract of an agent, the identity of an agent has a little role to play in loan repayment. An agent's finance related experience in a previous job helps lower the delinquency.

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<sup>4</sup>All loans have at least one delay.

<sup>5</sup>An agent reports directly to a loan officer in the Mann Deshi bank.

For loans delinquent only occasionally, land held by the agent can be one of the reasons causing it. The occasional diversion of focus and efforts towards the land on behalf of the agent might lead to this. A bigger family size of the agent seems to be correlated to acquiring riskier borrowers. Overall, the results show that the borrowers of the salaried agents are less delinquent, i.e, they delay less number of times than those of commission agents. Hence, borrowers of the commission agents perform worse on this measure, unlike acquiring of new borrowers as discussed in the previous section.

## 2.6 Selection bias

A common concern with the above analysis is that the characteristics of the applicants for an agent's job may have changed in response to the change in the compensation structure. This self-selection can potentially cause a bias in the parameter of interest. However, the concerns were mitigated upon further exploration.

First, the job advertisements placed are mostly generic in nature and do not explicitly specify the compensation structure. Figure 2.7 is a job advertisement in Marathi which appeared in a local newspaper after the policy change and is translated into English in Figure 2.8. The job advertisement only specifies that the remuneration will be based upon prior experience and abilities. Also, in the discussions with the CEO of Mann Deshi, product head and branch managers who are responsible for interviewing and managing agents, they mentioned that no explicit difference was noticed in the profile of the job applicants after the policy change. Moreover, rural labour markets in India, large under and unemployment result in buyers markets, so that the structure of compensation may have minimal affect on participation decisions of potential employees. In Maharashtra, in 2013, around only 14 percent of rural households had wage earning members. Most households have self-employed or entrepreneurs members. Another measure is how many households depend on employment generation schemes: In Satara District, 14 percent 42 out of

1000 households used state funded employment generation schemes, while the same number was 52 for all of Maharashtra <sup>6</sup>.

Another concern could be that once a salaried contract was offered, only a certain type of applicants accepted the job offer. To address this issue, this paper estimates a regression with agent contract type as the dependent variable and observed characteristics as the independent variable. Table 2.8 reports the results where most variables are insignificant (as well as the overall significance of the model) which suggests that observed characteristics are similar across agent types.

## 2.7 Cost

The objective of the bank in shifting to the salaried contract was to reduce the wage bill. Reducing the operating cost increases short-run liquidity of the bank, which can potentially lead to providing credit to more borrowers. Using bank's data, it is found that the cost to the bank has significantly gone down by changing the contract from a compensation based to a salaried one. The monthly average payment to a salaried agents is Rs. 10,059 which is Rs. 644 less than that for the commission agents. In other words, the commission agent got paid 7% more than the salaried ones.

## 2.8 Conclusion

This paper addresses a classic question in economics, if providing incentives to agents/employees can help the firm/organization achieve its goals more efficiently. The main contribution of this paper is twofold. One, a very rich data set is used which allows this study to analyse the effectiveness of commission contracts. Often empirical study of agency problems or incentive design is limited to CEO compensation mainly due to data constraints. But here availability of the data on the employees and their clients and that of the MFI make it possible to analyse that

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<sup>6</sup>Report on District Level Estimates for the State of Maharashtra, 2013-2014 ([https://labour.gov.in/sites/default/files/MH\\_District\\_Level\\_Report.pdf](https://labour.gov.in/sites/default/files/MH_District_Level_Report.pdf))

commission contracts can help align the performance of the agent with that of the firm/organization's objectives. The second contribution is that the analysis helps address the question how credit can be made available to the poor at a lower cost. Credit markets in developing countries suffer from various transaction costs and thus the outcome in terms of credit provided to the poor is far below what it should be. An important mechanism within this set up is how agents delivering and managing credit contracts to the poor are governed. This aspect of transaction cost in credit delivery to the poor is often not studied, but can still form an important part of an intervention in credit delivery to the poor.

The results show that with the commission contract, the supply of credit is higher in terms of reaching out to more number of potential borrowers as well as being able to lend greater amount. Interestingly, while it is found that under commission contracts, agents sign more new borrowers, there is also a greater amount of delay in repayment. It is likely that either the agents who are paid under commission contracts are selecting borrowers who are more risky, not monitoring borrowers or they are putting in less effort to collect repayments from the borrower. It is probably either agents selecting more risky borrowers or spending less effort in monitoring borrowers, since the agents are paid commission on the amount collected and so are likely to spend effort on collection or repayment. Similar results of incentives leading to riskier portfolios have been documented in the literature (see Efung, Hau, Kampkötter and Steinbrecherare, 2015). The agent may find it easier to get new borrowers, given the lack of credit in the market, than managing the borrowers at the later stage of the contract. There is a lack of data to identify how the agent distributes his/her effort during the whole contractual process. Also the salaried agent is less eager to increase the number of borrowers and this perhaps ensures a higher quality of borrowers relative to the portfolio of a commission contract agent.

Finally, while incentive provision can be effective, the observable signal on which the incentive is provided has to be in line with the objective of the organisation/firm and if there is an element of multi-tasking then the incentive has to be on the task

which is most beneficial to the organisation and clearly measurable. To this end, it is found that even for a non-profit organization like the MFI, commission contracts help align the interest of the MFI, whose main objective is to increase the number of borrowers, with that of the agent.

Inability to determine the effects of the contract change in various types of efforts that the agents perform which ultimately has an effect on the outcomes studied here has been the limitation of this work. This not being a field experiment, we have had no control over the contract design. The commission-based contract is an incentive contract but the mixed contract has a component of fixed salary and incentives which technically is not a pure salary-based contract. Second, agents' cost function is not measurable. The components of cost function could have measures of various types of efforts. For example, time spent in collection, time spent in visiting new areas, distance travelled, number the period of phone calls made to chase delayed instalments. Hence, the marginal effect of the change in contract on various types of efforts has not been possible to tease out.



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## 2.9 Appendix

### 2.9.1 Data collection

#### Information of agents

A questionnaire (in Marathi) was developed to collect demographic information and was distributed to those who have worked as JLG agents.<sup>7</sup> For those who did not respond, phone calls were made to collect information. The questionnaire starts with the demographic questions regarding the agent herself. For example, name, age, gender, marital status, caste, education, religion, address, contact information and so on. To get a sense of the risk appetite of agents, the information on income and wealth belonging to the household was to be collected. For the agent to understand the questions easily, the same format was used as which the bank uses in the clients' application form. So the agent would be very familiar with these questions. Questions including house (number of rooms, roof, wall and owner), bulls, buffaloes, cows, goats, phones, fridges, TVs, gas cylinders, bikes, motorbikes, farmland and total value of assets are checked. The information of family members such as name, age, gender, education, relationship, income, current job and village of birth is also included. Furthermore, the information on an agent's household monthly income and expenditure is checked. Moreover, areas covered and remuneration type in the current job are asked and then are cross-checked from the head of JLG product in the bank as well as the branch managers and loan officers at the respective branches. These are to confirm the shift from commission to salaried remuneration package and the replacement of agents when there is someone leaving. The previous work experience (job, location, period, salary) is collected to find out if an agent had any previous experience which might have positive impact on her performance such as working in the finance industry. The names of the competitors in the areas are also asked to find out the outside option in the area she works. Among 42 agents, information on 39 agents was collected.

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<sup>7</sup>Refer to Figure 2.9 in the appendix for details.

Regarding the remuneration paid to agents, the main source is tax deducted at source (TDS) files which are stored at the head office of the bank. This records the pay to all the agents of the bank every month which is used for tax purposes. 37 agents' information is collected from these files. All these 37 agents also filled in the questionnaires. To ensure the accuracy of the pay data, the saving ledger accounts of agents, where the remuneration is paid, is also collected. This is used to cross check the remuneration paid data from TDS files and record information for the remaining two agents out of the 39 who filled in the questionnaires.

#### **Information of clients/borrowers**

The JLG clients' loan accounts are stored in the bank's internal system which records loan information such as customer id, loan amount, account open date, account status and so on. It started from September 2009 and records data till May 2016. To link with agents who manage the account, this client (borrower) file is merged with the consultant file which has account-level information together with the agents who serve the accounts and group numbers. Lastly, to identify the delinquencies client ledger accounts were collected which record the loan repayment information and merged with the agent data.

## 2.9.2 Tables

Variable	Category	Agents			Agent-Months			Loans disbursed		
		C	S	Total	C	S	Total	C	S	Total
Gender	Male	9	26	35	310	391	701	6,598	8,339	14,937
	Female	2	2	4	73	26	99	1,717	513	2,230
Marriage	Unmarried	2	17	19	97	254	351	1,836	5,635	7,471
	Married	9	11	20	286	163	449	6,479	3,217	9,696
Residential area	Rural	8	17	25	325	234	559	7,137	4,784	11,921
	Urban	3	11	14	58	183	241	1,178	4,068	5,246
House roof	RCC	3	14	17	109	228	337	2,487	5,143	7,630
	Sheets	6	8	14	192	122	314	4,061	2,279	6,340
	Tiles	1	5	6	31	58	89	733	1,242	1,975
	Other	1	0	1	51	0	51	1,034	0	1,034
Previous Experience in Finance	No	9	18	27	299	300	599	6,411	6,021	12,432
	Yes	2	10	12	84	117	201	1,904	2,831	4,735
Repayment frequency	Weekly	11	7	18	383	117	500	8,351	2,057	10,372
	Monthly	0	21	21	0	300	300	0	6,795	6,795
Areas served	Rural	8	11	19	322	182	504	7,103	3,506	10,609
	Urban	3	17	20	61	235	296	1,212	5,346	6,558
Total		11	28	39	383	417	800	8,315	8,852	17,167

The observations are aggregated at the agent, agent-month and agent-month-loan levels.

Table 2.1: Frequency distribution of categorical variables for both commission (C) and salary (S) based agents.

		Mean	Std. Dev.	Min	Max
Age	C	30	4.79	19	41
	S	26	5.12	19	37
Education	C	14	1.6	12	15
	S	13	1.7	10	15
Experience	C	1.56	1.07	0	4.33
	S	0.78	0.6	0	2.5
Number of family members	C	5	1.64	2	6
	S	4	1.38	1	6
Number of earners	C	1.5	0.76	1	3
	S	1.7	0.75	1	3
Proportion of earners	C	0.35	0.29	0.17	1
	S	0.44	0.26	0.17	1
Proportion of own income	C	0.85	0.29	0.24	1
	S	0.71	0.26	0.33	1
Number of rooms	C	0.65	0.21	0.2	1
	S	0.71	0.24	0.2	1.3
Land holdings	C	4.11	4.06	0	12
	S	1.88	3.86	0	15

Table 2.2: Summary statistics of continuous variables for both commission (C) and salary (S) based agents.

	Number of loans	Mean	Sum	Min	Max	Standard Deviation
Total loan amount	17,700	18,397	326,000,000	10,000	30,000	4,173
New loan amount	12,219	17,412	213,000,000	10,000	30,000	3,947

Table 2.3: Summary statistics of loans issued

Loan cycle	No. of clients	% of total	Account status	
			Live	Closed
1	8,487	0.48	7,207	1,280
2	4,464	0.25	2,144	2,320
3	3,792	0.21	1,371	2,421
4	892	0.05	285	607
5	65	0.004	25	40
Total	17,700	1	11,032	6,668

Table 2.4: Loan cycles of clients

Fixed monthly payout	8,000
Increment	
First increment (When loan portfolio cross Rs. 3,000,000)	1,000
Second increment (When loan portfolio cross Rs. 4,500,000)	1,000
Incentive	
Disbursement (Per account disbursed above 25 accounts in a month)	25
Collection	
Per account collected above 50 accounts in monthly basis	3
Business target	
Minimum account per month	25
Rule governing incentive	
1. if all accounts with regular collection	1
2. if one account in overdue	0.75
3. if two accounts in overdue	0.5
4. if three accounts in overdue	0.4
5. if four accounts in overdue	0.25
6. if five accounts in overdue	0
Reimbursement policy	
Rs. Per km for self bike	3
Limit of running per month in km	750
Mobile expense reimbursement monthly	150

Table 2.5: Contract details of the salaried agents

Variables	(1)	(2)	(3)
Compensation Scheme	-0.533*** (0.179)	-0.561*** (0.177)	-0.840*** (0.242)
Gender	-0.212 (0.355)	-0.161 (0.351)	-0.0193 (0.700)
Married	0.135 (0.175)	0.145 (0.174)	0.114 (0.183)
Age	-0.00560 (0.0185)	-0.00829 (0.0183)	-0.0200 (0.0211)
Education	0.0965** (0.0488)	0.0999** (0.0483)	0.0994* (0.0540)
Urban resident	0.0499 (0.166)	0.0269 (0.165)	0.0890 (0.202)
No. of family members	0.426** (0.196)	0.450** (0.193)	0.598*** (0.209)
No. of earners	-0.717** (0.341)	-0.751** (0.337)	-0.901** (0.353)
Proportion of earners	2.876*** (0.914)	2.972*** (0.904)	3.384*** (0.941)
Proportion of own income	-0.409 (0.416)	-0.404 (0.412)	-0.0214 (0.474)
Land holdings	-0.0903*** (0.0239)	-0.0912*** (0.0236)	-0.134*** (0.0386)
No. of rooms	1.220*** (0.423)	1.232*** (0.418)	1.464*** (0.478)
Prior finance experience	0.173 (0.184)	0.177 (0.182)	-0.0463 (0.597)
Experience	-0.309*** (0.0492)	-0.331*** (0.0496)	-0.318*** (0.0515)
Urban area served	-0.395* (0.220)	-0.431** (0.217)	-0.684** (0.292)
Repayment frequency	1.004*** (0.285)	1.051*** (0.282)	1.672** (0.672)
New area	0.408*** (0.0921)	0.367*** (0.0933)	0.381*** (0.0942)
Constant	-0.285 (1.167)	-0.248 (1.159)	-0.941 (1.297)
House Roof FE	Yes	Yes	Yes
Caste FE	Yes	Yes	Yes
Year, Month FE	No	Yes	Yes
Block FE	No	No	Yes
Observations	712	712	712

Standard errors in parentheses  
\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

The dependent variable is log of the number of new loans.

Table 2.6: Random effects panel regression model



Variables	(1)	(2)	(3)
Compensation Scheme	-0.920*** (0.155)	-0.979*** (0.124)	-1.565*** (0.165)
Gender	0.665** (0.304)	0.660*** (0.245)	1.050** (0.475)
Married	0.244 (0.149)	0.234* (0.121)	0.0653 (0.124)
Age	-0.0336** (0.0160)	-0.0340*** (0.0128)	-0.0351** (0.0143)
Education	0.182*** (0.0411)	0.178*** (0.0336)	0.226*** (0.0366)
Urban resident	-0.170 (0.144)	-0.193* (0.115)	-0.142 (0.137)
No. of family members	0.453*** (0.164)	0.459*** (0.135)	0.799*** (0.142)
No. of earners	-0.805*** (0.287)	-0.770*** (0.235)	-1.161*** (0.240)
Proportion of earners	3.195*** (0.776)	3.157*** (0.630)	3.887*** (0.639)
Proportion of own income	0.0825 (0.352)	0.146 (0.287)	0.509 (0.321)
Land holdings	-0.0913*** (0.0199)	-0.0913*** (0.0165)	-0.185*** (0.0262)
No. of rooms	1.229*** (0.357)	1.244*** (0.292)	1.898*** (0.324)
Prior finance experience	0.0743 (0.157)	0.0696 (0.127)	-0.287 (0.405)
Experience	0.135*** (0.0370)	0.0809** (0.0346)	0.0789** (0.0350)
Urban area served	-0.736*** (0.187)	-0.716*** (0.152)	-1.444*** (0.198)
Repayment frequency	1.633*** (0.248)	1.684*** (0.197)	2.743*** (0.456)
New area	0.411*** (0.0676)	0.296*** (0.0650)	0.315*** (0.0639)
Constant	9.215*** (1.013)	9.374*** (0.808)	7.152*** (0.880)
House Roof FE	Yes	Yes	Yes
Caste FE	Yes	Yes	Yes
Year, Month FE	No	Yes	Yes
Block FE	No	No	Yes
Observations	713	713	713

Standard errors in parentheses  
\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

The dependent variable is log of the amount of new loans.

Table 2.7: Random effects panel regression model

Variables	(1) OLS	(2) Probit	(3) Logit
Female	0.107 (0.292)	0.429 (1.039)	0.488 (1.790)
Married	0.404** (0.173)	2.240** (0.934)	4.031** (1.845)
Education	-0.0195 (0.0539)	-0.175 (0.225)	-0.287 (0.415)
Earners Ratio	0.330 (0.386)	1.805 (1.710)	3.528 (3.185)
Experience	-0.227 (0.182)	-1.368 (0.937)	-2.219 (1.644)
Rooms	-0.310 (0.450)	-1.855 (2.051)	-3.079 (3.534)
Land	0.0192 (0.0251)	0.120 (0.103)	0.197 (0.182)
Urban	-0.00344 (0.193)	-0.382 (0.727)	-0.540 (1.319)
Constant	0.462 (0.893)	1.169 (3.319)	1.273 (6.503)
Caste FE	Yes	Yes	Yes
Houeroof FE	Yes	Yes	Yes
Observations	37	37	37
P-value for overall signifinance	0.306	0.109	0.112

Standard errors in parentheses  
\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table 2.8: Selection Bias

	Number of delays			
	1+	10+	25+	35+
Compensation Scheme	-0.938*** (0.324)	-0.602** (0.299)	-0.436* (0.228)	-0.829** (0.325)
Agent variables				
Education	-0.0219 (0.160)	-0.0108 (0.0756)	-0.0350 (0.0707)	0.154 (0.117)
No. of family members	-0.223 (0.251)	-0.123 (0.0844)	-0.0991 (0.127)	0.436** (0.192)
No. of earners	0.220 (0.488)	-0.0319 (0.214)	-0.0183 (0.101)	-0.172 (0.150)
Land holdings	0.0750** (0.0350)	0.0313 (0.0296)	-0.0215 (0.0243)	-0.0381 (0.0352)
Finance experience	0.429 (0.522)	0.439* (0.267)	-0.582*** (0.164)	-0.0259 (0.286)
Borrower variables				
Monthly income	-0.0189* (0.0114)	-0.0117 (0.00822)	-0.00709 (0.00649)	0.00551 (0.00973)
No. of rooms	0.0113 (0.0783)	0.0757 (0.0565)	-0.0298 (0.0357)	-0.0154 (0.0554)
Age	0.00813 (0.00889)	-0.00221 (0.00714)	0.000461 (0.00438)	0.00335 (0.00650)
Loan amount	-0.548*** (0.0477)	-0.447*** (0.0380)	-0.0836*** (0.0217)	-0.280*** (0.0477)
Loan duration	0.0540*** (0.00574)	0.0645*** (0.00576)	0.141*** (0.00660)	0.265*** (0.0164)
Phone	0.0891 (0.106)	0.00852 (0.0980)	0.139** (0.0540)	0.0124 (0.0891)
Constant	10.30*** (2.584)	7.125*** (1.357)	-6.879*** (1.220)	-23.26*** (2.092)
Block FE	Yes	Yes	Yes	Yes
Year-month FE	Yes	Yes	Yes	Yes
Pseudo $R^2$	0.7885	0.7126	0.4166	0.6121
Observations	5,500	5,500	5,048	4,983

Standard errors in parentheses

\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

The binary dependent variable is defined as 1 if number of delayed payments is more than a specified threshold (1/10/25/35), otherwise 0.

Table 2.9: Logit regression model for borrower delinquency

### 2.9.3 Figures

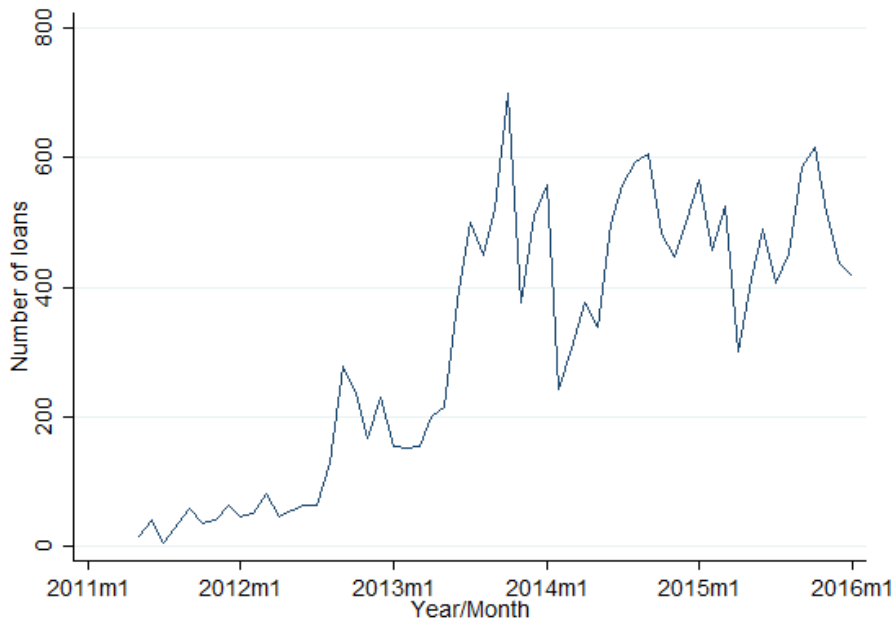


Figure 2.1: Number of loans issued

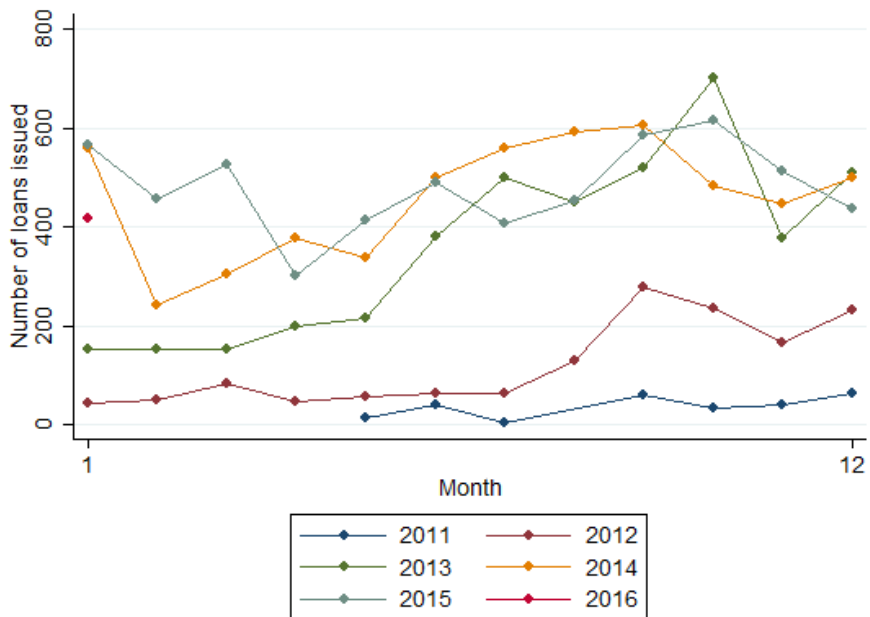


Figure 2.2: Number of loans issued by year

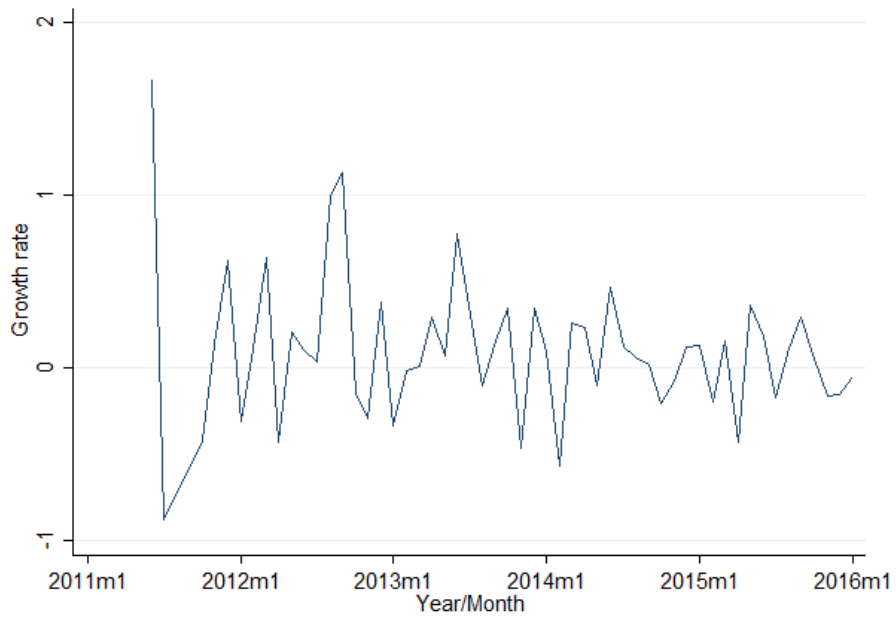


Figure 2.3: Growth rate of number of loans issued

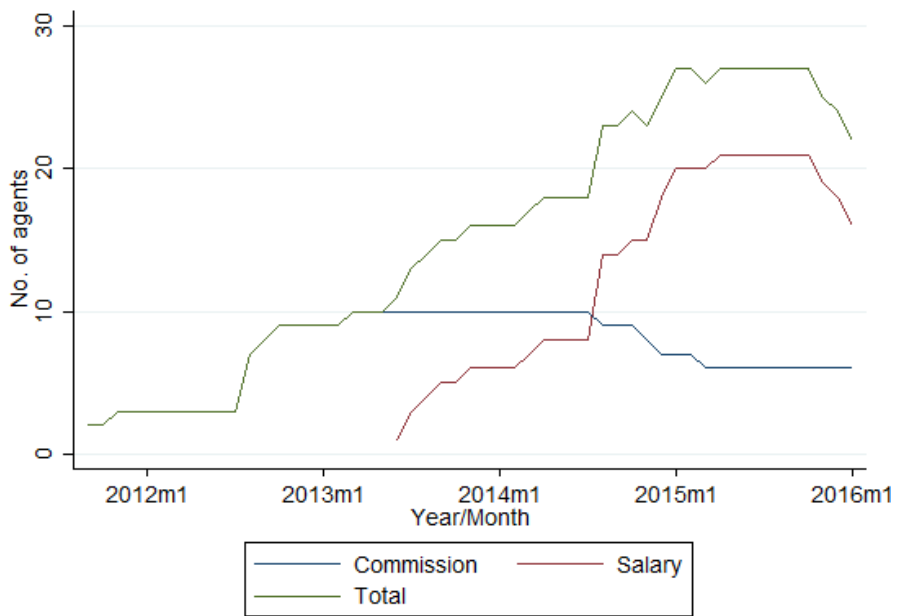


Figure 2.4: Number of active agents by month

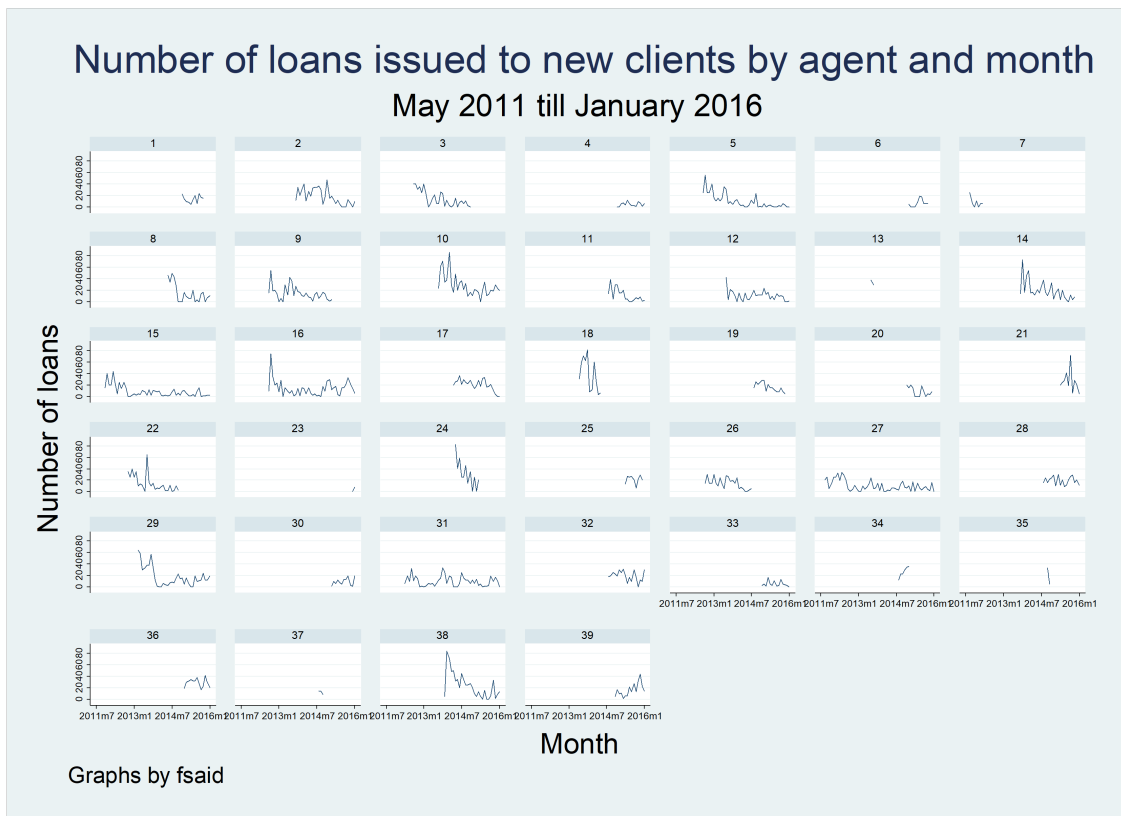


Figure 2.5: Number of loans issued to new clients by agents assigned to new areas

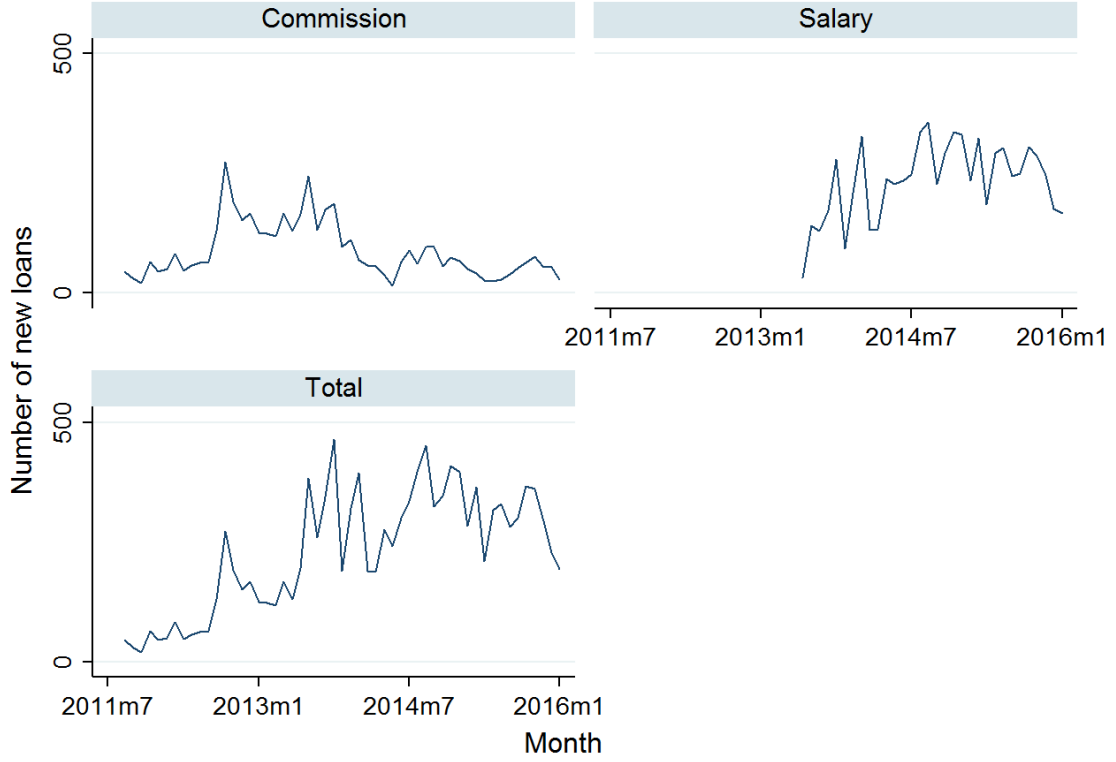


Figure 2.6: Number of loans issued to new clients by agent compensation scheme

एका नामांकित सहकारी बँकेत नोकरी करण्याची संधी

आंतरराष्ट्रीय पातळीवर नामांकित असलेल्या बँकेत पिंपरी चिंचवड [पुणे] व कामोठे [जि. मुंबई] येथे खालील पात्रतेप्रमाणे खालील पदांची भरती करायची आहे .

अ.क्र	पद	वयोमर्यादा	काम	पात्रता	मानधन (कमीत कमी)
1	फायनान्शीयल सव्हीस अॅडवायजर्स	21 ते 35 वर्ष	कर्ज प्रकरणांची माहिती सांगून कर्ज वाटप करणे	पदवीधर [बॅच्युलर] कोम्प्युटर चे ज्ञान [अनुभवास प्राधान्य	अनुभव व पात्रतेनुसार योग्य मानधन दिले जाईल
2	क्रेडीट ऑफिसर	21 ते ३५	कर्ज प्रकरणांची माहिती सांगून कर्ज वाटप करणे व रिपोर्टिंग करणे	कोणत्याही शाखेचा पदवीधर कोम्प्युटर चे ज्ञान [अनुभवास प्राधान्य	अनुभव व पात्रतेनुसार योग्य मानधन दिले जाईल

तरी पात्र उमेदवारांनी आपल्या मूळ कागदपत्रांसोबत खालील ठिकाणी मुलाखतीला हजर राहावे .

मुलाखतीचे ठिकाण : उज्वल हाउस क्लास जीवन फवटरी समोर धायरी ता .हवेली जि पुणे ४११०४१  
इंपेरियल हाईट्स बिल्डींग फ्लॅट नं . २३१ शॉप नं . ८ [२] [३] सेक्टर [३] कामोठे [जि. मुंबई]  
[३] [३] स्वस्तीक पार्क शाखेजवळ

मुलाखातीची दिनांक व वेळ :

फोन नं. : Dhayri - 7558609300 , Kamothe - 9920026147

टिप : मुलाखतीस येणारा जाणारा प्रवास खर्च दिला जाणार नाही याची नोंद घ्यावी .

Figure 2.7: Job advertisement placed by the bank after the policy change (Marathi)

Job opportunity in a renowned cooperative Bank

As per the mentioned qualifications, following posts are to be filled by a bank renowned at an international level in Pimpri-Chinchwad, 'Pune' and Kamothe, 'New Mumbai'

Serial No	Post	Age	Job(details)	Qualifications	Remuneration (minimum)
1	Financial Service Advisers	21 to 35 years	To pass on information about loans and disbursement of loans	Degree holders, Basic knowledge of operating computers, experience preferred	Fair remuneration as per the experience and qualification will be offered
2	Credit Officer	21 to 35 years	To pass on information about loans, disbursement of loans and reporting	Degree holders, Basic knowledge of operating computers, experience preferred	Fair remuneration as per the experience and qualification will be offered

Qualified candidates should be present for the interview at the following address along with original documents

Places for interviews:

Ujval House, Opposite to Kailas Jeevan Factory, Dhayari, Block Haveli, District Pune 411041

Imperial Heights Building, Flat No. 231 Shop No. 8, Sector 21, Kamothe, New Mumbai- 'Next to SBI, Swastik Park branch

Phone No. Dhayari- 7558609300, Kamothe- 9920026147

Note- Please note that the candidates will not be reimbursed their travel expenses for attending the interview

Figure 2.8: Graphs/Job advertisement placed by the bank after the policy change (English)



## मानदेशी महिला बँक प्रश्नावली

(Questionnaire Mann Deshi Mahila Banks FSA on JLG)

नांव..... जन्म तारीख..... स्त्री/पु..... विवाहित/अविवाहित  
जात..... धर्म..... शिक्षण.....  
पत्ता.....  
संपर्क क्र.....

राहण्याचे ठिकाण:- भाड्याचे ० स्वतःचे ० घराचा मालकी हक्क.....

भित्तीचा प्रकार	घराचे छत	घरातील खोल्यांची संख्या
वाट/दागड/माती/इतर	आर.सी.सी./कवेलु/टोनाचे/ गवताचे/ इतर	

चल अचल संपत्ती: बैलजोडी.....म्हैस.....गाय.....शेळी.....मोबाईल.....फ्रिज.....टी.व्ही.....गॅस.....सायकल.....दुचाकी.....  
शेतजमीन(एकर)..... इतर (विस्तृत).....

कुटुंबातील सदस्य						
क्र.	नांव	नाते	वय	व्यवसाय	शिक्षण	मासिक उत्पन्न
१		स्यतः				
२						
३						
४						
५						
६						
७						

पती/पत्नीचे मूळ गाव:.....

आईचे मूळ गाव:.....

वाडिलांचे मूळ गाव:.....

उत्पन्न	एकूण संपत्ती
३ ते ६ हजार, ६ ते हजार, ९ ते १२ हजार किंवा १२ हतार पेक्षा जास्त	२० हजार, २० ते ३५ हजार, ३५ ते ५० हजार, ५० हजाराच्या वर

मासिक मिळकत		मासिक खर्च	
स्वतः		घर खर्च	
जोडीदार		कर्ज परत फेड	
इतर		वचत	
एकूण १		एकूण २	

*Notes:*

The questionnaire is given to agents requested the following information: name, age, gender, marital status, caste, education, religion, address, demographic information on other household members, household expenditure and income, areas served, remuneration type, previous work experience (job type, location, tenure, salary), assets ( house (# rooms, roof and wall type), bulls, buffaloes, cows, goats, phones, fridges, TVs, gas cylinders, bikes, motorbikes, farmland), total value of banks, subjective comments on: competitors, weakness/strengths of JLG products, bad experience with borrowers, suggestions to improve the JLG product.

Figure 2.9: Questionnaire for agents



## Chapter 3

# Does Legislating Greater Transparency Boost Development?



# Abstract

This paper considers the efficacy of Right to Information Act (RTI) in India for achieving developmental goals for poor Indian citizens. Nations worldwide have enacted freedom of information to provide greater transparency to government operations and to allow citizens to monitor their governments more effectively. Does this lead to better public services? The efficacy of the RTI since its inception in 1997 is analyzed. Also, the kind of public goods which can be improved is identified. Lastly, whether these public goods are beneficial for the poor population is examined. Two indicators are applied: electrification and health. Electrification is used to understand how much attention a state pays to its rural voter- since electrification is nearly complete in urban India. However, many rural areas either do not have electricity connections or do not receive any electricity the whole week. For health, an analysis of effect of RTI is employed on infant mortality. Infant mortality is a key health outcome and a good indicator of the quality of health care provision in a society. So a more accountable government due to RTI will provide better health care and therefore the state or country is likely to have lower infant mortality. The key explanatory variable in the study is RTI implementation.

### 3.1 Introduction

Number of countries, including United States, United Kingdom, European Union have enacted freedom of information in order to provide greater transparency to the working of the state. In India the federal government passed the Right to Information Act in 2005, which provides citizens rights to information regarding functioning of various aspects of the government and its different activities. Before 2005, few individual states in India enacted similar right to information act. In all these instances the main reason behind passing of such laws was to increase accountability of the government. An important question here is whether greater accountability can lead to better public services by the government. Besley and Burgess (2002), Besley and Case (1995) have shown that greater transparency can lead to better provision of public services, and the mechanism through which this happens is that transparency increases accountability and this in turn leads to better public services. This paper analyses and studies if in India, Right to Information Act 2005 resulted in better public services. It attempts to identify the possible mechanisms through which such laws can benefit people and increase welfare.

The government, especially democratically elected ones, can be considered to be agents of the people to provide services for them. This relationship between the electorate and the government creates an agency problem, where once the government has been elected can choose not to provide services to people and ignore (the needs of) the electorate. If there are mechanisms in place which can monitor the government then like any other agency problem, the moral hazard can be reduced and the government (agent) can be made to work for the interest of the electorate. To increase monitoring and accountability of the government, one possible mechanism is to make it easier (lower cost) to acquire information about the government, its function, finances and the outcomes. Since the government will be aware that unsatisfactory service to people will lead to losing in the election, it can be expected that the government will take decisions and provide governance in line with the

preference of the people. Hence introduction of Right to Information Act (RTI) should lead to better governance and better public goods and services. And that is the purpose to provide greater transparency to the citizens.

In principle enabling citizens to monitor their governments more effectively, can improve outcomes, but the questions of what kind of outcomes improve, and whether in a country like India this will benefit the poor should be asked. If for example, certain aspects of political, social and economic outcomes matter more to the voting electorate then the government may design policies in favour of them and not focus on other general policies. This could affect pro-poor policies. Example, if the government believes that the urban population or the educated population are more politically engaged and more likely to vote then they could ignore issues like public good provision in rural areas like health, road and water. In the analysis in this paper, two public goods are examined which help in understanding the extent to which the government will respond to voting electorate and to the general population. Our choice of public services is influenced by the primary users of the public good and if the public good is provided by the state and the central/federal government. For this reason, the paper examines whether the implementation of RTI has led to better provision of 1. Electrification and 2. Health.

Electricity is provided by both the state and the central government. While most of the urban India is electrified or has household electricity connection, electrification of rural India is highly heterogeneous with some areas/states having around half of households either do not have electricity connections or do not receive any electricity the whole week. A conjecture is that the government, state or central, may pay less attention to the rural voter or RTI may have no effect on rural electrification since the RTI requests are less likely to be from rural voters since they may be less politically engaged, or have low levels of literacy and RTI as a mechanism becomes less effective way of gathering information. The effect of RTI on infant mortality is investigated. Infant mortality is a key health outcome and a good indicator of the quality of health care provision in a society or a country. If health care provision 42

in the whole state or country improves, it will result in lower IMR. Therefore, the measurement of IMR should reflect well on governance and the government. So a possible conjecture is that a more accountable government due to RTI will provide better health care and therefore the state or country is likely to have lower infant mortality. The key explanatory variable in the study is RTI implementation. In India, different states implemented the RTI act at different points of time, and then finally in 2005 the federal government passed the RTI law for the whole country. Great detail will be incorporated later. This staggered implementation of RTI is used for identification purposes of our difference in difference analysis.

## **3.2 Literature Review**

One of the key papers in this area of transparency is Besley and Burgess (2002). The paper considers an agency relationship between the government and electorate, and tests the hypothesis that a more open government will lead to better public service provision. The variable for transparency considered in the paper is how competitive the local press is, with more competition implying more transparency. The paper finds that in areas where there is more competition among the press, there is the state does a better job in handing out relief after floods. Adsera, Boix and Payne (2003) also look at the link between informed electorate, and accountability of the government and their performance and find that with more informed citizens government performance improves and there is a reduction in corruption. In a study with a similar result (Stromberg (2005), finds that in United States areas with more radio listeners (and thus better informed) received more public spending. Similar results have been discussed by Snyder and Stromberg (2010) (also see Bannerji, Kumar, Pande and Su (2011) for similar results, and see Pande (2011) and Olken and Pande (2012) for two reviews on information and better governance). Enikolopov, Petrova and Zhuravskaya (2011) find that there was greater likelihood of voting for the opposition in areas where there was independent television access. There is also



related but slightly different results which highlight the limitation of the electorate and the accountability of government and state. Cole, Healy and Werker (2012) show that voters in India are myopic and look back only at the recent past performance of the elected official when they vote. These authors have shown that the electorate may not be the most effective principle. In a theoretical analysis Prat (2005) shows that transparency need not lead to a better outcome for the principal. The paper, which extends a standard principal agency problem, to distinguish between transparency about agent's actions and consequences of the agent's actions and shows that transparency about agent's action could be detrimental if the agent resorts to conformist behavior. It is also well understood that due to multi-tasking and the agent working towards different outcomes incentives may not work properly and agency problem can persist. In the light of this existing results and more specifically the Right to Information Act in India this study tests if more transparency is better for the principal or the electorate.

### **3.3 Political Economy of RTI**

Principal i.e., the electorate, lacking the information on the actions of the agent i.e., government, may lead to inefficient utilisation of public resources. Right to information to the citizens is expected to ameliorate the asymmetry of information and enable society to achieve developmental goals quicker. How do we envisage this legislation to bring about change in these outcomes? Dokeniya (2013) explains the link in the chain of RTI results presented in figure 3.1. It is believed that the legislation leads to the right to information which is then used by the citizens to seek information and the government complies. The strength of this link in the chain depends upon the type of information sought by the citizens and the type of information disclosed by the public offices. The next link in the chain is about the follow-up action. The strength of the link depends upon whether there is enough mechanisms in place to make sure appropriate action is taken regarding the infor-

mation revealed. Such as corruption punished, safeguards put in place and better policies adopted. This is further expected to better governance with less corruption and performance improvements. This then is supposed to offer returns with better development outcomes. The act is expected to bring an important chunk of the information in the public domain. On the one hand private citizens as well as people's movements, non profit organisations, local political activists and groups happen to assert accountability through by asking information from their public bodies. On the other hand, the act also expects the governments (national, state as well as local self governments) to be proactive in disclosing information. The specific feature of RTI is provided under Section 4 of the Act, which mandated a proactive disclosure of information by all public authorities, within 120 days from its enactment in 2005<sup>1</sup>. This is to be followed up by providing as much information *suo motu* to the public at regular intervals through various means of communications. Government departments are supposed to provide information on functions of each department, organisational flow chart with responsibilities, data on personnel and governing rules for the office bearers. They are also expected to put the information in the public domain about the plans of the department, budgets, allocation, subsidies offered, expenses incurred as well as targets achieved.

The Mazdoor Kisan Shakti Sangathan (MKSS) campaign made efforts to secure the rights through the use of a slogan - "Our money, Our accounts."<sup>2</sup> This connection continues to resonate in the use of RTI where people seek information to secure their rights like getting a ration card (Public Distribution System card, which enables people falling below poverty line to get access to subsidised food grains and essential items sold through government shops)<sup>3</sup> or get their passport issued in time<sup>4</sup>. Other instances where RTI was used by citizens were to get the title of their land<sup>5</sup> or even

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<sup>1</sup><https://rti.gov.in/webactrti.htm>

<sup>2</sup>Kidambi, Sowmya. 2008. Right to Know, Right to Live: Building a campaign for the right to information and accountability. A Tactical Notebook published by the New Tactics Project of the Center for Victims of Torture. Minneapolis, USA.

<sup>3</sup>Peisakhin, Leonid. 2012. "Transparency and Corruption: Evidence from India" Journal of Law and Economics 55(1): 129-149; Peisakhin, Leonid and Paul Pinto, 2010. "Is Transparency an Effective Anti-Corruption Strategy? Evidence from a Field-Experiment in India" Regulation and Governance 4(3): 261-280.

<sup>4</sup><https://www.moneylife.in/article/file-an-rti-application-if-you-do-not-get-your-passport-in-time/31149.html>

<sup>5</sup><http://truecoloursofpune.blogspot.com/2011/06/farmer-invokes-rti-to-get-back-his-land.html>

get an LPG gas connection<sup>6</sup>. At a collective level, people have been using RTI to demand accountability when their neighborhoods have been flooded<sup>7</sup>

## 3.4 Data

### 3.4.1 RTI

In 1975, the RTI got the legal support for the first time in Supreme Court case of State of Uttar Pradesh vs. Raj Narain<sup>8</sup>. No further development was made by either the Central or the State Governments to implement a simple and effective access to information regime although there have been numerous cases favoring disclosure of government information and transparency. After 1990, there is higher demand for RTI, especially from grassroots. The first and far most well-known right to information movement in India was the Mazdoor Kisan Shakti Sangathan (MKSS), an organization for the empowerment of landless workers and rural poor, which begins its struggle for right to information in Rajasthan during the early 1990s. The MKSS was trying to secure minimum wages under the government's drought relief program through the access of government records and documents. It found out lots of misappropriation of government funds in infrastructure through getting documents from the government. Then in 1994, it initiated fighting against local corruption and exploitation through public hearing which disseminates information including underpayment of wages to the public<sup>9</sup>. The social movements in Rajasthan inspired people's groups and organizations throughout the country (including the National Campaign for People's Right to Information, National Alliance of People's Movements, Rural Workers' Campaign, and Dalit Sangharsh Samiti). In 1995, the Press Council of India drafted a Freedom of Information Bill<sup>10</sup>. It addressed that information which could not be denied to Parliament or State Legislature should not be denied to a citizen. The Central Government enacted the Indian Freedom

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<sup>6</sup><http://truecoloursofpune.blogspot.com/2011/04/hassled-over-delay-in-delivery-of-your.html>

<sup>7</sup><http://truecoloursofpune.blogspot.com/2011/06/invoke-rti-if-your-neighbourhood-is.html>

<sup>8</sup><https://www.livelaw.in/supreme-court-judgments-on-rti-act-2005-wither-transparency/>

<sup>9</sup>[http://siteresources.worldbank.org/INTEMPowerment/Resources/1465\\_MKSS-web.pdf](http://siteresources.worldbank.org/INTEMPowerment/Resources/1465_MKSS-web.pdf)

<sup>10</sup><http://presscouncil.nic.in/OldWebsite/history.htm>

of Information Act in 2002 to respond to the national campaign for the enactment of a central law on right to information. However, the Act was widely criticized for its weak and ineffectual clauses and it never came into force due to no notification. The encouraging breakthroughs are that various State RTI laws were passed during this period, including TamilNadu (1997), Goa (1997), Rajasthan (2000), Karnataka (2000), Delhi(2001), Maharashtra(2002), Assam(2002), Madhya Pradesh(2003) and Jammu and Kshmir (2004)<sup>11</sup>.

The Right to Information Act was passed in 2005 by the United Progressive Alliance I Government and was enacted by the Parliament of India to replace the old Freedom of Information Act (2002)<sup>12</sup>. The RTI Act (2005)<sup>13</sup> is “an Act to provide for setting out the practical regime of right to information for citizens to secure access to information under the control of public authorities, in order to promote transparency and accountability in the working of every public authority, the constitution of a Central Information Commission (CIC) and State Information Commissions and for matters connected therewith or incidental thereto.” The Act applies to the whole of India except Jammu and Kashmir. There were two attempts to amend the Act by the government since the launch of it but all failed. The implementation of RTI faces many challenges. For example, there are no dedicated budgets for RTI implementation at the central and state government levels. The government realized the issue and started to allocate additional funds to help governments to set up information commissions. Additionally, the central government launched a centrally sponsored scheme which embedded 26.68 cores to strengthen the implementation of the Act in 2008<sup>14</sup>. The subcommittee set up by the Central Information Commission also recommended central and state government to set aside a certain percentage of departmental budgets for the implementation.

According to the annual report issued by Central Information Commission<sup>15</sup>, the

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<sup>11</sup><http://www.humanrightsinitiative.org/programs/ai/rti/india/legislation.htm>

<sup>12</sup><http://www.humanrightsinitiative.org/content/national-level-rti>

<sup>13</sup><https://rti.gov.in/rti-act.pdf>

<sup>14</sup>[http://siteresources.worldbank.org/PUBLICSECTORANDGOVERNANCE/Resources/285741-1343934891414/8787489-1344020463266/8788935-1399321576201/RTI\\_Case\\_Studies\\_Implementation-\\_WEBfinal.pdf](http://siteresources.worldbank.org/PUBLICSECTORANDGOVERNANCE/Resources/285741-1343934891414/8787489-1344020463266/8788935-1399321576201/RTI_Case_Studies_Implementation-_WEBfinal.pdf)

<sup>15</sup><https://cic.gov.in/reports/37>

percentage of rejection of RTI application for all-India was 6.7% during 2016 and 2017 which is quite similar to the figure (6.62%) during 2015 to 2016. The government company under Companies Act (18.5%), subordinate office(11.48%) and attached office(9.17%) were the top three public authorities which have the highest percentage of requests rejected. When it comes to the ministries and departments, Ministry of Finance (18.41%), Ministry of Home Affairs (16.08%), Ministry of Labour & Employment (14.37%) had the highest rejected requests. It is interesting to note that RTI application received dropped 6.1% in 2016-17 when comparing to the figure in the previous year. By 2017, UP (83,054) led the list of appeals and complaints followed by the CIC (47,756) and Karnataka (32,403). Mizoram (21) and Meghalaya (63) had the lowest figures<sup>16</sup>.

The first step towards providing the right to information is to enact and make it a legal right. India has a federal system and hence state as well as the union have the ability to pass laws. RTI started getting legislated in states since year 1997 with Tamil Nadu and the parliament enacted it in 2005. The state-level annual data is collected for this study from Commonwealth Human Rights Initiative released in 2003. Considering the availability of the reliable data, 27 states are selected for the period 28 years from the year of 1990 to 2017.

RTI was legislated in states since year 1997 with Tamil Nadu and the parliament enacted it in 2005. Figure 3.2 shows that out of 27 states considered in the sample, how the number of states with RTI increased over the years. It starts with 2 in 1997 and reaches to 8 by 2004. As parliament passed the RTI bill in 2005, all 27 states have RTI 2005 onward. Over the period from 1990 to 2005, starting in 1997, out of 27 states considered, eight states passed the law before it was passed by the parliament making it applicable for all the states. Over the window period, with 27 states for 28 years, there are 756 observations. For RTI variable as an independent variable, both binary value and the time period value since it is enacted in the state are taken. The binary variable RTI takes value 0 and 1, depending on whether the

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<sup>16</sup><https://timesofindia.indiatimes.com/india/up-tops-in-receiving-disposing-appeals-through-state-information-commission/articleshow/63244066.cms>

state has RTI already applicable in it and not yet respectively. This binary variable is used in the analysis over the period from 1994 to 2004 due to the availability of control variables. The other RTI variable is a continuous variable to capture the effects of RTI when taking into account that it will take some time to show the effect. Longer the period since RTI legislation, greater might be the effect. Over this period, as Table 3.1 reports, RTI period variables over the period of 2004 to 2011 has mean 4.07 and standard deviation 5.13. In other words, an average state had RTI enacted for four years in the study period.

### 3.4.2 Household Electrification

Electricity consumption is used as a measure of provision of public goods. The World Development Indicators (2007) show that low income countries have the lowest access to electricity. There is a vast body of literature discussing the relationship between electrification and economic growth. Ozturk (2010) summarizes four types of relationship between electrification and economic growth and concludes that the evidence on the causality between these two variables is mixed with different study periods or different methodologies, even for the same country (Masih and Masih, 1996; Paul and Bhattacharya, 2004; Lee and Chang, 2007). However, the positive welfare impacts of rural electrification in developing countries are widely documented in the literature. The benefits include increase in labour supply, increase in school enrolment, increase in household income and expenditure and reduction of poverty (Filmer and Pritchett, 1998; Dinkelman, 2011; Khandker et al. 2012; Khandker et al. 2013)

In 2000, India accounted for 35% of the world's total population without access to electricity (1.6 billion)<sup>17</sup>. By 2015, the population without electricity access reduced from 585 million in 2000 to 276 million (25% of total world's population lack of access to electricity)<sup>18</sup>. The national electrification rate in India in 2016 is

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<sup>17</sup><http://www.undp.org/content/dam/aplaws/publication/en/publications/environment-energy/www-ee-library/sustainable-energy/world-energy-assessment-energy-and-the-challenge-of-sustainability/World%20Energy%20Assessment-2000.pdf>

<sup>18</sup><https://www.iea.org/access2017/>

82%. The rural electrification rate is 74% whereas the urban electrification rate is 97%<sup>19</sup>. This is due to the focus of government on improving electricity supply in India, especially in rural areas, over the period. For example, the launch of "Deendayal Upadhyaya Gram Jyoti Yojana" scheme in 2015, costing Rs. 756 billion, to provide electrification to 39.7 million rural households through 921 projects<sup>20</sup>. Electricity is listed as one out of 47 items in the concurrent list which both the Union and state governments have powers to legislate<sup>21</sup>. Therefore, by using household electrification, both the state and aggregated level can be examined for the impact of the Right to Information Act.

The National Sample Survey Organisation (NSSO) under Ministry of Statistics and Programme Implementation conducted an all-India survey of households periodically to examine different data ranging from households to governments. Also Census, 2001 and 2011 provides information of energy use as supplementary data. In terms of electricity, the survey captures per 1000 distributions for rural and urban households by primary source of energy used for lighting for 29 states. There are 27 states in the sample and the window period starts at 1994. There are in total 14 years in the dataset with years 1994, 95, 99, 2001, 2003 to 2012. The missing years are due to either NSSO not conducting the surveys in those years or conducting surveys with a focus on a particular item and hence this variable not collected.

Figure 3.3 shows all states average household electrification per year in rural as well as urban areas. Rural household electrification is lower than the urban throughout. Over the years, both rural and urban household electrification have increased following a similar pattern. The growth rate of household electrification in the rural area seems to be higher than that of the urban area. This is because the marginal efforts and monetary cost of providing electrification to the additional percent of households might be higher. This could be because the households left out so far may represent the households which are poorer and not connected with state

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<sup>19</sup><https://www.iea.org/energyaccess/database/>

<sup>20</sup><https://www.recindia.nic.in/ddugjy>

<sup>21</sup><https://www.mea.gov.in/Images/pdf1/S7.pdf>

machinery in general. It might have legal issues such as absence or irregularities in documents related to property rights, or technical difficulties such as distances in the rural areas whereas crowded constructions in the urban areas. Households may have electricity illegally obtained. The data used here will still capture that household as having electricity. Figure 3.7 and 3.8 present the household electrification for four groups of states based on the average electrification from 1992 to 1996. There is an upward trend for all the four state groups. The trend is steeper for states with lower electrification. Although the trend lines of groups do not intersect, they seem to converge at the end of the sampling period.

### 3.4.3 Infant Mortality Rate

Infant mortality rate (IMR) is considered as one of the key measures of overall health condition of a country. It is the number of deaths of infants under one-year old per 1,000 live births. In 1990s, India topped the list of the countries with high infant mortality rate (88.3 per 1,000 live births in 1990)<sup>22</sup>. By 2018, there are three national health policies released targeted at reducing the rate. For example, in 2002, the Ministry of Health and Family Welfare in India set a target infant mortality rate of 30 per 1,000 live births by 2010. But the target was missed with an actual rate of 47<sup>23</sup>. The Ministry revisited the plan and set the target of 28 by 2019<sup>24</sup> when the rate for male was 39 and for female was 40 in 2017. Preston (1975) established the relationship between mortality and economic development. Furthermore, infant mortality rate shows positive impact on investments in education (Ram and Schultz, 1979; Preston, 1980; Meltzer 1992; Kalemli-Ozcan et al., 2000).

The state-level annual Infant Mortality Rates (IMR) data is collected from the Handbook of Statistics on Indian States <sup>25</sup>for the period from 1990 to 2016 for 27 states. Figure 3.4 shows all states average infant mortality rates per year in rural, urban areas and overall. IMR is higher in rural areas than in urban areas throughout

<sup>22</sup><https://www.centreforpublicimpact.org/case-study/reducing-child-mortality-india/>

<sup>23</sup><https://www.hindustantimes.com/india-news/targets-fixed-15-years-ago-fact-check-on-repackaging-of-national-health-policy-2017/story-1FbjE6PnKSMed1C6mp56II.html>

<sup>24</sup><http://cdsco.nic.in/writereaddata/National-Health-Policy.pdf>

<sup>25</sup><https://rbi.org.in/Scripts/PublicationsView.aspx?id=17633>



the window period. It has steadily reduced every year over the period considered.

Figure 3.9 reports IMR for 27 states divided into four groups according to the average IMR over the period of 1992 to 1996. All four groups show similar downward trend. Higher the IMR of the group, steeper is the trend. Although the trends of four groups tend to converge, the order between the groups does not change. Similar pattern is observed from rural and urban IMR in Figure 3.10 and 3.11

Table 3.1 reports the summary statistics of all three IMR variables - IMR overall, rural and urban. There are in total 658 observations across 27 states for infant mortality rates ranging from minimum 3.37 per 1000 live births in a year in a state to as high as 124 as a maximum with mean 46.5 and standard deviation 23.25. Odisha and Madhya Pradesh, the states known for their poverty, over the period of 1990 to 1995 have IMR more than 100. It is shown that observe rural and urban divide as rural mean 48.89 is higher than urban by 13.32 but both have lower standard deviations as 21.93 & 20.32 respectively than the overall IMR standard deviation. The gap of the average IMR between the rural and urban areas is because the poor in the urban areas have greater access to the healthcare infrastructure than their rural counterpart. Also, the overall average IMR is close to the rural average IMR as these states are not very urbanized.

#### **3.4.4 Descriptive Statistics**

All the regressands considered here are highly dependent on the state and the year. As seen above, there is a steady pattern of improvement over the period but there can be stark differences within states. But there is a need to control for other factors that may affect the regressands. Table 3.1 summarizes the descriptive statistics of these variables.

GDP per capita, a measure of how affluent the society is, may affect household electrification. More affluent the society is, more household electrification is expected. This factor is also closely related to infant mortality. Wealthier people tend to have better health condition including the lower infant mortality rate (Preston,

1975 and Pritchett and Summers, 1996). Hence, GDP per capita for a state is important to account for in the analysis. The Per Capita Net State Domestic Product at Factor Cost, adjusting at 2004-05 Constant Prices in thousand rupees averages at 33.25. The highest figure of 162.77 is Goa in 2015 whereas the lowest figure of 5.62 is Bihar in 1995. This matches with the average per capita income for the states over the period, i.e. Bihar is the poorest state and Goa is the richest state.

The variable Industry measures the number of factories documented by the Handbook of Statistics on Indian States, it shows how industrialized a state is. More industrialized a state is, greater population would demand household electricity. Also, household electricity will be demanded with a greater intensity. The average number of factories over the period is 6,363. Tamil Nadu had the largest number of factories (37,878) in 2014 whereas Nagaland was the least industrialized state with 50 factories in 1990 since Nagaland is a topographically known not to be suitable for industrial production.

When it comes to the proportion of irrigated land in a state, the higher the proportion, more electrical distribution lines are more likely to reach out to the irrigated land. So the water pumps can run more effectively, especially for the cash crops. Since the lines have already reached, the marginal cost of achieving household electrification in the area would be lower. Hence the proportion of irrigated land in the total area of a state is collected. The average of this figure is 2%. Punjab, known for its green revolution, has the highest proportion of irrigated land (8%) in 2013. Mizoran, a hilly state, has the lowest irrigated land in 1994.

With respect to the public debt a state runs, the lower it does, better might be the governance. The average public debt proportion to GDP is 35% for all states over the period. The state with the highest public debt proportion (132%) is Arunachal Pradesh in 2009 but its average over the period is 50% which makes it the third state having the high level public debt proportion. Mizoran's average debt level over the period tops the list of 27 states with more than 100% public debt proportion to GDP. The state with the lowest public debt proportion is Delhi (21%) in 1994 and

it remains at the bottom of the list throughout the period.

Also, denser the road network in a state, better connected the population is to the outside world. It can link markets as well as provision of public services. The length of roads in a state can be considered as a measure of the level of infrastructure developed in the state. The road data is available from 2003 onward. The average length of roads is 131,739 kilometers. Maharashtra in 2014 has the longest road length (608,690km) whereas Chandigarh in 2003 has the shortest road length (1,637km). These two states remain the top and the bottom on the list in terms of road length by 2017.

The infrastructure to supply the electricity can be captured by installed capacity. This is a supply side variable. A very limited electricity supply can lead to lower intensity demand for household electrification. The availability of the installed capacity starts from 2004 onward. The installed capacity has a mean of 6584MW. Maharashtra has the largest installed capacity of 40,376MW in 2015 whereas Chandigarh has the lowest installed capacity of 79MW in 2004. Similar as road length, these two states are the states with the largest and lowest installed capacity by 2017. Maharashtra and Tamil Nadu are more developed in industry and infrastructure. This has its roots in the colonial encounter where these states were the first ones to develop a modern state system under the British raj. Nagaland and Meghalaya are topographically difficult to develop infrastructure as they are in the foothills of Himalaya with rocky terrain.

Education in a state can be considered as a measure of development as well as the quality of governance in the state. This is particularly important also because the effect of RTI can be dependent on the level of education in a state. Mass education is one of the pioneering policies by the modern states which may affect the entire population. Education and good governance are interdependent. Good governance will ensure that the last child goes to school and receives a quality education. Conversely, mass education helps better monitoring of government action and deepens democracy in a state by increasing participation of its citizens. There is a good

amount of studies examining the impact of maternal education on infant mortality (Caldwell, 1979). Education is captured by the number of students enrolled in class ninth to twelfth in millions. The average number of students in all the states over the period is 2.25 million. The state of Uttar Pradesh has the highest enrolment of 50 million in 2007 whereas Mizoram has the lowest enrolment of 17,000 in 1991. Greater urbanization might mean greater network of healthcare infrastructure. It might also affect the employment and life style of the population from the urban as well as the rural areas. Even for the rural population, urbanization would mean shorter distance to urban locations. Urbanization is measured by urban population divided by total population. The average of this figure is 35%. Chandigarh has the highest urbanization with a ratio of 98.8% in 2017 whereas Himachal Pradesh has the lowest urbanization with a ratio of 8.7% in 1991 and remains as the bottom of the state list.

### 3.5 Methodology

A difference in difference method is applied to test the effects of RTI. The econometric analysis is based on panel data regression. The equation below is the general form for the regressions based on two types of RTI variables.

$$y_{st} = \delta_0 + \alpha_s + \rho_t + \beta(RTI)_{st} + \delta X_{st} + \epsilon_{st} \quad (3.1)$$

where  $y_{st}$  is the dependent variable, household electrification or infant mortality rate in state  $s$  in year  $t$ .  $\alpha_s$  is the state fixed effects and  $\rho_t$  is the year fixed effects. The state fixed effects allow us to control for unobserved state-specific time-invariant factors such as culture and geography. The year effect is expected to capture the macroeconomic shocks common across states.  $(RTI)_{st}$  will be a binary variable or a continuous variable. The binary variable takes value equal to one if RTI is legislated in the state by year  $t$  and zero otherwise. This binary variable intends to measure

the policy impact irrespective of the number of years since the law was enacted in the state. On the other hand, the continuous RTI variable is measured as the number of years since RTI was legislated in the state  $s$  by year  $t$ .  $X_{st}$  are other control variables selected according to the dependent variables in the regression.

## 3.6 Results

### 3.6.1 Household electrification

The effect of having RTI legislated in the state on household electrification as proposed in equation 3.1 is examined. To see the effect when plotting average household electrification on year by RTI legislated states, it is shown in Figures 3.5 & 3.6. For example, by year 1997, two states have already passed RTI Act. Hence, for that year, the average rural household electrification for states with enacted RTI Act will consider the average for those two states only. As time passes, there will be more and more states getting added to the data when more states passed the Act. From 2005 onward, all 27 states passed the Act and the base for average HH electrification for states with enacted RTI Act and all states will be on 27 states. Therefore, the lines of average rural household electrification for states with enacted RTI Act and all states finally will become the overall trend line while the line for states without RTI Act will disappear. Same rule applies to urban household electrification.

Table 3.2 shows the results of regressions of Equation 3.1 for rural household electrification over the period from 1994 to 2004. Column (1) has the regression only on RTI binary along with state & year fixed effects. This doesn't have any control variables. Column (6) shows the regression along with all the control variables. This is the most preferred specification. The states are grouped according to the average  $y$  i.e., rural household electrification here, for the period from 1992 to 1996. Each group consists of a quantile of states from the states which passed the law prior to the union passing the law in 2004. The group also has the corresponding quantile from the states which did not pass the law. There was not enough data

available for six states and hence for household electrification 3 groups are formed. Column (2) shows the results of regression on the sample which consists of states from the highest tertile. Column (3) and (4) represent the results of regression on the samples with the middle and lower tertiles respectively. Column (5) has all the controls in column (6) and has two interaction variables added. The effect of RTI is checked along with its simultaneous influence with Education and with per capita GDP. Most results in this table are insignificant due to shortage of data as the data window period ends in 2004 as RTI got applicable to all states then onward.

Table 3.3 is quite similar to Table 3.2 except the policy variable is RTI period and additional control variables. This uses data all the way from 2004 up to year 2011 and also considers the effects of the number of years since RTI was enacted. The results show a significant effect of having RTI legislated in the state across all the specifications presented in the table. The basic results show that an additional year of RTI legislated leads to a greater provision of household electrification in the rural area. As mentioned above, again column (6) is the preferred specification. It shows that legislating RTI in a state a year earlier leads to 4.11 percentage points higher rural household electrification in a state at 1% significance level.

Column (5) also considers a joint influence of RTI with education and with per capita GDP as compared to column (6). Even here, the effect of RTI remains positive and significant with the magnitude not changing much. For the groups of states within the tertile ranges, the states with the least proportion of households with electrification in the rural area also have a very significant positive impact of RTI legislating earlier. For the groups with medium and higher rural HH electrification before RTI legislation started in India, the effect is significant only at 10% with positive and negative sign respectively. This means that the majority of the effect of RTI on the left side variable is coming from the states which had lower proportion of household electrification at the start of the window period.

Comparing results between Table 3.2 and Table 3.3, it is shown that RTI's effects get highlighted more prominently in the later. It is quite expected as the later

considers the data with longer duration and hence a greater number of observations. It is also reasonable to say that RTI period, a discrete variable rather than a binary, to capture the effect of RTI is more appropriate as it may take time for effect of RTI to take place. The legislation is expected to lead to greater use of the right to information probably leading further to a greater transparency and finally to more efficient provision of public good. Hence, longer the period from enactment of the transparency law, greater the effect expected.

Table 3.4 and Table 3.5 have the specifications identical to Table 3.2 and Table 3.3 respectively except the left hand side variable now is Urban HH electrification instead of the Rural. With RTI binary as a policy variable again in Table 3.4 the effects of RTI are insignificant. As moving to Table 3.5 with RTI period as a policy variable, a clear effect of the policy is observed. Column (6) presents the regression with all the data and with the control variables. Having RTI registered a year earlier in the state leads to 1.25 percentage points greater household electrification in the urban area of the state. This result is significant at 1% significance level. Column (5) shows the regression with interactions of RTI period with education and with GDP. Here again the effect of RTI is positive and highly significant. For urban HH electrification, the groups of states which were better off to start with, seem to have been able to utilise the transparency law more to push electrification faster in their urban areas. Hence, the effect of RTI over the years on achieving higher household electrification in urban areas have probably come from the states which were already better off in this aspect.

Household electrification in the state gets a boost both in rural and urban areas by enacting RTI. But, this boost is prominent in rural areas in the states which are not very advanced in this aspect whereas in the urban areas it helps the states which are doing better than others. RTI is claimed to be a monitoring tool in the hands of the citizens. The efficacy of this tool to improve the provision of public goods probably comes from the citizens' political might before this tool. This tool might be beneficial only in the hands of the section of society which is politically

less powerful as compared to the usual attributes of political power.

Section of society which is politically worse off but not necessarily equally worse off in other characteristics such as income, education, status of own caste in caste hierarchy, urbanisation etc. might be in a position to gain more with RTI. The urban households from the states where HH electrification in the urban areas has already been high, might have fallen behind due to lack of their connections to political power centers. Ethnic identities play crucial role in Indian politics and numbers of the ethnic group are vital in power share. It is often found that groups with bigger number tend to enjoy greater political representation compared to their proportion in the population. Hence, an ethnic minority might be better off with a monitoring tool more than a majority. Hence, the urban households without electrification from the states which have more urban HH electrification might be the ones without a proportional political connections. With RTI they might be better off. Political under representation may not be the reason behind the non-electrification of the households in the states which haven't been able to achieve much HH electrification in the urban areas. Technical difficulties, lack of resources etc. might be the reasons. Hence, a political tool to monitor the government may not be much helpful. On the other hand, in case of electrification, the rural households rank after the urban households and hence, the rural households without electrification from the states which have fallen behind in rural household electrification, might be able to utilise RTI to improve the efficiency of their government in serving them.

### **3.6.2 Infant mortality rate**

Table 3.6 shows the results of regression where the dependent variable is Infant mortality rate (overall, i.e, rural as well as urban), i.e., the number of deaths per 1,000 live births of children under one year of age over the period from 1991 to 2011. IMR tables are also arranged in the similar manner to household electrification tables above. Column (1) regresses IMR on RTI period and gives state fixed effects and year fixed effects. This doesn't show any significant effect of having RTI enacted



earlier on IMR. Columns (2) to (8) give regressions with various controls added. Column (2) to (5) give regressions on state groups. In Column (2) only those states which had infant mortality higher than the third quartile, both from the groups of states which enacted RTI before the national act and those which did not. Column (3) to (5) runs regression on the states which are part of the lower quartiles in the order. Column (6) runs regression on all states but also controls for a combined influence of RTI period with per capita income and with education. Column (7) is the most preferred specification which uses all the states and controls for all the necessary factors. Column (7) results show that having enacted the RTI earlier leads to lower Infant mortality in the state. The act legislated by a year in advance decreases IMR by 0.57 and it is significant at 10%. This regression also shows that education also plays a significant role in reducing IMR. When looking at column (6) results, it is shown that the combined effect of enacting RTI early and education also happens to be significant. The effects of RTI depends on the citizen's ability to utilise the monitoring tool available. Education enables the members of the society to use this tool. The regressions results presented in columns (2) to (5) show that the positive effects of RTI on IMR can be observed only in the states where IMR was neither too high nor too low at the beginning of the period. Similar to the argument presented above in discussing HH Electrification, here again the effects of RTI are observed in the states which are falling behind but not falling behind too much. For the states with very high IMR, reasons need to be found probably beyond monitoring. At the same time, the states which have achieved very low IMR, state is probably already implemented its programs effectively, and hence RTI is not that effective for this indicator. Again, the section of the society which contribute to high IMR is not the one which can avail the RTI tool effectively. Also, certain level of IMR is inevitable as it depends on the nature and the contemporary level of advancements in medical science and technology.

Table 3.7 presents the results for regressions for rural IMR. The specifications are as above in table 3.6. Column (1) represents results of regression only on RTI

period along with state and year fixed effects. It shows that an infant is saved out of every thousand infants every year by legislating RTI in the state. This result is significant at 1% level of significance. As shown in column (7), the results remain consistent even after employing all the relevant controls. The coefficient for RTI period is -0.828 and significant at 5%. Checking for the combined effects of GDP and Education with RTI period, there is no significant result. The coefficient for RTI period also becomes insignificant. This shows that the combined effect of RTI period with education is not very strong in the rural area as it was in the regression for overall IMR presented in table 3.6. The regressions with state grouping based on initial level of rural IMR informs us that the effect of RTI period is stronger and significant in states which suffered more initially. The worst affect quarter of states seems to benefit the most because of legislating RTI by being able to reduce their rural IMR by 2.278 (significant at 5%) a year followed by the second worst quarter of states which reduced it by 1.58 (significant at 1%). It is more challenging to reduce IMR in the rural area and the states which are ahead of the median state in reducing it probably suffer from issues which can't be addressed easily by providing a monitoring tool to its citizens; at least this particular tool.

Table 3.8 presents the results for regressions for urban IMR. The specifications are as above in Table 3.6 and Table 3.7. The results show that the effects of RTI on urban Infant Mortality Rates are not conclusive. The results of the most preferred specification presented in column (7) shows no significant effect of legislating RTI on urban IMR. It is similar to the result found in column (1) where no control variables are employed as well as in column (6) where the interactions are also added. Columns (2) to (5) do not show a consistent pattern as columns (3) and (5) results are negative but not significant whereas column (2) and (4), i.e., the highest IMR initially and the third highest IMR initially respectively, show a positive and significant (at 1% and 5% respectively). Here, the question remains whether this monitoring tool has efficacy to enable certain sections of the society to monitor their representatives better and in fact empowers them more such that the resources are

diverted towards providing the public goods better suited for them and hence might be diverted away from the sections of society which are not in a position to avail this tool.

Comparing the results for IMR presented in Tables 3.6, 3.7 & 3.8, legislating RTI in the state leads to a greater efficiency in the government to achieve lower IMR faster. But, this happens mainly in the rural area.

Ratio of Public debt to GDP and urbanisation seems to be factors leading to higher IMR in rural as well as urban areas in the states. Ratio of Public debt to GDP can be taken as the state government's ability to govern. As expected, IMR is more as this ratio increases. Urbanisation is another variable consistently positively correlated to IMR. It is observed that urban population gets served better and hence has lower IMR than the rural. However, it seems to be leading to greater IMR in the population both rural and urban. It might have reasons in inter-state as well as intra-state migration. The overburden of population on urban health facilities leading to greater IMR in the urban areas. Greater urbanisation may also lead to a lower political power to rural areas as the number reduces and that may lead to slower reduction in IMR.

Comparing the effects of RTI legislation on HH electrification and IMR, the effects are stronger in the rural area than the urban area. Considering the rural area, as seen in Table 3.3 and 3.7 the effects of RTI period are more prominent for the states which were falling behind in achieving their development goals in the first half of the decade of '90s. Both of the development goals considered here are more difficult to achieve in the rural areas and that's where RTI seems to be making greater difference. In case of both development indicators considered here, RTI works more in the states falling behind.

### 3.7 Conclusion

In this paper the effectiveness of transparency is found in good governance. RTI was introduced in India as way of increasing the openness of the way the state functions. Similar laws have been enacted in number of countries, including UK, Vietnam, Kenya and Sri Lanka, which allow citizens to gather information about various aspects of the state and its functionaries. While earlier papers have analysed how transparency increases the effectiveness of state delivery example in Besley and Burgess (2002), this study documents a more competitive press and media resulted in greater extent to which RTI works to increase the delivery of public services by the state. The effect of RTI on the effectiveness of the state is some what muted. The main mechanism through which RTI is supposed to work is with release of information through the RTI. Citizens will able to monitor the public servants better and if needed will vote to change the government during the elections. RTI works in a specific way, the information asked in the RTI depends on who has requested the RTI, what information is requested and is there a mechanism to make the information publicly available. For example, the RTI is used mainly by the educated and urban residents in India. As a result, RTI is expected to positively affect delivery of certain kind of public services used by the urban and educated but will not affect another set of public services. If this were true RTI would be effective in delivery of public services meant for the educated and those living in cities. In addition if there are complementarities in capacity of service provision between cities and villages then positive effects will be found in the latter too. In the analysis, delivery of health and electricity are examined. It is shown that RTI has a positive effect on both electricity and in infant mortality. The effect on rural outcome in both cases is positive, but in case of infant mortality the effect is greater.

The main limitation of this study is the unavailability of certain kinds of data. The data in use is at a highly aggregated level. No data is available regarding various links in a chain through which RTI legislation is expected to lead to better outcomes.

The size of the information sought and the information disclosed by the governments are expected to determine the effects on the outcome. However, defining the volume of the data provided, the quality of the data, the ease of accessibility of the data may not be observable and measurable. An index of the quantity and the quality of the data is not available at this stage. Beyond this, to understand the efficacy of this tool it would have been more useful to have a greater insight into those who have been opting to seek information. For instance, demographic characteristics of the citizens who have exercised this right, the frequency and type of information sought by them etc. It would have also been useful to have more information regarding the last link in term of the information sought and disclosed about the outcomes studied. E.g. the number and types of questions sent through RTI regarding the two outcomes examined here. This data has not been collected as it is not easily available. Considering the difficulties in collecting this data, the time required is beyond the scope of this thesis.

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## 3.8 Appendix

### 3.8.1 Tables

variables	count	mean	sd	min	max
IMR	658	46.49	23.24	3.37	124
RTI	756	0.51	0.5	0	1
Electrification Urban	272	91.72	8.22	56.7	100
Electrification Rural	268	65.54	28.03	4	100
GDP	638	33.25	23.12	5.62	162.77
Industry	579	6363.04	6987.07	50	37878
Road	338	131738.5	119662.6	1637	608690
Installed capacity	314	6583.86	7081.21	79.12	40376.21
Education	470	2.25	4.57	0.01	50.24
IMR Rural	658	48.88	21.93	0	125
IMR Urban	669	35.57	20.32	0	129
RTI period	756	4.07	5.13	0	21
Irrigation proportion	570	0.02	0.02	0	0.08
Public debt proportion	543	0.35	0.21	0	1.32
Urbanisation	702	0.35	0.21	0.08	0.98
RTI treated	756	0.29	0.45	0	1
Observations	756				

Table 3.1: Summary statistics of all variables

Variables	(1)	(2)	(3)	(4)	(5)	(6)
RTI	1.884 (2.070)	-1.029 (4.776)	3.049 (4.506)	-7.984* (3.490)	-3.673 (7.707)	0.745 (2.168)
Industry (in Thou- sand units)		-0.384 (1.801)	-0.853 (1.297)	3.346 (2.145)	-0.131 (0.851)	0.031 (0.820)
GDP PC in '000		-0.921 (1.131)	2.402* (0.998)	0.108 (1.516)	0.359 (0.488)	0.409 (0.451)
Irrigation Proportion		-2002.385 (1024.425)	419.092 (602.486)	575.553 (659.650)	263.229 (290.681)	242.362 (285.903)
Public Debt Pro- portion		-119.589* (54.270)	-19.337 (41.130)	-45.787 (40.774)	-46.215* (20.220)	-46.960* (19.993)
Students enrolled in Class 9th to 12th (in Millions)		-3.070 (3.906)	-3.815 (2.260)	7.817 (11.728)	0.057 (1.490)	0.095 (1.402)
Education × RTI					-2.810 (3.272)	
GDP × RTI					0.474 (0.564)	
State fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
constant	58.992*** (2.374)	137.986** (44.158)	27.286 (26.728)	9.443 (17.808)	54.850*** (13.629)	51.753*** (12.835)
Observations	99	36	32	27	98	98

Standard errors in parentheses  
\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table 3.2: Rural Household Electrification on RTI binary

Variables	(1)	(2)	(3)	(4)	(5)	(6)
RTI Period	0.946* (0.460)	-2.477* (1.169)	2.881* (1.074)	3.845*** (0.847)	4.606*** (0.431)	4.110*** (0.386)
Industry (in Thousand units)		1.026 (0.559)	-0.787 (0.686)	-5.802 (2.931)	-0.081 (0.347)	-0.370 (0.309)
GDP PC in '000		0.871* (0.341)	0.076 (0.555)	1.682 (0.848)	0.412 (0.497)	-0.556** (0.200)
Irrigation Proportion		732.373 (497.762)	-862.419 (621.126)	143.870 (562.662)	-761.863* (334.132)	-646.443 (337.409)
Public Debt Proportion		112.557** (34.374)	-66.893 (45.633)	29.193 (17.825)	-11.350 (16.188)	-24.558 (15.298)
Road length (in Thousand kms)		0.026 (0.014)	0.017 (0.025)	-0.014 (0.035)	0.020 (0.014)	0.014 (0.014)
Installed Capacity (in Thousand Mega Watts)		-0.529 (0.409)	2.298 (1.595)	0.620 (1.092)	0.274 (0.403)	0.374 (0.405)
Students enrolled in Class 9th to 12th (in Millions)		-0.301 (0.167)	0.010 (0.135)	-0.178 (0.297)	0.048 (0.120)	-0.085 (0.094)
Education × RTI period					-0.040 (0.025)	
GDP × RTI period					-0.059* (0.028)	
State fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
constant	62.718*** (2.443)	-17.507 (25.780)	95.979*** (22.835)	-10.055 (11.793)	76.582*** (18.362)	110.613*** (8.602)
Observations	268	42	44	35	130	130

Standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table 3.3: Rural Household Electrification on RTI period

Variables	(1)	(2)	(3)	(4)	(5)	(6)
RTI	0.424 (1.880)	0.288 (1.235)	-6.832 (4.968)	3.683 (6.199)	2.993 (6.953)	0.572 (2.071)
Industry (in Thou- sand units)		-0.583 (0.367)	7.231* (2.680)	3.156 (3.327)	-0.049 (0.787)	0.052 (0.772)
GDP PC in '000		0.044 (0.626)	-0.940 (1.124)	0.136 (2.590)	-0.082 (0.471)	-0.174 (0.414)
Irrigation Proportion		-933.999* (353.981)	987.150 (491.007)	359.432 (968.430)	492.821 (280.609)	497.760 (270.837)
Public Debt Pro- portion		-37.352 (31.687)	-20.571 (49.802)	46.282 (56.275)	-9.469 (20.426)	-10.509 (20.145)
Students enrolled in Class 9th to 12th (in Millions)		0.216 (1.304)	-2.295 (1.876)	-10.245 (11.514)	-1.221 (1.415)	-1.588 (1.334)
Education × RTI					-1.706 (2.767)	
GDP × RTI					0.067 (0.473)	
State fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
constant	84.170*** (2.156)	109.731*** (14.677)	65.419*** (11.819)	68.641 (33.706)	82.399*** (12.851)	83.050*** (12.241)
Observations	100	36	32	27	99	99

Standard errors in parentheses  
\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table 3.4: Urban Household Electrification on RTI binary

Variables	(1)	(2)	(3)	(4)	(5)	(6)
RTI Period	-0.219 (0.251)	1.102* (0.491)	1.747** (0.575)	2.231 (1.454)	1.402*** (0.224)	1.250*** (0.201)
Industry (in Thousand units)		0.048 (0.209)	0.070 (0.296)	-6.365 (5.614)	0.195 (0.182)	0.029 (0.165)
GDP PC in '000		-0.246 (0.185)	-0.341 (0.209)	-0.585 (1.178)	0.317 (0.257)	-0.159* (0.078)
Irrigation Proportion		-81.749 (275.146)	-805.466 (430.447)	-1048.957* (467.632)	-683.500*** (179.586)	-638.560*** (179.848)
Public Debt Proportion		-8.446 (19.626)	8.524 (20.382)	1.179 (18.709)	-1.079 (8.782)	-6.945 (8.325)
Road length (in Thousand kms)		0.011 (0.006)	-0.020 (0.026)	0.011 (0.034)	0.009 (0.008)	0.006 (0.007)
Installed Capacity (in Thousand Mega Watts)		-0.219 (0.256)	0.061 (0.732)	0.989 (1.452)	-0.351 (0.216)	-0.266 (0.214)
Students enrolled in Class 9th to 12th (in Millions)		0.093 (0.096)	-0.128 (0.067)	-0.093 (0.243)	-0.103 (0.065)	-0.096 (0.051)
Education × RTI period					0.004 (0.014)	
GDP × RTI period					-0.028 (0.014)	
State fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
constant	84.583*** (1.345)	103.491*** (9.696)	100.205*** (5.045)	102.130*** (19.803)	95.762*** (9.637)	112.298*** (4.662)
Observations	272	42	44	35	131	131

Standard errors in parentheses  
\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table 3.5: Urban Household Electrification on RTI period

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
RTI Period	-0.365 (0.283)	0.807 (0.606)	-0.695* (0.287)	-1.505*** (0.410)	0.605 (0.716)	-0.263 (0.449)	-0.570* (0.285)
GDP PC in '000		1.013** (0.312)	-0.199 (0.178)	0.016 (0.168)	-0.355* (0.164)	0.197 (0.117)	0.203** (0.075)
Students enrolled in Class 9th to 12th (in Millions)		0.096 (0.096)	0.012 (0.164)	-0.243 (0.159)	-0.050 (0.965)	-0.007 (0.145)	-0.229* (0.095)
Public Debt Proportion		42.051*** (12.088)	11.443 (8.147)	-0.282 (10.396)	0.020 (7.537)	25.597*** (4.415)	26.366*** (4.348)
Urbanisation		-250.945 (238.028)	8.819 (62.248)	129.317** (47.150)	-66.641* (29.209)	104.740*** (19.504)	108.143*** (19.442)
GDP × RTI period						-0.001 (0.006)	
Education × RTI period						-0.062* (0.031)	
State fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
constant	71.409*** (2.168)	134.916** (43.084)	71.718*** (13.766)	26.726 (18.229)	38.637*** (6.542)	42.185*** (5.260)	41.454*** (4.960)
Observations	504	92	100	107	95	394	394

Standard errors in parentheses  
\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table 3.6: Infant Mortality

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
RTI Period	-0.873** (0.299)	-2.278** (0.789)	-1.580*** (0.317)	-1.036 (0.626)	0.987 (0.917)	-0.881 (0.492)	-0.828** (0.313)
GDP PC in '000		1.560** (0.490)	-0.440* (0.170)	-0.077 (0.251)	-0.538* (0.216)	0.076 (0.128)	0.199* (0.082)
Students enrolled in Class 9th to 12th (in Millions)		0.294 (0.288)	-0.045 (0.063)	-0.256 (0.191)	0.767 (1.204)	0.060 (0.159)	-0.169 (0.104)
Public Debt Proportion		39.712* (16.693)	-26.243** (7.767)	15.672* (5.997)	13.347 (14.328)	18.645*** (4.833)	20.497*** (4.772)
Urbanisation		-577.299** (168.106)	132.982 (77.409)	97.905 (50.641)	-113.095** (35.640)	72.425*** (21.352)	78.175*** (21.339)
GDP × RTI period						0.008 (0.007)	
Education × RTI period						-0.065 (0.034)	
State fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
constant	78.364*** (2.284)	207.777*** (38.248)	79.867*** (6.770)	41.727*** (10.678)	164.288*** (34.161)	59.118*** (5.758)	56.017*** (5.444)
Observations	503	92	118	107	77	394	394

Standard errors in parentheses  
\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table 3.7: Rural Infant Mortality

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
RTI Period	0.462 (0.321)	5.288*** (1.005)	-0.587 (0.598)	1.694** (0.561)	-0.198 (0.937)	-0.279 (0.509)	0.055 (0.322)
GDP PC in '000		-0.153 (0.336)	0.138 (0.222)	-0.007 (0.119)	-0.139 (0.252)	0.000 (0.132)	0.123 (0.084)
Students enrolled in Class 9th to 12th (in Millions)		0.163 (0.117)	-0.167 (0.292)	-0.296 (0.285)	-0.504 (0.333)	-0.121 (0.165)	-0.158 (0.108)
Public Debt Proportion		17.807 (14.816)	-18.101 (11.833)	13.283 (16.642)	-0.048 (9.424)	11.214* (5.030)	12.440* (4.935)
Urbanisation		410.603** (150.839)	-20.334 (73.436)	87.977 (91.348)	-13.658 (38.229)	81.871*** (21.678)	84.833*** (21.514)
GDP × RTI period						0.008 (0.007)	
Education × RTI period						-0.010 (0.035)	
State fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
constant	47.087*** (2.463)	41.301** (13.876)	56.846*** (9.145)	29.307 (24.250)	20.434** (7.654)	26.284*** (5.904)	23.718*** (5.537)
Observations	514	110	82	105	106	403	403

Standard errors in parentheses  
\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table 3.8: Urban Infant Mortality



### 3.8.2 Figures

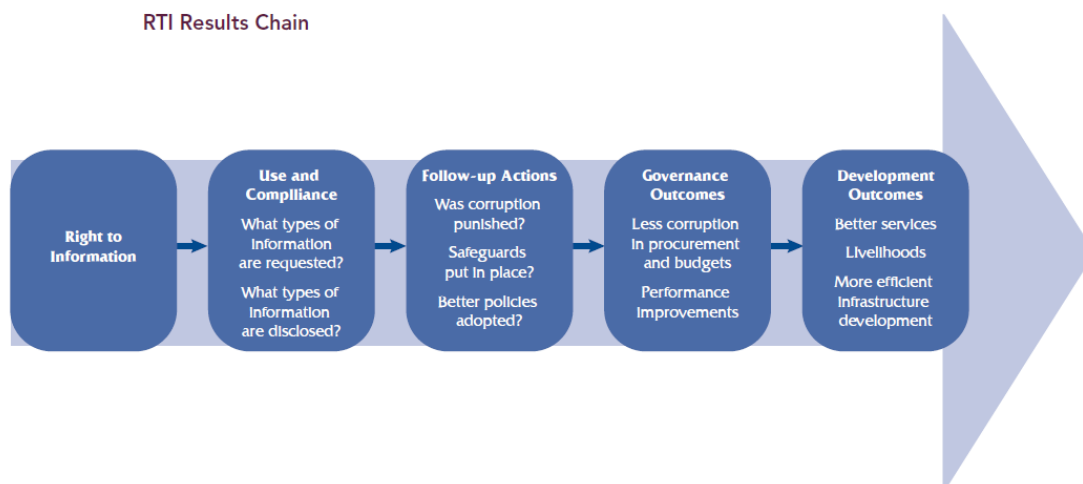


Figure 3.1: RTI Results Chain (Source: Anupama Dokeniya, Implementing Right to Information: Lessons from Experience, IBRD, The World Bank Group)

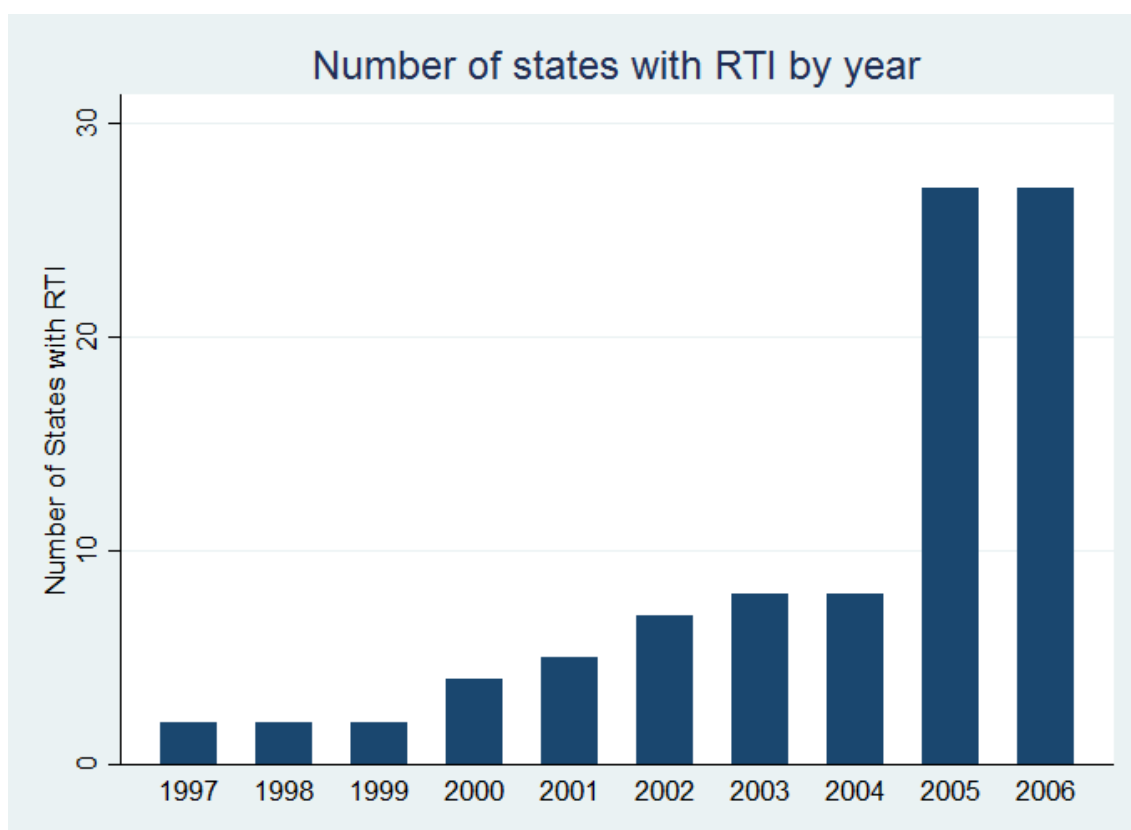


Figure 3.2: Number of states with RTI by years

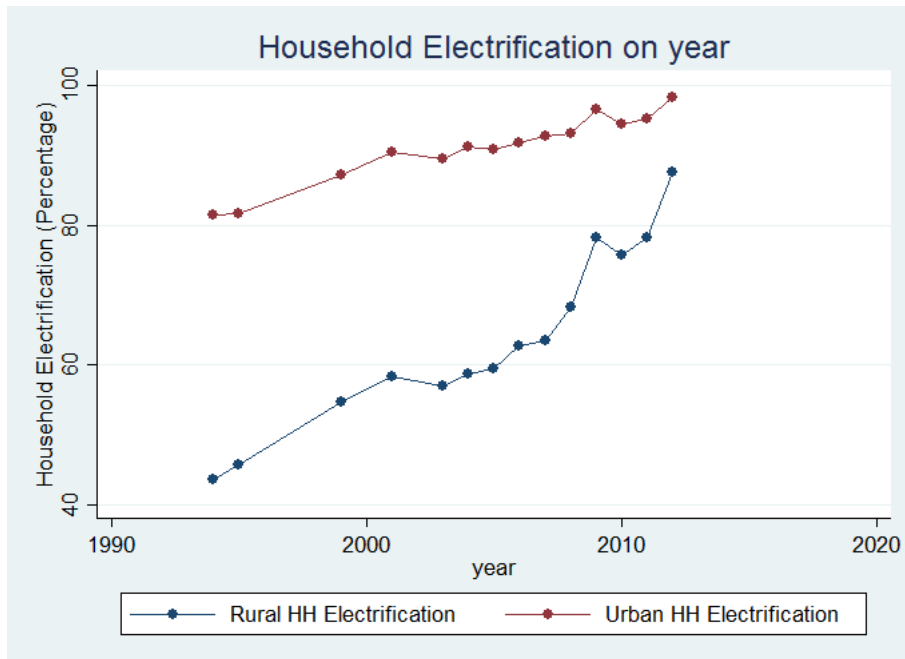


Figure 3.3: Average Household Electrification on year

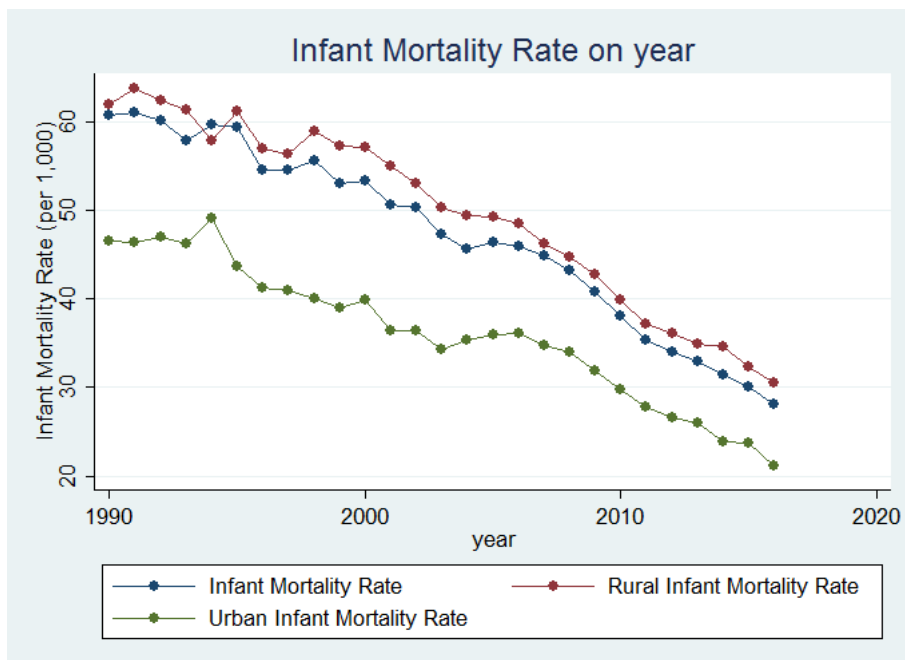


Figure 3.4: Average Infant Mortality Rate on year

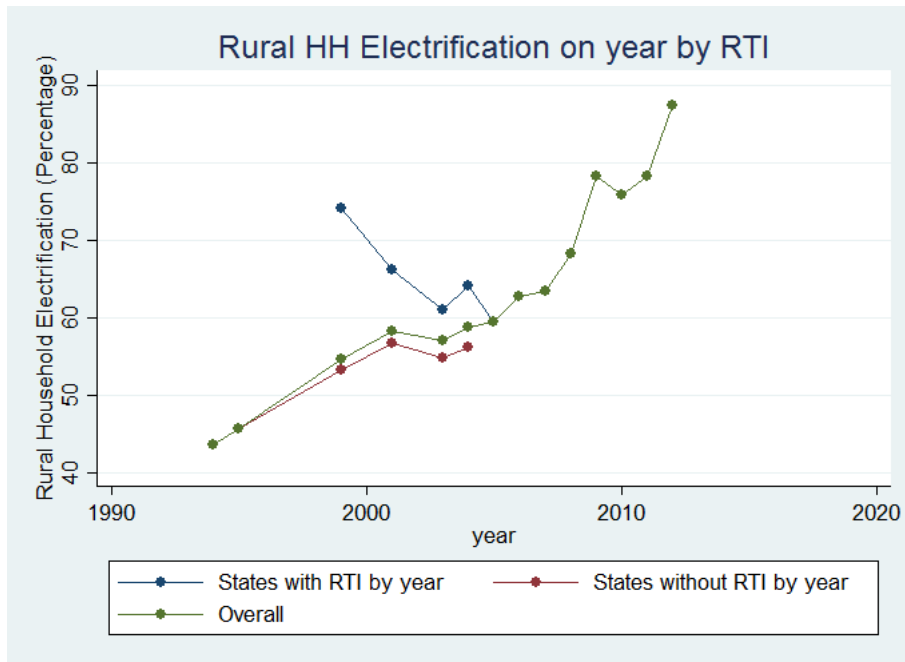


Figure 3.5: Average Rural HH Electrification on year by RTI

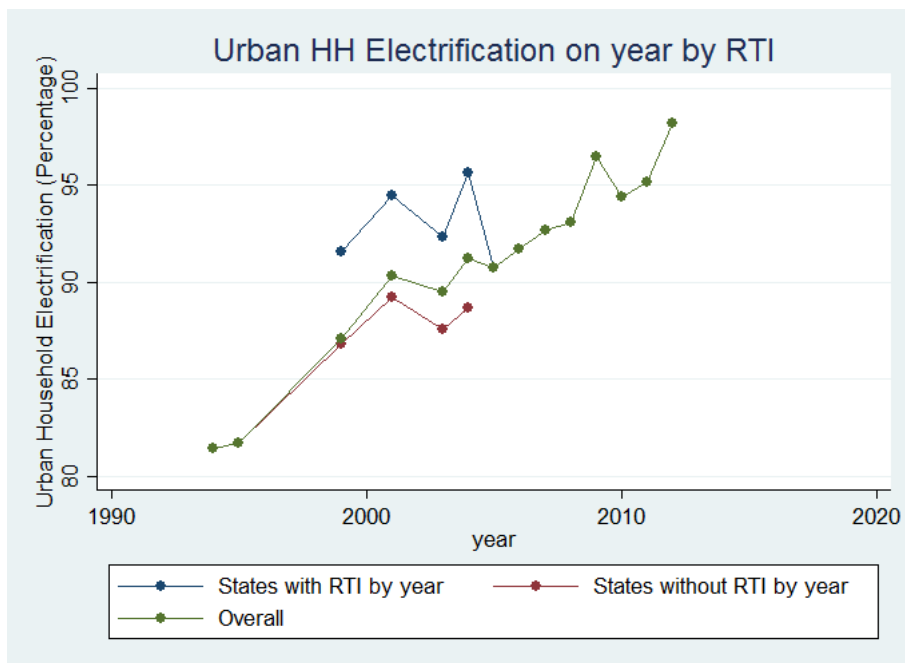


Figure 3.6: Average Urban HH Electrification on year by RTI

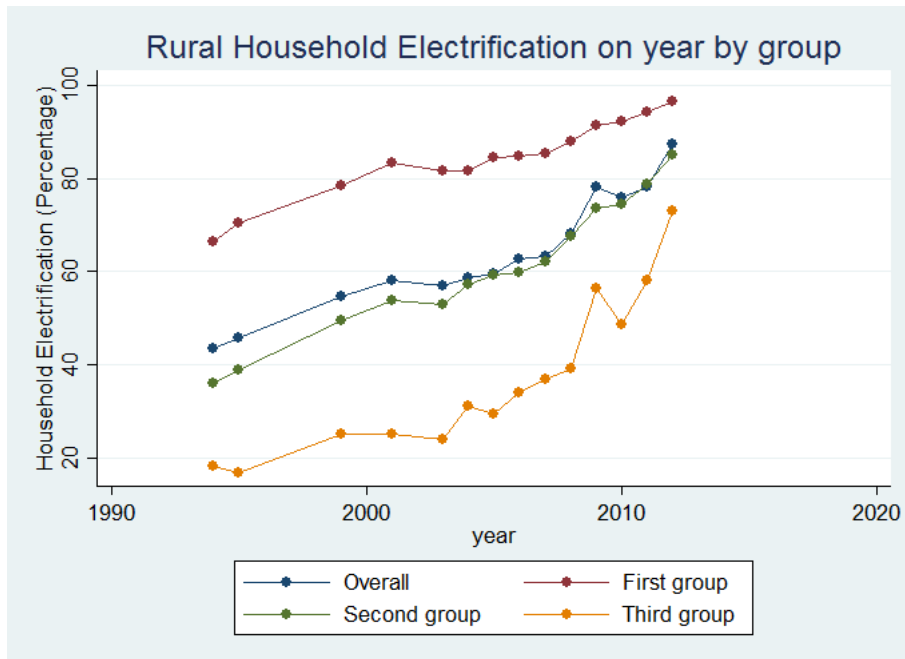


Figure 3.7: Rural HH Electrification on year by group

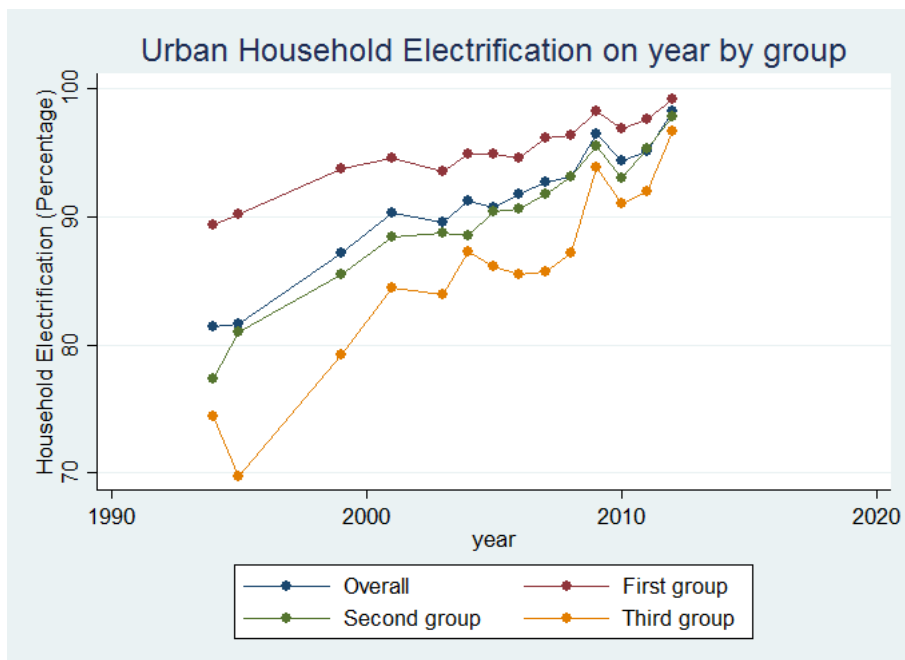


Figure 3.8: Urban HH Electrification on year by group

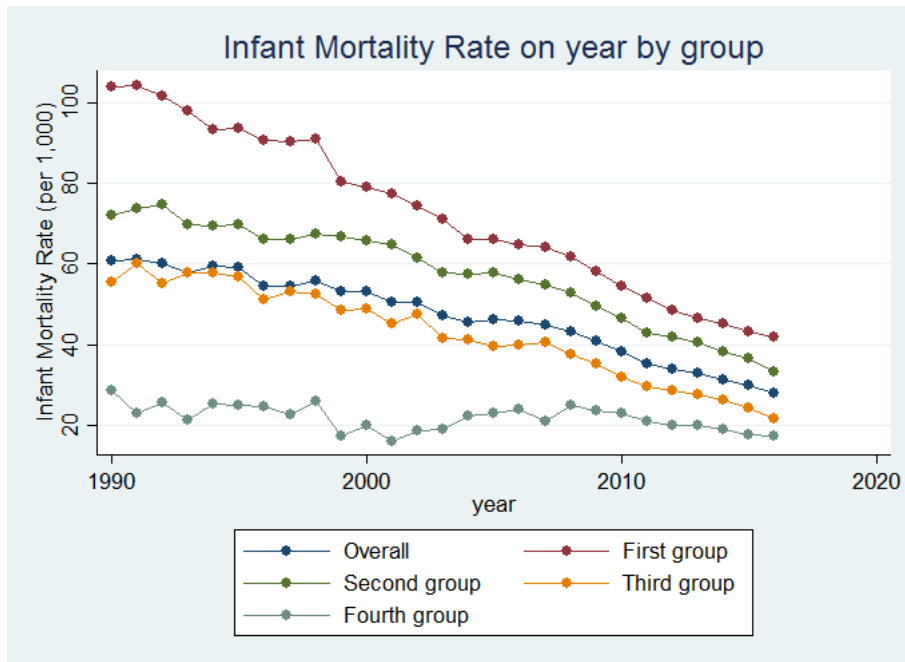


Figure 3.9: Infant Mortality Rate on year by group

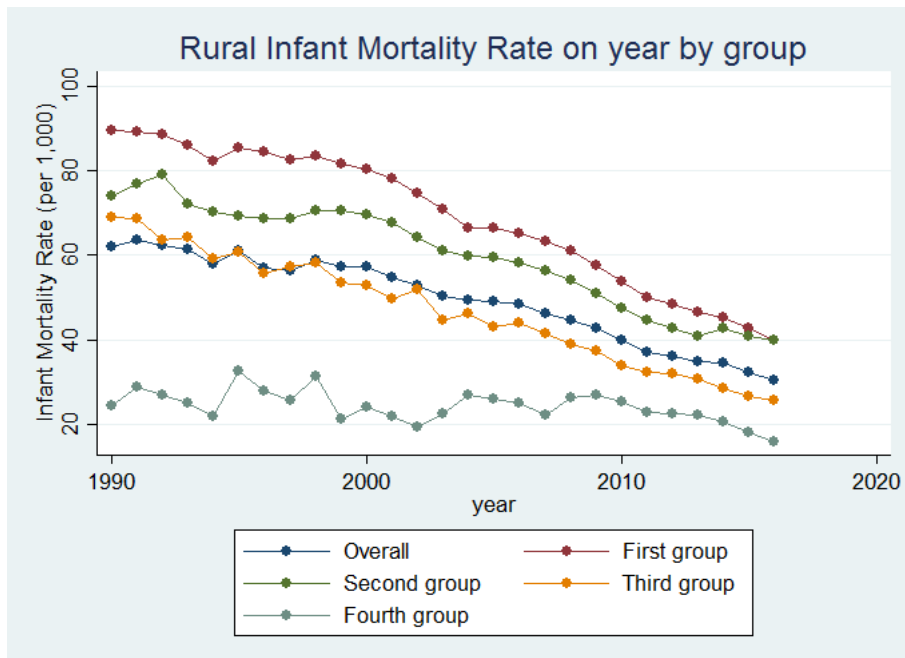


Figure 3.10: Rural Infant Mortality Rate on year by group

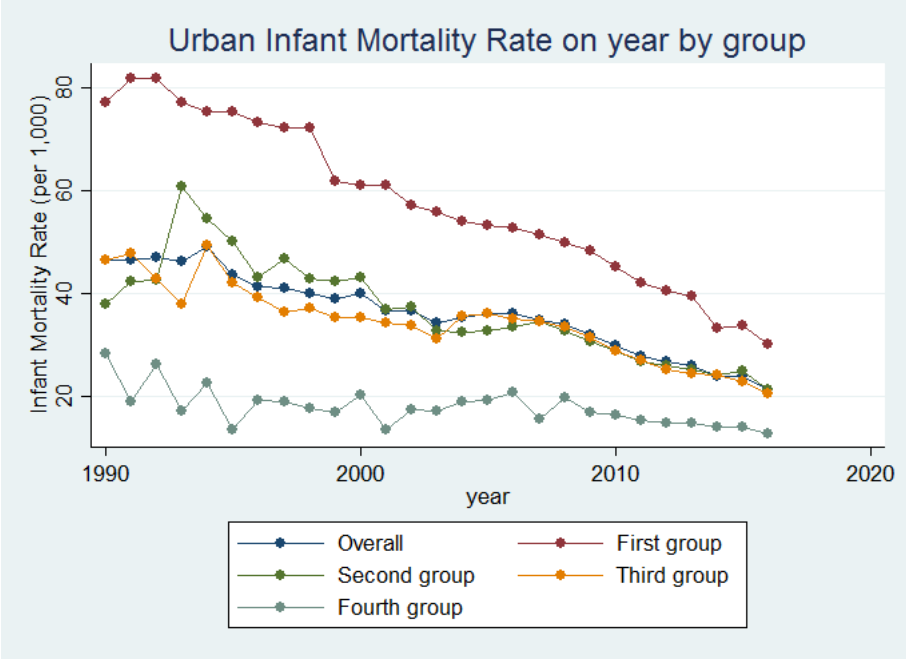


Figure 3.11: Urban Infant Mortality Rate on year by group