

Incentive Design in a Microfinance Organisation*

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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 get new borrowers, manage the account and collect repayment. In this paper, we study 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 new salaried agents.

Keywords:

Micro-finance institutions, joint liability loans, labor contracts, moral hazard.

JEL Classifications: G21, O12, J41.

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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). In this paper, we study the cost of handing out loans and collecting repayments through financial agents. We analyse the cost of employing financial agents whose task is to get new borrowers, manage loans and collect repayments in a microfinance bank operating primarily in rural western India. While repayments and borrower behaviour have been widely studied, the empirical analysis of cost of lending has largely been untouched. With access to detailed contract data for financial agents hired by the microfinance bank and the data of the individual credit contracts, we study two types of contracts, a flat wage contract and an incentive bonus contract. Specifically, we analyze the performance of financial agents in terms of their output, getting new agents and collecting repayments, under the different 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 bonus contracts influence choice of effort and outcome in comparison to flat 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. We contribute to this discussion by analysing another aspect of credit provision, that is, how should the agents supplying credit and collecting repayments should be paid. We want to know 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 bonus contracts perform better than flat 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) derives 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.

Our 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. We use a monthly panel data of 39 agents who worked on the bank's Joint Liability Group (JLG) 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 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 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 paper which is closest to ours in terms of analysing 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. The paper finds introducing incentive contracts increased productivity of the agents but also attracted more productive agents. An important feature of our study is the richness of the data set we use. Access to such contractual data and performance is often restricted, particularly in the financial sector. We also believe that we have such data in an important 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)). 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).

3 Mann Deshi Mahila Bank

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, pygmy savings, pygmy savings-linked loans, JLG loans and weekly market credit. The two pygmy 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.

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 1 and Figure 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 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 4 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 5. 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.

3.2.1 The JLG bank 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. Before they start the job, a ‘caution deposit’ needs to be deposited to reduce the risk the bank against payments collected but not deposited. If the clients cannot repay the loan, the agent is responsible for the repayment. 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.

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. As shown in Table 6, after May 2013 the bank decided to use a compensation scheme with a combination of a base salary of Rs.8000 and other incentives so as to reduce costs. Agents are

not allowed to shift between different compensation schemes. When an 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.

4 Data description

We have 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 5. The number of agents based on salary started from 1 in June 2013 and reached to 21 in 2015. However, the number of agents based on commission 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 agents based on salary and the decrease in the number of agents based on commission confirms the policy change by the bank since 2013. Moreover, Figure 5 shows that the number of new loans issued by agents based on commission tended to decrease over the period and the same figure for agents based on salary increased significantly. This could be explained by the initial assignment of new areas to the salary based agents.

The characteristics of agents are summarized in the Table 1 for categorical variables and Table 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 agents based on the commission contract and 417 observations are for agents based on the salary contract. Furthermore, within the sample period the agents have issued a total of 17,167 loans. Out of which, 8,315 loans are issued by agents on a commission contract and the remaining 8,852 loans are issued by agents on a salary contract.

An agent's effort and performance can be affected by the following three factors – agent's risk appetite, agent's skills and administrative setting. We attempt 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. We assume 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 inform us about 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 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 agents based on commission 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 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. We have collected 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. We have further constructed the proportion of the earning members within the family and the proportion of the agent's income in the family income. Since, the differences within the agents of the two remuneration schemes are insignificant, we discuss only the statistics of the whole group of agents 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), Dhangar (6) and Mang (6) are the most common castes among the agents. The cast composition of agents roughly

correlates with the proportion of population of caste in the area.

In the next section, we will explain our estimation method to evaluate the impact of the regime change.

5 Empirical model and results

We want to study the effect of different compensation schemes on the performance of bank agents at various points in a borrower's loan cycle. Specifically, we study 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.

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 we are studying, the bank writes incentive contracts based on repayment or collections. Here both the types of effort add up to increase collection of repayments. We assume that more new clients will lead to greater opportunity for more collection of repayment later. We also assume 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, our main hypothesis for the analysis is that changing the contract type from commission contract to a salary contract will adversely effect the two outputs, signing of new clients

and recollection amount collected. As pointed out earlier, we assume that the effort levels, both getting new agents and collecting repayments, contribute towards the banks objective.

We measure performance for the efforts put in by the agent at two stages. 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.

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.

5.1 New clients and amount disbursed

We estimate the following regression model to understand the effect of the compensation contract type on an agent's performance,

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

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 θ_j , ρ_y and ξ_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.¹

Note: Do you want to explain the regressors X_{it} here? I am confused as we explained their intuition in the descriptive stats.

We can observe an annual cyclical pattern in number of loans issued in Figure 2, with a trough in March and peak in September-October. Year and month dummy variables are used to capture this seasonality effect. We also observe 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, we use a random effects panel model to consistently estimate the parameter on compensation contract type as well as to control for all time variable regressors such as such as age, experience in the bank, new areas and seasonality. We further use the same model to estimate the effects of the policy variable on the amount disbursed to new clients.

5.1.1 Estimation results

Table 3 shows the results of the random effects panel regression based on Equation (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 our preferred specification. Across the specifications, salaried agents get 63%-212% fewer new loans than the commission based 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, mo-

¹Out of the xx number of blocks, only yy number of blocks have more than 1 bank branch in them. Sumedh?Out of the 5 blocks, only 1 blocks have more than 1 bank branch in them.

tivation, social network and skills of an agent. In terms of risk appetite, we observe 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.² Agents serving areas with monthly repayment frequency attract more borrowers, which could be a sign of risk aversion.

Table 4 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 our findings.

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 we use delay in repayment. We construct such a metric using borrowers' deviation (delay) from the original repayment schedule as a measure of performance. We assume that greater the effort employed by an agent in monitoring the borrowers, lesser borrowers will deviate from the repayment schedule.

²The new area dummy variable is defined to be 1 for the first three months, 0 otherwise.

We define delinquency as the number of times the installments were delayed by two or more days during the loan tenure. A margin of two days allows us 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. We estimate a logit model using a borrower-level data. 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. We estimate the model separately for n = 1, 10, 25 and 35, which are the quartiles of the distribution of the number of delinquencies.

We may need to add a short discussion on the explanatory variables here.

5.2.1 Estimation results

We study delinquency among loans which have delayed rarely (more than once) as well as those which have delayed as many as 35 times.³ Table 7 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 we observe that salaried agents are more vigilant in not allowing any delays. We need to report elasticities here. How did we get this 2.56 number (commented out)? Sumedh?

In all the specification in Table 7, 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.⁴ 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.

Sumedh: We need to run a regression with the interaction term: compensation scheme \times loan amount. We want to see if commission agents put in extra effort for higher loan amounts.

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

³All loans have at least one delay.

⁴An agent reports directly to a loan officer in the Mann Deshi bank.

an agent has a little role to play in loan repayment.

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.

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 our parameter of interest. However, our 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 7 is a job advertisement in Marathi which appeared in a local newspaper after the policy change and is translated into English in Figure 8. The job advertisement only specifies that the remuneration will be based upon prior experience and abilities. Also, in our discussions with the CEO of Mann Deshi, product head and branch managers who are responsible for interviewing and managing agents, we were told that no explicit difference was noticed in the profile of the job applicants after the policy change. Moreover, rural labour markets in India we observe large under and unemployment resulting 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 (Singh, Ministry of Labour and Employment, Government of India, 2013-14).⁵

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, we employ a propensity score method by matching similar agents from salaried contracts to commission based agents to compute the average treatment effect.

⁵Report on District Level Estimates for the State of Maharashtra, 2013-2014 (https://labour.gov.in/sites/default/files/MH_District_Level_Report.pdf)

6.1 Propensity score matching

The average treatment effects estimated in the previous section can be prone to a bias due to endogenous selection of field agents of a certain type in response to the change in bank's compensation scheme.⁶ We use propensity score matching to address this concern since other evaluation methods which require pre-intervention randomization were not feasible. First, we utilize a variety of demographic information on field agents such as gender, marital status, age, education, residential area type, family size, number of earners in family, share in household income, land holdings, size of house and previous work experience in finance; with time and region (block) fixed effects to create a propensity score (probability to be in the treatment group) for all field agents. Table 6 shows first stage probit regression results for propensity score calculation. The observed variables account for most of the variation in the treatment selection (pseudo $R^2 = 0.81$). A majority of the control variables are insignificant indicating that the selection bias in the results in the previous section may not be very large. However, the salaried agents are more likely to be residing in an urban area, from a larger family with a fewer number of earners and are less likely to be assigned a new area.

Second, each salaried agent (treatment) is matched to a commission agent based upon its propensity score using a matching algorithm. We consider four different matching algorithms: nearest neighbor matching, kernel matching, local linear regression matching and radius matching. We also restrict matches to observations where both salaried and commission agents have a common support for all the above mentioned demographic variables. Although common support assumption helps to further mitigate selection bias, the sample size is roughly halved due to this restriction. Finally, only the matched observations are used in the estimation procedure. Table 5 reports the average treatment effect for the policy change. These results do not seem to be statistically different from the panel regression model results in Table 3 and 4. Empirical estimates from the various matching methods suggest that a change in compensation scheme by the micro-finance bank has a statistically significant impact on the productivity of the bank's field agent.

⁶We interviewed the bank's management team and they didn't notice any significant difference in the characteristics of the applicants applying for the job.

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, we find 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.

8 Conclusion

In this paper we address a classic question in economics, if providing incentives to agents/employees can help the firm/organization achieve its goals more efficiently. We believe that the main contribution is twofold. One, we use a very rich data set which allows us to carry out this study and analyse the effectiveness of bonus 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 allows us to analyse that bonus contracts can help align the performance of the agent with that of the firm/organization's objectives. The second contribution is that our 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.

We find that with the bonus 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 we find that under bonus 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 bonus contracts are selecting borrowers who are more risky, not monitoring borrowers or they are putting in less effort to collect repayments from the borrower. We believe that 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. We do not have the data to identify how the agent distributes his/her effort during the whole contractual process. Also the agent who is under a flat contract compensation is less eager to increase the number of borrowers and this perhaps ensures a higher quality of borrowers relative to the portfolio of a bonus 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, we find that even for a non-profit organization like the MFI, bonus contracts help align the interest of the MFI, whose main objective is to increase the number of borrowers, with that of the agent.

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9 Appendix

9.1 Data collection

9.1.1 Information of agents

A questionnaire (in Marathi) was developed to collect demographic information and was distributed to those who have worked as JLG agents.⁷ 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 the mix of a base salary and other incentives 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.

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. We were able to collect 37 agents' information 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

⁷Refer to Figure 9 in the appendix for details.

two agents out of the 39 who filled in the questionnaires.

9.1.2 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.

10 Tables and Figures

		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 resident	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

Table 1: Frequency distribution of categorical variables for both commission (C) and salary (S) based agents. The observations are aggregated at the agent, agent-month and agent-month-loan levels.

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

Table 3: Random effects panel regression model. The dependent variable is log of the number of new loans.

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
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

Table 4: Random effects panel regression model. The dependent variable is log of the amount of new loans.

Number of loans				
	Nearest neighbor	Kernel	Local linear regression	Radius
ATE	-0.887*** (0.275)	-0.998*** (0.248)	-0.975*** (0.296)	-1.017*** (0.237)
Obs	369	369	369	369

Amount of loans				
	Nearest neighbor	Kernel	Local linear regression	Radius
ATE	-1.267*** (0.194)	-1.251*** (0.198)	-1.213*** (0.204)	-1.242*** (0.193)
Obs	370	370	370	370

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

Table 5: Average Treatment Effect (ATE) of the policy change using various matching algorithms.

VARIABLES	remtype
Gender	-24.65 (17.60)
Married	-4.637 (4.255)
Age	-1.393 (1.034)
Education	0.246 (0.649)
Urban resident	3.477*** (1.272)
No. of family members	11.61** (5.623)
No. of earners	-20.12** (9.114)
Proportion of earners	97.67* (54.21)
Proportion of own income	14.22 (12.53)
Land holdings	-1.938 (1.463)
No. of rooms	6.922 (4.661)
Finance experience	23.27 (16.61)
Experience	0.0799 (1.011)
Urban area served	6.900 (4.596)
New area	-0.630* (0.340)
Constant	-36.78*** (9.155)
Month FE	Yes
Block FE	Yes
Pseudo R^2	0.81
Observations	800

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

Table 6: First stage of PSM: Probit model for calculation of the propensity score

	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)
<hr/>				
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)
<hr/>				
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

Table 7: Logit regression model for borrower delinquency. 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.

Figure 1: Number of loans issued

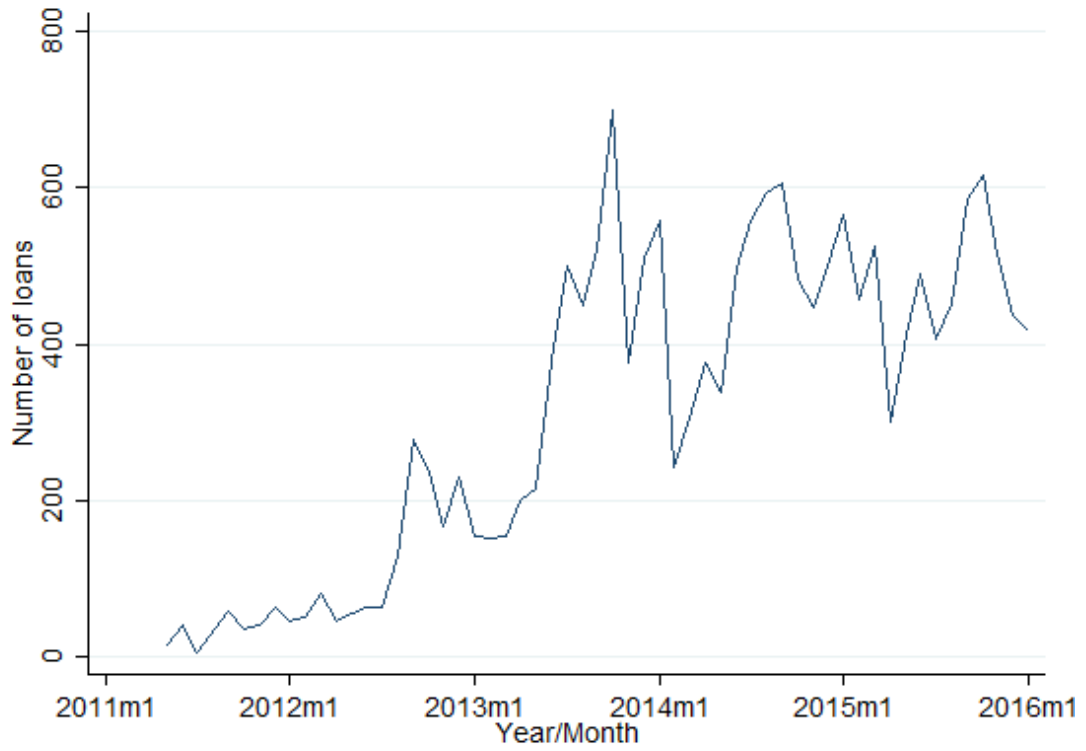


Figure 2: Number of loans issued by month

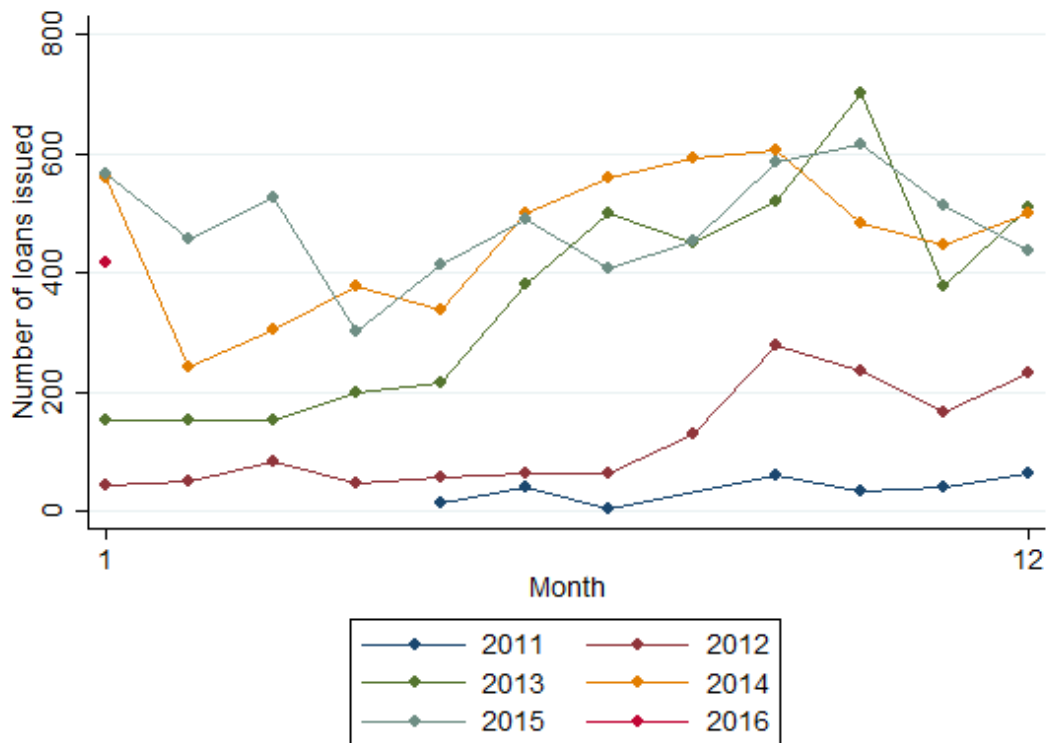


Figure 3: Growth rate of number of loans issued

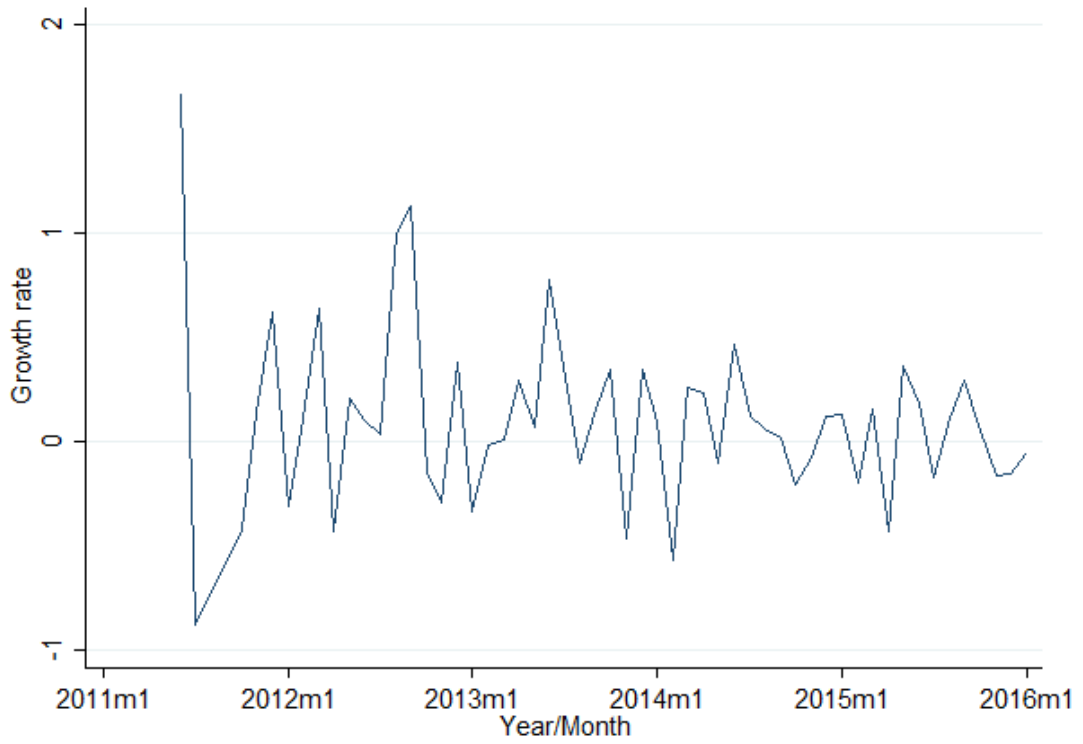


Figure 4: Number of active agents by month

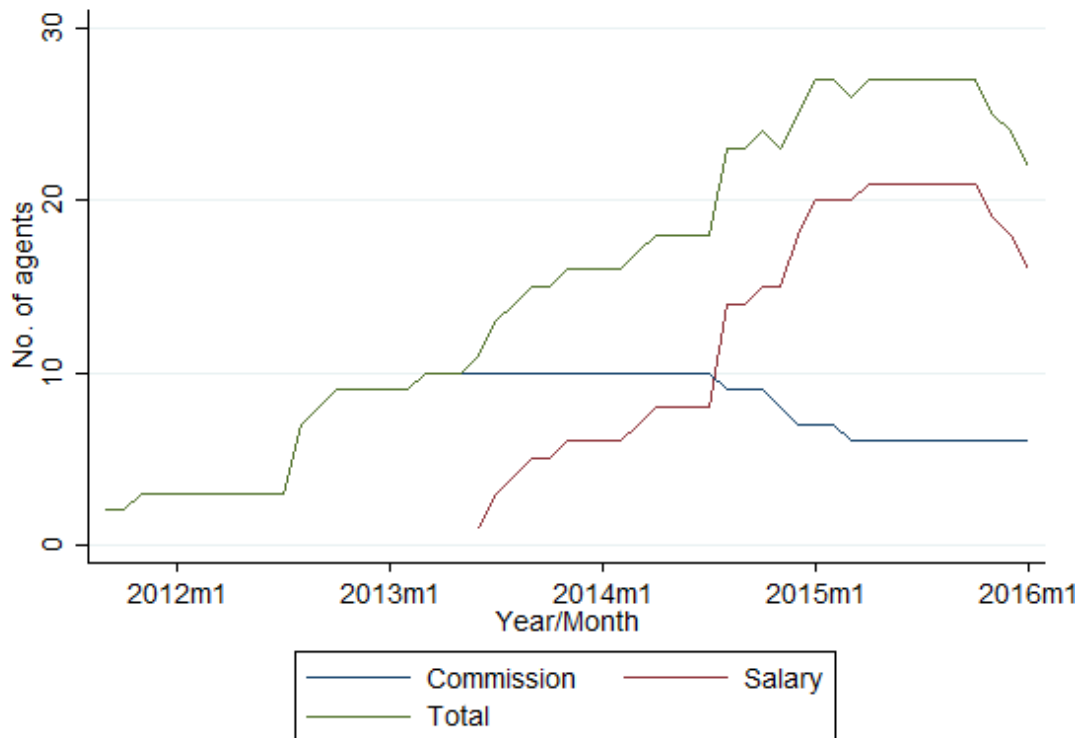


Figure 7: Job advertisement placed by the bank after the policy change (English)

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 8: Questionnaire 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.

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
वीट/दगड/माती/इतर	आर.सी.सी./कंक्रेट/टीनाचे/ गवताचे/ इतर	

चल अचल संपत्ती: बँलनोडी.....मॅस.....गाय.....शेळी.....मोबाईल.....फ्रिज.....टी.व्ही.....गॅस.....सायकल.....दुचाकी.....
शेतजमीन(एकर)..... इतर (विरस्त).....

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

पती/पत्नीचे मूळ गाव:.....

आईचे मूळ गाव.....

वडिलांचे 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		बचत	
एकूण १		एकूण २	