Banking for the Poor: Evidence from India[*]

Robin Burgess,[†][‡]   Rohini Pande[§]   Grace Wong[¶]

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Abstract

State led credit and savings programs have been implemented in numerous low income countries, but their success in reaching the poor remains widely debated. We report on research which exploits the policy features of the Indian social banking program to provide evidence on this issue. State-led branch expansion into rural unbanked locations reduced poverty across Indian states. In addition, the enforcement of directed bank lending requirements was associated with increased bank borrowing among the poor, in particular low caste and tribal groups.

JEL codes: O38, G28

1   Introduction

The poor are less likely to avail of banking facilities. Over 35% of low income households in the US do not have a bank account (as against a national average of 10%, Washington (2004)). These figures are typically much higher in low income countries – Paulson and McAndrews (1999) report that, relative to a national mean of 50%, 73% of low income South African households are without bank accounts. Within low income countries, the group most likely to be excluded from the banking sector is the rural poor.

A belief that the welfare costs of exclusion from the banking sector, especially for the rural poor, are high has led to widespread government intervention in the banking sector of low income countries (Besley 1995). Examples of such interventions range from interest rate ceilings on lending to the poor to state-led branch expansion in rural areas. However, whether such interventions actually improve the access of the poor to banks, help alleviate poverty, or both, remains widely debated (see Adams et al 1984).

Between bank nationalization in 1969 and the onset of financial liberalization in 1990, government regulation of the banking sector in India sought to affect bank location and lending practices so as to favor the poor. This paper summarizes results from two studies based on the Indian social banking experiment (Burgess and Pande 2004, and Burgess, Pande and Wong 2004). We use state-level data to show that rural branch expansion in In-

dia was associated with significant reductions in rural poverty. In addition, household data demonstrate that, during the years of the social banking program, bank borrowing among rural manual labor households was higher in states which saw more rapid rural branch expansion. We also show that the program increased access of lower caste and tribal households to bank loans. Taken together, these findings suggest that regulation of the Indian banking sector played a key role in directing bank credit towards the poor, and that easier access to bank credit and saving opportunities was associated with a significant decline in rural poverty.

The paper is organized as follows. Section 2 describes the features of the Indian social banking program relevant for our analysis. Section 3 summarizes the state level analysis, and Section 4 uses quinquennial household surveys, 1983-1999, to examine the efficacy of directed lending targets in increasing bank access for the poor. Section 5 concludes.

2   Program Description

The twenty years starting with the nationalization of the ten largest commercial banks in 1969 and ending with the onset of financial liberalization in 1990 marked the heyday of the Indian social banking program.

At the point of bank nationalization, the Indian central bank committed to increasing bank presence in rural areas and to equalizing population per bank branch across Indian states. As part of this endeavor, in 1977 it im-

posed a 1:4 branch license policy which required banks to open four branches in rural unbanked locations for every branch opened in an already banked (typically urban) location. This policy was discontinued in 1990, with the onset of financial liberalization. Between 1977 and 1990, this policy was associated with relatively greater rural branch expansion in states with lower initial financial development. After the policy was disbanded in 1990, rural branch expansion into unbanked locations ended.[1]

A second feature of the Indian social banking program was an emphasis on directed bank lending towards sectors deemed as 'priority sectors' (these included agriculture and small scale industries), and within these sectors to individuals belonging to 'weaker sections' of society. The latter included members of the historically disadvantaged scheduled castes and scheduled tribes (SC/ST). In 1980 the Indian central bank formalized its directed lending policy by requiring that, by 1985, 40% of all bank lending go to priority sectors. Moreover, 25% of this lending must go to individuals belonging to the weaker sections. While these targets remain to date, bank compliance with these targets sharply reduced after financial liberalization. Figure 1 shows that priority sector lending as a share of total bank lending peaked at 40% in 1987, and steadily declined after 1990 to roughly half the peak level by 1997. This deterioration in compliance has been widely linked to

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[1]Branches which were the only one serving a given census location, however, could not be closed down.

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the central bank's focus on bank profits as the main performance indicator post-1990 (Nair 1997). Figure 2 presents the time line of key banking policy changes in India and indicates the years for which household data are available.

3   State level evidence

In Burgess and Pande (2004) we use a 1961-2000 state-level panel dataset on states' initial financial development (measured by the number of bank branches per capita in 1961), the number of branches opened in rural unbanked locations, and rural headcount ratios to examine whether rural branch expansion affected rural poverty.

Our empirical strategy builds on the observation that, between 1977 and 1990, the 1:4 branch license policy caused banks to open relatively more branches in financially less developed states. The opposite was true outside this period. Column (1) of Table 1 documents this fact.

Column (2) provides reduced form evidence on the relationship between branch expansion and rural poverty outcomes. Between 1977 and 1990, financially less developed states witnessed relatively higher poverty reduction. The reverse was true outside this period (i.e. pre-1977 and post-1990).

There is no evidence that other state- or national-level public policies exhibited trend breaks in 1977 and 1990. This motivates our use of the deviations, between 1977 and 1990, and post-1990, from the pre-program

linear trend relationship between state's initial financial development and rural branch expansion as instruments for the number of rural bank branches opened in unbanked locations.[2] Column (3) reports our results. The opening of rural bank branches across Indian states led to a significant fall in rural poverty, and can explain roughly half the fall in rural poverty between 1961 and 2000. In column (4) we exclude the pre-1977 period and show our results our robust to only using the 1990 trend break as an instrument. Relative to the 1977-1990 period, the discontinuation of rural branch expansion post 1990 was associated with a relative slowing down of rural poverty reduction in financially less developed states.

4   Household evidence

Our state-level analysis of the poverty impact of the social banking program does not answer the question of whether the program succeeded in increasing bank lending to the poor.[3] To examine this, we use data from quinquennial Indian NSS household surveys (employment/unemployment modules) in 1983, 1987, 1993 and 1999 (Burgess, Pande and Wong (2004)). These surveys contain loan information for rural labor households.[4] Rural labor

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[2] The first stage regression for this IV procedure is column (1) of Table 1.

[3] For instance, our state-level results remain consistent with a trickle down story where the poor benefit indirectly from loans made to better off households.

[4] Loan information is unavailable for other rural households, or before 1983. Hence, we cannot look at the impact of the introduction of the social banking program or at the

households are defined as households which earn at least 50% of their income from wage paid manual labor in rural areas. Across the four survey rounds the average real monthly per capita expenditure of these households is Rs.326.75 which is significantly lower than that of rural households taken as whole (Rs. 392.49). Within rural labor households, SC/ST households are even poorer, with a monthly per capita expenditure of Rs. 307.57.

For each surveyed rural labor household we know total debt outstanding, the source(s) of the debt and purpose(s) for which debt was acquired. Across our four surveys, we find that roughly 33% of rural labor households in our sample are indebted. 23% of the debt of indebted households was from formal sources; banks (11%), cooperatives (8%), government (4%) and 72% from informal sources; moneylenders (22%), shopkeeper/trader (21%), relatives/friends (16%) and employer/landlord (13%).

Figures 3A and 3B graph, by survey round, results from nonparametric regressions of incidence of bank borrowing against real household expenditure per capita. In Figure 3A incidence of bank borrowing is measured as the probability of having a bank loan, and in Figure 3B by the share of total household debt coming from banks. In both cases we observe, for each year, a non-linear relationship between household expenditure and incidence of bank borrowing. Households below the poverty line are less likely to obtain bank loans than those above. The likelihood of having a bank loan is

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banking activities of non-labor households.

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increasing with expenditure among the relatively poor and decreasing with expenditure among the relatively rich. Most striking is the relatively constant incidence of bank borrowing among the middle class in our sample. A possible explanation is that directed lending targets implied that middle income rural labor households were equally eligible for bank loans.

The thesis that social banking affected bank borrowing patterns across the income distribution is also consistent with the inter-temporal pattern in bank borrowing. Rural branch expansion and directed lending witnessed their highest growth between 1983 and 1987 and steadily declined in the 1990s. The incidence of bank borrowing among rural labor households mirrors this pattern – it is highest in 1987, next highest in 1983 and monotonically lower in the 1990s.

To further probe the impact of the social banking program on household borrowing we turn to a regression analysis. We estimate probit regressions of the form

$$Y_{ijt} = \alpha_j + \beta_t + \gamma_t \times B_{j1961} + \delta X_{ijt} + \epsilon_{ijt}$$

where Y_{ijt} is a dummy for whether household i in state j in year t has at least one outstanding loan, and X_{ijt} a vector of household characteristics. α_j denote state fixed effects, and β_t year fixed effects. B_{j1961}, our measure of initial financial development, denotes the number of bank branches per capita in state j in 1961. This variable enters the regression interacted with year dummies, with γ_t denoting the year-specific coefficients (the omitted

reference year is 1983). γ_t is informative of how, relative to 1983, a state's initial financial development affects borrowing behavior.

As column (1) of Table 1 shows states' initial financial development is a determinant of rural branch expansion. Moreover, relative to the 1977-1989 period, the nature of this relationship reversed after 1990. Thus, by examining whether the impact of states' initial financial development on household borrowing varies by type of borrowing and over time we can provide indirect evidence on whether rural branch expansion affected borrowing patterns. The advantage of focussing on this reduced form relationship is that we can avoid the endogeneity concerns associated with directly using the number of rural bank branches as an explanatory variable. For consistency, we restrict our analysis to the sixteen major Indian states considered in the state-level analysis, and cluster standard errors at the village level.

Table 2 reports the results. In column (1) the dependent variable is whether the household has any outstanding loans. The overall incidence of borrowing is higher in financially more developed states. This is consistent with the observation that financially more developed states tend to be richer states. This effect persists when we consider propensity to borrow from the informal sector as the dependent variable in column (2). However, in column (3) we observe the opposite is true of bank borrowing. Relative to 1983, a rural labor household in a financially less developed state was more likely to receive a bank loan in 1987 and 1993. However, by 1999

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the propensity to borrow from a bank and states' initial financial development were uncorrelated. As discussed in Section 3, Indian states with lower initial financial development witnessed greater rural branch expansion only between 1977 and 1990. Our results point to the rural branch expansion program having improved relatively poor households' access to banks. After the branch expansion program ended in 1990, albeit with a lag, states' initial financial development and households' ability to borrow from banks became uncorrelated.

The regressions in Table 2 include controls for household head characteristics and household demographics. Economic disadvantage, as proxied by being landless and having an illiterate household head reduced a household's likelihood of overall borrowing, and bank borrowing, but not informal sector borrowing. However, we observe that SC/ST households which are also economically disadvantaged were significantly more likely to get bank loans.[5]

A possible explanation for the positive SC/ST effect is the fact the priority sector lending program targeted SC/ST households. By 1985 banks were required to lend 10% of net bank credit to 'weaker sections' of society, prominent amongst which were SC/ST households. To further explore this idea, we re-estimate the above regression including the interactions between the year dummies and SC/ST dummy. Figure 4A plots the year-wise co-

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[5]SC/ST households make up 46% of all rural labor households.

efficients from a regression where the dependent variable is the probability of obtaining a bank loan. Relative to 1983, the probability of a SC/ST household obtaining a bank loan is significantly higher in 1987 but not in the 1990s. SC/ST households are 2% more likely to get a bank loan in 1987 relative to 1983 which represents a 49% increase relative to the 1983 sample mean of 4.1% . In Figure 4B the dependent variable is the probability of having an informal sector loan. Here, we observe the opposite effect. Relative to 1983, the probability of a SC/ST household obtaining an informal loan is significantly lower only in 1987. This evidence is consistent with the idea that the social banking program in the 1980s succeeded in increasing SC/ST households access to bank loans, and in reducing their reliance on informal lending.

5 Conclusion

The Indian social banking program was amongst the largest state-led credit programs ever attempted in a low income country. This paper combines state and household data to offer some simple insights into the Indian social banking program's impact on economic outcomes and household borrowing behavior. State level analysis for the period 1961-2000 demonstrates that rural branch expansion in India significantly lowered rural poverty. Household analysis shows that rural labor households, especially SC/ST households, were much less likely to obtain bank loans once the emphasis on

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social banking was reduced.

Arguably, the key elements of the social banking program which contributed to its success in reaching the poor were the expansion of the rural branch network and directed lending towards weaker sections in Indian society. However, it is important to end with a word of caution. To achieve this reduction in poverty the Indian state invested substantial resources into the development of a state banking sector. Whether the same level of poverty reduction could be achieved at lower cost through some other intervention in credit markets (e.g. microfinance) or in a different sector (e.g. land reform) remains an open research question.

References

Adams, Dale, Douglas Graham, and J.D. Von Pischke, (1984). *Undermining Rural Development with Cheap Credit.* Westview Press, Boulder.

Besley, Timothy (1995), "Saving, Credit and Insurance." In *Handbook of Development Economics* edited by Jere Behrman and T.N. Srinivasan. North Holland, Amsterdam.

Burgess, Robin and Rohini Pande (2004)."Can Rural Banks reduce Poverty? Evidence from the Indian Social Banking Experiment", *forthcoming American Economic Review.*

Burgess, Robin, Rohini Pande, and Grace Wong (2004)."Can State Credit Programs Reach the Rural Poor? Evidence from Household Data in India",

mimeo LSE, Yale and Penn.

Nair, Tara ,"Rural Financial Intermediation and Commercial Banks: Review of Recent Trends", *Economic and Political Weekly, January 29 2000.*

Paulson, Anna., and James McAndrews (1999). "Financial Services for the Urban Poor: Standard Bank of South Africa's E-Plan" *Africa Region Findings.* World Bank.

Washington, Ebonya (2004). "Does Regulation of Banking and Fringe Banking Markets Impact Upon the Number of Unbanked Americans?", mimeo MIT

Table 1. Rural Branch expansion and poverty reduction - State level evidence

| | Number of branches at rural unbanked locations | Rural head count ratio | | |
| | | 1961-2000 | | 1977-2000 |
| | OLS | OLS | IV | IV |
	(1)	(2)	(3)	(4)
Number branches opened in rural unbanked locations per capita	--	--	-4.74** (1.79)	-6.84*** (2.81)
Number of bank branches in 1961 per capita *(1961-2000) trend	0.07** (0.03)	-0.77*** (0.23)	-0.47 (0.26)	-0.79* (0.44)
Number of bank branches in 1961 per capita*(1977-2000) trend	-0.25*** (0.03)	1.15** (0.42)	--	--
Number of bank branches in 1961 per capita*(1990-2000) trend	0.17*** (0.04)	-1.15*** (0.34)	--	--
Adjusted R-squared	0.96	0.84	0.78	0.80
Number observations	636	627	627	375

Standard errors clustered by state are reported in parenthesis. All regressions include as other controls population density, log state income per capita, log rural locations per capita (measured in 1961), a linear time trend with breaks at years 1977 and 1990, year fixed effects and state fixed effects. Branch variables are normalized by 1961 population. Rural bank credit (saving) share is the percent of total bank credit (saving) accounted for by rural branches. The sample covers 16 states (1961-2000). Haryana enters in 1965. * indicates significance at 10%, ** significance at 5% and *** significance at 1%.

Table 2. Social Banking and Household Borrowing Behavior

| Source	Overall	Informal	Bank
		Probit	
	(1)	(2)	(3)
SC/ST	0.012***	0	0.009***
	(0.004)	(0.004)	(0.001)
Illiterate	-0.022***	-0.004	-0.013***
	(0.004)	(0.004)	(0.002)
Landless	-0.036***	-0.008	-0.011***
	(0.006)	(0.006)	(0.002)
Number of bank branches in 1961	0.034***	0.026**	-0.011***
per capita*1987 year dummy	(0.013)	(0.013)	(0.004)
Number of bank branches in 1961	0.025*	0.016	-0.011***
per capita*1993 year dummy	(0.014)	(0.013)	(0.004)
Number of bank branches in 1961	0.103***	0.079***	0
per capita*1999 year dummy	(0.014)	(0.013)	(0.004)
Household demographics	YES	YES	YES
Year and State fixed effects	YES	YES	YES
Pseudo R-squared	0.03	0.04	0.07
Number of observations		75888	75888

Marginal coefficients reported. Robust standard errors clustered by village are in parenthesis. Household demographics include household size, male adult and children shares in household, and age of household head (in levels and quadratic). * indicates significance at 10%, ** significance at 5% and *** significance at 1%.

Figure 1: Priority Sector Lending As a Share of Total Bank Lending, 1980-1997
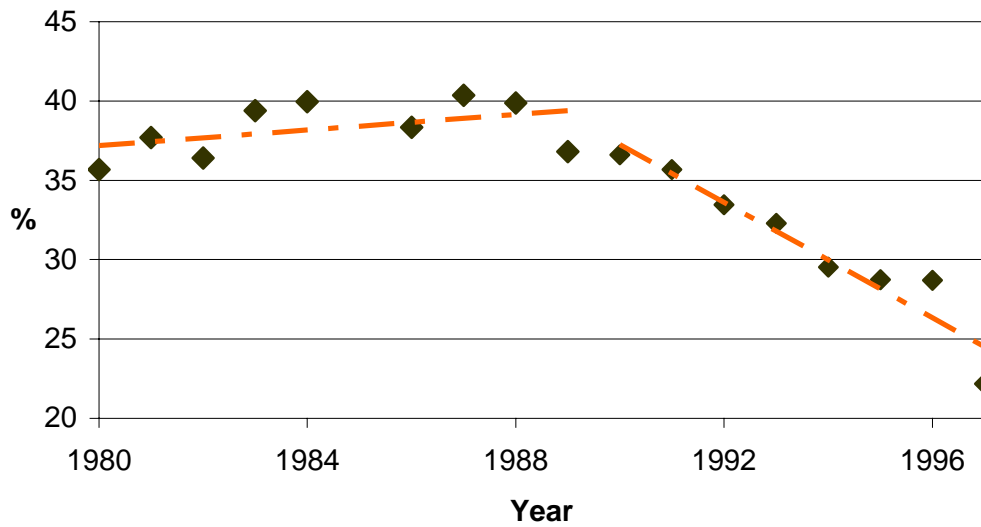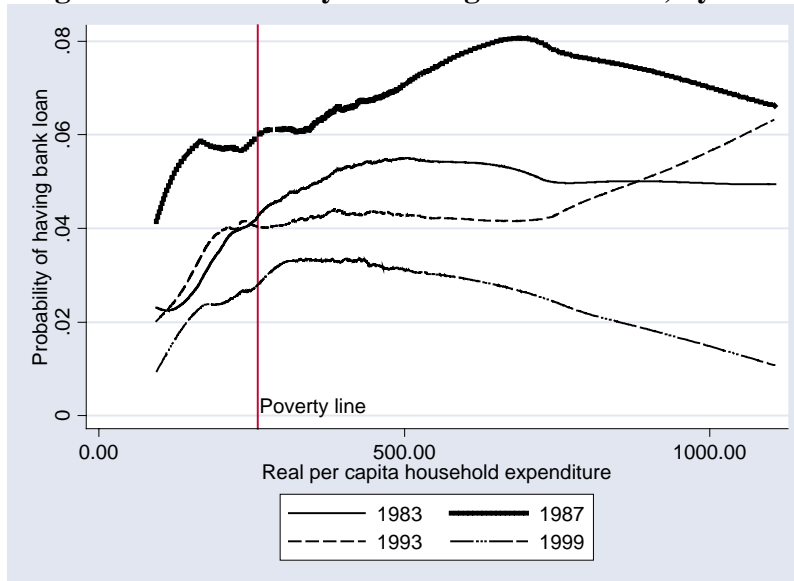

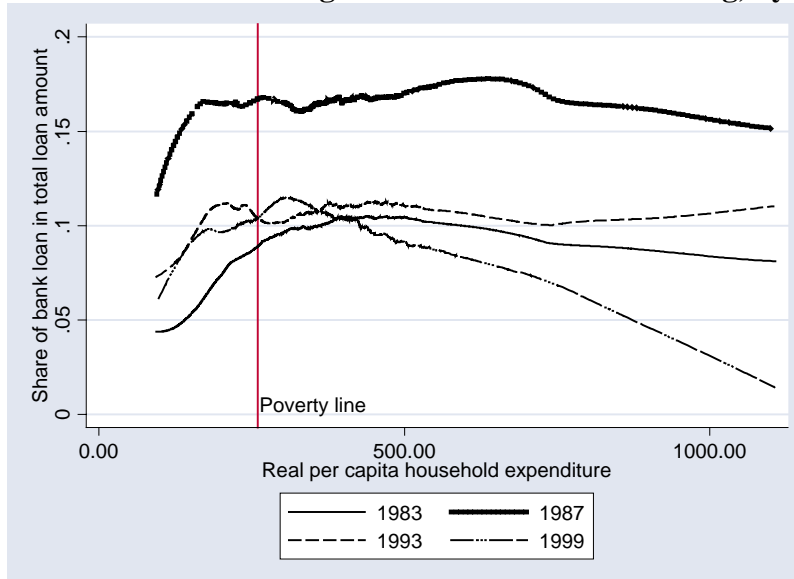**Figure 2: Timeline of Social Banking Program, 1969-1990**
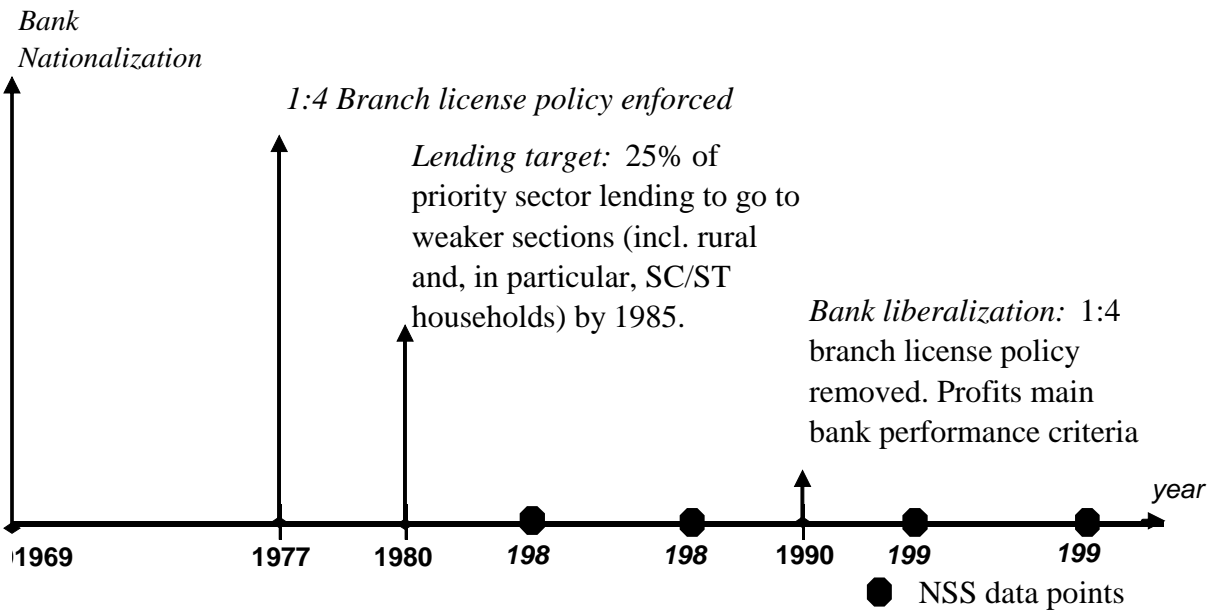
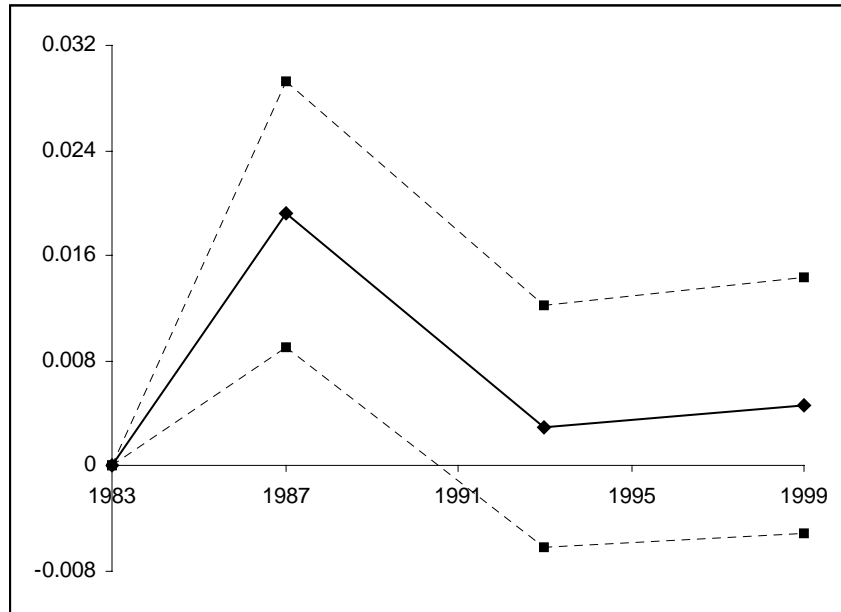**Figure 3A: Probability of Having a Bank Loan, by Year**

This graph displays results from locally weighted, non-parametric regressions of a bank loan dummy on real per capita monthly household expenditure for all rural labour households with household heads aged 25-80 by year. The bottom and top 1 percent of the per capita household expenditure distribution in the full sample of rural households are excluded from the sample.

Figure 3B: Bank Borrowing As Share of Total Borrowing, by Year


This graph displays results from locally weighted, non-parametric regressions of the share of bank borrowing in total borrowing on real per capita monthly household expenditure for all indebted rural labour households with household heads aged 25-80 by year. The bottom and top 1 percent of the per capita household expenditure distribution in the full sample of rural households are excluded from the sample.

Figure 4A: Probability of SC/ST Having Bank Loan

Solid line represents the marginal differences due to SC/ST status in the probability of having a bank loan by year, obtained from Probit regressions of a bank loan dummy on SC/ST-year interactions. Dotted lines describe the 95% confidence interval. Other controls in the Probit regressions are as in Table 2.

Figure 4B: Probability of SC/ST Having Informal Sector Loan
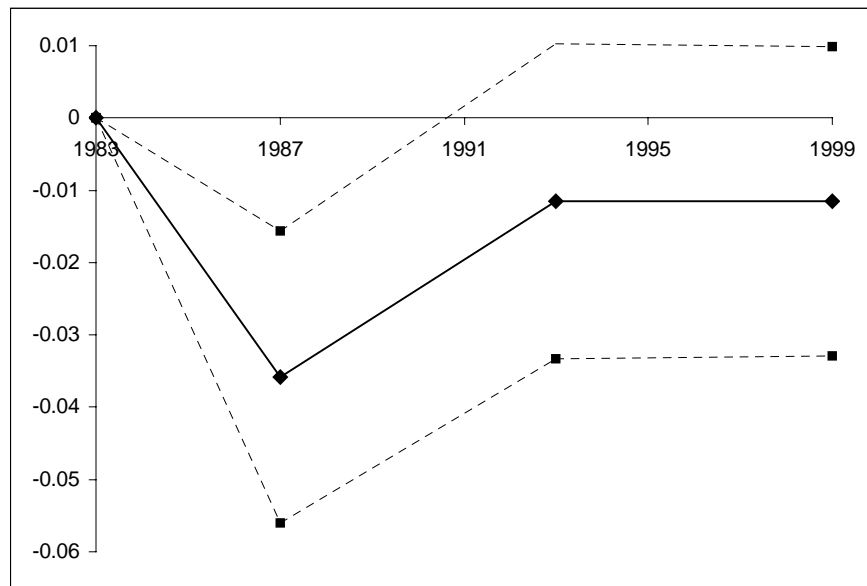
Solid line represents the marginal differences due to SC/ST status in the probability of having a loan from the informal sector by year, obtained from Probit regressions of an informal loan dummy on SC/ST-year interactions. Dotted lines describe the 95% confidence interval. Other controls in the Probit regressions are as in Table 2.