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Loan Repayment Behavior of Farmers: Analyzing Indian Households

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Abstract: This paper uses the IHDS 2015-16 to analyze the nature and extent of indebtedness of Indian households. It studies utilization of loans taken from formal versus informal sector and the subsequent loan repayment behavior of these households. By analyzing repayment patterns we identify the characteristics of individuals who are defaulting. We study the source and purpose of borrowing, consumption and production patterns of households taking loan from different sources to gain insight towards the existence of moral hazard problem. We find that people who borrow from formal sources tend to have higher consumption, higher social spending and lower investment as opposed to people who borrow from informal sources. Higher spending, as opposed to investment, in turn has a negative impact on loan repayment. Our findings point towards the differential treatment of formal versus informal loans by the households. We argue that people tend to under-utilize default more on loans that are taken from sources which impose lesser punishment in the future.

Keywords: Loan repayment, behavior, formal sector, consumption, institutional credit.

Introduction: Debt plays an essential role in the lives of the rural households in developing countries in a number of ways. It is an important instrument for smoothing consumption, in a context where incomes typically experience large seasonal fluctuations. [Ghosh et al., 2000] However, credit markets in developing nations especially in rural households do not behave completely like competitive markets. They are dual structured, where formal and informal financial systems operate side by side. Due to the lack of availability of a properly structured debt market in the rural areas of the country, majority of the households borrow from informal sources of finance which charge high interest rates and often lead to informal agents usurping the assets of the households. To provide easier access to credit we often find governments intervening in the workings of the credit market in multiple ways. In Thailand increased participation in formal financial institutions increased economic growth between 1976 and 1990 [Townsend and Ueda, 2003].

India was also no different. Under the 1949 Banking Regulation Act, all banks required to obtain a banking license from the Reserve Bank of India, which is the Indian Central Bank prior to opening of a new branch. In 1975, the Narsimham committee conceptualized the creation of Regional Rural Banks (RRB). According to the RRB act of 1976, their equity is partly held by the Central Bank, partly by the state bank and the remaining by the sponsoring bank. The main aim was to develop the rural economy by providing credit to small and marginal farmers, agricultural laborers, artisans and small entrepreneurs [Misra et al., 2006]. In 1977, the government of India wanted to increase access of credit in the rural areas of the country. As a means of ensuring this, they mandated that a bank can obtain a license to open a branch in an already banked location only if it opened branches in four unbanked locations [Burgess and Pande, 2004]. Rural lending rates were also kept much below the urban lending rates. Every branch was also required to maintain a credit-deposit ratio of 60 percent within its geographical area of operation [Burgess et al., 2005]. However, given the size of the Indian credit market these interventions were perhaps not significant enough to satisfy the credit needs of poor households. Although progress has been made, formal finance does not appear to have adequately permeated vast segments of our society [Hoda and Terway, 2015].

Source of Borrowing and Household Social Spending: Utilization of loans borrowed for agricultural purposes have interested researchers for a long time. Tiwari [2012] suggests that 40% of the loan amount borrowed by farmers for agricultural purposes is used on non agricultural purposes such as marriages, education, and health etc. Similarly Banerjee and Duflo document how people spend a considerable portion of their income on festivals and other social functions despite scraping through for bare necessities like food, clothing and housing. They find that in Udaipur the extremely poor spend 14% of their budget on festival.

Source of Borrowing and Household Investment: I next turn to the question whether the investment behavior of households differs when two households with the same amount of outstanding loan and the same overall income borrow from different sources. Investment pattern of agricultural households is analyzed using the investment ratio variable which is a ratio of the number of farm equipments a household owns from the total basket of farm equipments like tractor, electric pumps etc. Empirically we investigate this effect using the following linear probability model.

Loan Repayment, Consumption and Investment: To understand why repayment behavior varies by the source of borrowing we explored whether consumption and investment patterns of households varies by the source of borrowing and in turn drives repayment behavior. Average investment ratio is lower for households who have not repaid their loans as opposed to those who have repaid their loans. Not many have tried to explore the effect of low investment or high unproductive consumption on the incidence of repayment. To understand the way loans taken from various sources of borrowing are utilized by the households, we analyze how their investment and consumption patterns have an effect on their repayment behavior.

Interest Rates: As mentioned before one of the objectives behind the introduction of formal banking institutions in the rural areas by the government was to provide easy and cheap access to credit. In the process the aim was to reduce dependence on money lenders who charge high interest rates. However, the creation of institutional alternatives has failed to drive the traditional money lender out of the market and the informal interest rates remain high [Hoff and Stiglitz, 1990]. This raises the question as to how interest rates play a role in the repayment behavior of borrowers. Lower interest rates can have important consequences on factors such as indebtedness, utilization of loan and repayment. The theoretical insight is that households can be induced to take loan for income generating purposes, which in turn, can scale down debt burden and enhance repayment when interest rate is low. An alternate possibility is that, a high interest rate coupled with stricter monitoring of informal loans could push the households towards defaulting less on the informal loans and as a consequence default more on formal loans. To investigate these alternative possibilities we explore how the behavior of households differs when a high rate of interest is likely to alter household's ability to repay formal vs informal loans. we investigate this by looking at the effect interest rates have on loan repayment when households borrow from formal sources like banks as opposed to their effect on loan repayment when borrowed from informal sources like money lenders.

Consumption: I start by investigating whether households with otherwise similar characteristics, consume differently when borrowing the same amount of loan from formal vis-a-vis informal sources. Consumption is measured as the monthly consumption per capita for a household. It is calculated as a sum of total expenditures on 47 consumption items on a monthly basis. Since richer households are more likely to have greater access to formal financial sector, and at the same time have higher consumption, hence it is imperative that we control for income even in the very sparse specification. The estimate suggests that, for similar level of total household income, if a household has taken a loan from a formal source as opposed to an informal source then it is likely to have a higher monthly consumption per capita by approximately Rs. 307 on average.

Social Spending: One reason for a higher per capita consumption could be that easier terms of formal loans allow otherwise constrained households to spend on necessary and productive consumption goods like food, education or health. This might lead to higher future productivity of the households through human capital development. However, a more worrisome possibility, from a policy perspective, is a higher extent of unproductive spending that the households might indulge in when borrowing from formal sources. To understand this further we look deeper into the composition of consumption. As discussed earlier, households in India often consumer goods that signal social status even at the cost of nutrition and education. Hence in what follows we study whether households tend to finance their expenditure on certain types of consumption by taking advantage of the easier terms of formal loans. Specifically we focus here on expenditure that are conspicuous in nature. Conspicuous consumption is easily visible to others and hence more likely to help households in signaling their social status.

Investment Ratio: Credit has always been looked at as a facilitator for modernizing agriculture. At a basic level credit serves as a means to remove financial constraint. But the bigger role of credit in agriculture is to help farmers create assets that can help generate output by adopting modern means of technology. Thus it is very important for households to utilize the agricultural loan taken for investment purposes. By utilizing loans for investment purposes whether it is in the form of buying a tractor or setting up tube wells, it helps in modernizing the farm and eventually helps increase productivity. By adequately investing in production and technology farmers can achieve farm income sustainability and consumption stability. However given that the overall budget is constrained by the loan amount, an increase in consumption expenditure is likely to bring down productive expenditure. Hence in what follows we study the investment made by households who borrow from formal sources as opposed to informal sources.

Loan Repayment: Utilization of loans plays a very important role in the repayment of loans. If a loan is used for income generating purposes then it generates income and increases the overall sustainability of the household. On the other hand if the loan is used for unproductive purposes then the loan becomes a burden on the household as is likely to create a vicious debt trap. Hence in what follows we investigate whether low investment ratio and/or high social spending impacts loan repayment of households.

Interest Rate: To avoid willful default on the part of the borrowers, lending agencies both formal and informal impose penalties in case of default. Penalties are generally in the form of seizing collateral or discontinuing future credit availability. Bhattacharjee [2014] argue that penalty could also be levied through interest rates charges on loans. Specifically they examine the impact of interest rate in the informal sector on formal sector repayment. They find that a higher unfavorable interest rate in the informal sector leads to an increase in timely repayment in the formal sector. To add to this finding, we estimate the effect that interest rates have on loan repayment, specifically in the case of agricultural loans where expected penalty might vary from actual penalty due to frequent announcement of loan waiver programs.

Conclusion: Repayment of loans depends on a number of factors, such as purpose for which loan is taken, tenure of the loan, interest rate and source of borrowing. If a household borrows a loan meant for income generating purpose and uses it for that then it is likely to generate future income and make the household better off in the long run. It is also likely to enable the household to return the loan borrowed in the first place. However, if the loan is used for unproductive purposes, then repaying that loan becomes problematic for the household. The household can then get stuck in a debt trap where it borrows more to repay the previous loan and the economic status of the household does not improve. Even if households are aware of this and avoid using investment loans for consumption purposes in general, government interventions in the form of loan waivers might change the behavior of households.

Moral hazard might arise when government intervene and announce loan waiver policies. Households which could have avoided using their loans for consumption purposes also have an incentive to default. It encourages people to be less cautious in using their loans for non productive purposes in the hope that there will be further loan waiver announcements and the punishment for default will be low.

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