

# Accessibility to Credit and its Determinants: A State-level Analysis of Cultivator Households in India

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*It is well known that around 80 per cent of farmers in India are in the small or marginal farmers group which requires financial resources on a regular basis for their farming activities. Needless to say, as these households do not possess adequate savings, accessibility to financial resources at reasonable terms and conditions from financial intermediaries becomes a crucial parameter for their productive activities and hence, in turn, their well-being. Based on the 59th round of household-level data from the Debt and Investment Survey and the Situation Assessment Survey (SAS) of farmers provided by the National Sample Survey Organisation (NSSO) of India, this article examines the nature of exclusion faced by farmer households in credit markets across selected prominent states of India. This is done by constructing an indicator, namely, the 'incidence of borrowing'. This article also tries to identify the factors that explain exclusion from access to financial resources by developing a methodology for the detection of credit exclusion. Our results show that the relation between the cost of credit (interest rate) and access to credit depends heavily on the extent of prevalence of informal lenders in a region.*

**Keywords:** Accessibility to Credit, Financial Exclusion

**JEL Classification:** O1, O2

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## 1. INTRODUCTION

The income levels of farmer households of developing countries like India are heavily influenced by uncertain climatic and market conditions and consequently they suffer from irregular and volatile earnings. Most of these households belong to small and marginal farmers who do not possess adequate savings, and consequently depend on credit to meet even their basic expenses. Therefore, accessibility to financial resources at reasonable terms and conditions is crucial for the well-being of the households. However, in India most of these households are excluded from a formal lending network which provides such services. In particular, the post-liberalisation phase has witnessed a decline in the rural branches of formal banks (Ramchandran and Swaminathan, 2005; Shetty, 2005) indicating a reduction in banking facilities for the rural populace of the country. Further, the National Sample Survey Organisation (NSSO, 2005) shows that the period between 1991 and 2001 was characterised by a decrease in the share of formal loans in household borrowing vis-à-vis loans from informal sources such as private money lenders. While accessibility to credit through a formal banking network remains a critical issue across the nation, there are regional variations which can be witnessed by looking at the state-level scenario. In addition, there are different social classes such as historically disadvantaged groups (officially called Backward Classes) or women who may not have as equal access as others (Rajeev et al., 2011). Against this background, the paper examines the problem of accessibility to financial services state-wise for major states of India and highlights how accessibility varies across different economic and social groups. This paper further evolves a methodology to identify credit-constrained households and utilises an econometric technique to obtain the determinants of inaccessibility to credit among cultivator households across 15 major states in rural regions of India.

The present analysis utilises unit-level data of the 59th round of the National Sample Survey Organisation (NSSO) and bases the work on two important surveys. The dataset based on the All-India Debt and Investment Survey provides substantial information regarding household debt and investment for 1,43,285 households in India, covering both rural and urban areas. The Situation Assessment Survey (SAS) of farmer households provides information for 51,770 cultivator households spread over 6,638 villages across the country. While both surveys provide rich micro-level information through large samples, only a few studies have an analysis of unit record data (Bhattacharjee et al., 2009; Bhattacharjee and Rajeev, 2010), and existing studies are usually based

on published data in the NSSO reports (Narayanmoorthy et al., 2005). There are a few studies that have examined the debt situation of farmer households based on the SAS of Farmers and the All-India Debt and Investment Survey of the NSSO. We may note in this context that these are presently the most recent data on farmers' indebtedness available at the macro economy level.

The article is subdivided into the following sections. The next section highlights the nature and extent of accessibility to credit from formal as well as informal sources. The third section provides a methodology for detection of financially excluded households. An econometric analysis is carried out thereafter. A concluding section is presented at the end.

## 2. NATURE OF ACCESSIBILITY TO CREDIT ACROSS DIFFERENT STATES

NSSO data provide information regarding household borrowing based on which one can arrive at the percentage of households that has availed loans in a given year. This indicator is termed *incidence of borrowing (IOB)* and we argue that it can be used as an indicator of *access to credit* (Bhattacharjee and Rajeev, 2013). It is in contrast to the general perception that the IOB refers to a debt-ridden situation in which the respondents (who are mostly from the lower-income category) have outstanding credit and are hence indebted. This negative connotation had been ascribed by many authors in the literature without careful analysis of the data. As is well known, the NSSO database is large, and analysing unit record data is not a trivial task. In this regard, our careful scrutiny of unit record (household-level data) reveals that the IOB is higher for the higher-income groups; second, economically advanced states have a higher level of IOB; and, third, the social backward Schedule Tribe (ST) households (India's indigenous population) generally have a lower IOB than the general or Other Backward Caste (OBC) households. Thus, we argue that a negative connotation should be ascribed to IOB with caution.

### 2.1 Incidence of Borrowing

If we interpret the incidence of borrowing (IOB) as access to credit, one observes that accessibility remains low among cultivators in rural areas of most states (Table 1). Table 1 reveals that only 22.4 per cent of households have accessed credit in an average Indian state. Based on NSSO data sources, borrowing can be classified into two major groups: formal and informal. The formal sector includes commercial banks, cooperative banks and regional rural banks, which are regulated by the central bank, the Reserve Bank of India (RBI). The informal

**Table 1 Incidence of Borrowing (IOB) by Cultivators in Rural Areas of Different States**

<i>States</i>	<i>Formal</i>	<i>Informal</i>	<i>All</i>
Andhra Pradesh	18.0	28.2	41.6
Assam	<b>1.6</b>	<b>9.3</b>	<b>10.9</b>
Bihar	<b>1.3</b>	<b>12.4</b>	<b>13.6</b>
Gujarat	<b>9.2</b>	<b>9.2</b>	<b>16.1</b>
Haryana	13.2	<b>13.5</b>	23.8
Karnataka	11.8	17.7	27.9
Kerala	27.7	14.1	36.3
Madhya Pradesh	10.8	<b>13.2</b>	<b>20.8</b>
Maharashtra	16.3	<b>7.2</b>	22.4
Orissa	<b>6.1</b>	<b>11.8</b>	<b>16.9</b>
Punjab	24.2	21.4	40.7
Rajasthan	<b>5.9</b>	<b>12.4</b>	<b>17.7</b>
Tamil Nadu	20.2	34.7	49.4
Uttar Pradesh	<b>7.3</b>	<b>12.9</b>	<b>19.3</b>
West Bengal	<b>8.8</b>	14.8	22.5
India	<b>10.1</b>	<b>14.0</b>	<b>22.4</b>

**Source:** Computed using the 59th Round of the All India Debt and Investment Survey, NSSO.

**Note:** Figures in bold imply incidence below the national average.

sector consists of private money lenders (including pawn brokers, large farmers lending to small farmers and so on), friends and relatives who are usually not registered with any authority and hence, can charge any interest rate and security. As far as borrowing from the formal credit market is concerned, it is observed that eastern states such as Assam, Bihar, Orissa or West Bengal have a lower incidence of borrowing from formal credit market compared to states situated in the western parts of India such as Gujarat or Maharashtra. If one attempts to relate this to incidence of poverty figures published by the Government of India, it is observed that barring Assam, states located in the eastern parts have higher poverty ratios compared to states in the western parts of India. The per capita income figure of the eastern states is also low (Table 2). Thus, it seems that households in eastern states are economically backward and have lower access to credit; these two indicators no doubt impact each other.

In fact, if one computes the correlation coefficient between incidence of borrowing and incidence of poverty, one would find that there is a significant negative relationship between poverty and the incidence of borrowing from the *formal* sector (Table 3).

**Table 2 States' Incidence of Poverty (IOP) and Per Capita Income (PCI), 2004–05 and Incidence of Borrowing (IOB), 2002–03**

<i>States</i>	<i>IOP</i>	<i>PCI (₹)</i>	<i>IOB</i>
Andhra Pradesh	11.2	15,507	41.6
Assam	22.3	12,269	10.9
Bihar	42.1	5,766	13.6
Gujarat	19.1	18,864	16.1
Haryana	13.6	21,966	23.8
Karnataka	20.8	16,758	27.9
Kerala	13.2	19,264	36.3
Madhya Pradesh	36.9	12,384	20.8
Maharashtra	29.6	23,340	22.4
Orissa	46.8	10,567	16.9
Punjab	9.1	25,611	40.7
Rajasthan	18.7	13,477	17.7
Tamil Nadu	22.8	19,378	49.4
Uttar Pradesh	33.4	9,405	19.3
West Bengal	28.6	15,826	22.5
India	28.3	15,839	22.4

**Source:** Computed by authors using Government of India and 59th Round All-India Debt and Investment Survey data from the NSSO.

**Table 3 Correlation between Incidence of Poverty (IOP) and Incidence of Borrowing (IOB)**

<i>IOP</i>	<i>IOB</i>		
	<i>Formal</i>	<i>Informal</i>	<i>Total</i>
Pearson's correlation coefficient	-0.613*	-0.364	-0.553*
Significant (two-tailed)	0.015	0.182	0.032

**Source:** Computed by the authors using the 59th Round All-India Debt and Investment Survey, NSS and Government of India data.

**Note:** \* implies significance at the 10 per cent.

## 2.2 Average Amount Borrowed

Observing the fact that only a few borrowers get loans in the eastern states, one may argue that existing borrowers in eastern states such as Assam, Bihar or Orissa possibly avail large volumes of loans, which in turn may crowd-out other potential borrowers. However, one would refute such a hypothesis if one considers the average *amount* borrowed per cultivator in the selected states. Table 4 depicts the loan amount per borrower from formal and informal sectors.

The last column of Table 4 shows that loan per cultivators is much lower for eastern states such as Assam, Bihar or West Bengal vis-à-vis Punjab or Haryana, or for that matter other states of India. This is worth noting because not getting adequate levels of credit is considered a major impediment to agriculture production.

Thus, the extent of accessibility or size of a loan that a cultivator household could avail is lower in eastern states. In addition, one also observes that households availing loans from the formal sector could borrow larger loans compared to households availing loans from the informal sector.

Lower accessibility in terms of both incidence and extent could be due to two reasons. First, it may be due to lower repayment, which would make lending riskier (the supply-side argument). Alternatively, lower accessibility to credit in eastern states could be due to a higher cost of borrowing (in terms of the rate of interest), which might have a negative impact on demand.

As far as repayment of a loan is concerned, it is observed that states with households having lower accessibility to credit such as Uttar Pradesh, West Bengal, Bihar and Orissa have a much lower incidence of repayment (IOR) compared to states such as Punjab and Haryana (Table 5), which are economically advanced states. For instance, while the ratio of the IOR and IOB is 36.1 for Haryana, Bihar it is 21.3. Thus, it seems that poorer

**Table 4** Average Amount Borrowed per Cultivator in Selected States (₹)

<i>States</i>	<i>Formal</i>	<i>Informal</i>	<i>All</i>
Andhra Pradesh	17,888.9	17,691.5	19,733.2
Assam	17,687.5	3,537.6	5,614.7
Bihar	24,769.2	5,897.1	8,264.7
Gujarat	12,739.1	12,739.1	28,086.0
Haryana	70,848.5	36,303.7	59,886.6
Karnataka	32,889.8	13,367.2	22,390.7
Kerala	45,426.0	16,099.3	40,917.4
Madhya Pradesh	23,787.0	12,197.0	20,091.3
Maharashtra	24,901.8	15,125.0	22,982.1
Orissa	10,623.0	4,474.6	6,946.7
Punjab	50,074.4	43,859.8	52,835.4
Rajasthan	25,881.4	18,911.3	21,875.7
Tamil Nadu	24,861.4	14,870.3	20,611.3
Uttar Pradesh	18,726.0	7,596.9	12,160.6
West Bengal	11,659.1	6,705.4	8,404.4
India	26,207.9	12,850.0	19,848.2

**Source:** Computed using the 59th Round All-India Debt and Investment Survey.

**Table 5 Incidence of Repayment (IOR) of Loans (availed July 2002–June 2003)/and Ratio of IOR and Incidence of Borrowing (IOB) for Rural Cultivator Households**

States	IOR			IOR/IOB		
	Formal	Informal	All	Formal	Informal	All
Andhra Pradesh	5.1	7.1	12.1	28.3	25.2	29.1
Assam	1.0	3.9	5	62.5	41.9	45.9
Bihar	0.2	2.7	2.9	15.4	21.8	21.3
Gujarat	3.1	3.1	6.7	33.7	33.7	30.3
Haryana	4.8	4	8.6	36.4	29.6	36.1
Karnataka	3.7	8.8	12.2	31.4	49.7	43.7
Kerala	11.6	6.0	16.8	41.9	42.6	46.3
Madhya Pradesh	2.4	1.8	4.1	22.2	13.6	19.7
Maharashtra	4.8	2.2	6.9	29.4	30.6	30.8
Orissa	1.3	4.1	5.1	21.3	34.7	30.2
Punjab	7.9	5.8	12.8	32.6	27.1	31.4
Rajasthan	1.6	1.8	3.3	27.1	14.5	18.6
Tamil Nadu	9.2	19.6	27.1	45.5	56.5	54.9
Uttar Pradesh	1.3	2.3	3.6	17.8	17.8	18.7
West Bengal	1.6	3.9	5.4	18.2	26.4	24
India	2.9	4.1	6.8	28.7	29.3	30.4

**Source:** Computed by authors using the 59th Round All-India Debt and Investment Survey, NSSO.

repayment ability of households plays a major role in influencing the supply of credit.

However, when we try to relate accessibility with the cost of borrowing (interest rate), a careful examination reveals that though there are differences in accessibility to credit across the eastern and western states, no observed differences exist in terms of interest rates (see NSSO, 2005). Thus, one tends to refute the hypothesis that lower accessibility to credit in the eastern states is due to a higher cost of borrowing. Rather it might be due to a lower repayment capability of households, which has made lending riskier in the eastern states leading to poorer supply. More precisely, it is the lenders (that is, the suppliers) who are not forthcoming to lend due to the high risk of default involved.

To summarise, from the tables in this section it seems that economically backward regions are characterised by poor accessibility to financial resources. Even though we have ascribed it to poor accessibility, strictly speaking one is not sanguine whether the low level of borrowing results from demand or supply-side reasons. Theoretically, one may very well argue that some of these states

have a lower level of incidence of borrowing because there is no demand for loans, not because they are looking for funds but because resources are not available on reasonable terms and conditions. It is, therefore, necessary to examine the issue of accessibility more rigorously to identify whether a household is actually credit-constrained or not. The next section concentrates on the issue.

### 3. METHODOLOGY FOR DETECTION OF CREDIT-EXCLUDED HOUSEHOLDS

To define credit exclusion, we consider only the production activities of cultivator households,<sup>11</sup> where a household is considered credit constrained if it has not availed a loan in spite of having a positive demand for it. It is assumed that demand for credit is positive if the saving/financial assets of the household are less than the average cost of cultivation in the district. In other words, our presumption is that households which have savings would not desire to borrow. Households that have not availed credit services due to sufficient financial assets are defined as non-excluded/non-constrained households. For a better understanding, one can consider the following diagram.

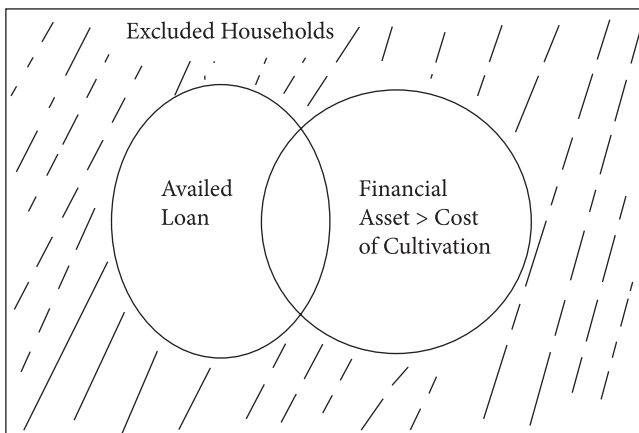
In Figure 1 households are segregated into three categories, namely, households that have availed loans, households that have not availed loans but possess financial assets above the cost of cultivation, and households which have neither availed loan nor possess sufficient financial assets to carry out production. Clearly, households which have availed a loan have access to credit. Households having financial assets above the cost of cultivation can be considered as non-excluded households. The last category, that is, households which have not availed loans and at the same time have few financial assets, could be termed credit-excluded/constrained households. In Figure 1 the credit-excluded households are represented by the shaded region.

For the econometric analysis, we have mainly used the All-India Debt and Investment Survey; however, to compute the average cost of cultivation per hectare we have used data from the Situation Assessment Survey of Farmers data. The cost of cultivation has been computed at the district for the principal crop, and then compared with financial assets per hectare of land for each household. If the financial assets per hectare of land are less than the average costs of cultivation and the household has also not availed a loan, it is classified as constrained. In this regard, it is essential to note two aspects which this

<sup>11</sup> We have not considered the consumption aspect as it is difficult to capture the demand for loans using the above two datasets.



**Figure 1** Detection of Credit-Excluded Households



**Source:** Formulated by the authors.

article could not tackle. First, households that have availed a loan might also be constrained in terms of the amount borrowed and second, the cost of cultivation per hectare of land might decrease with an increase in the size of the land under cultivation.

#### 4. ECONOMETRIC SPECIFICATION

To find out the determinant of credit exclusion, a probit model was considered. It is assumed that there is an unobservable index  $I_i$ , determined by the explanatory variables, such that the larger the value of the index  $I_i$ , the greater the probability of a family being excluded from a credit market. We express the index  $I_i$  as:

$$I_i = X_i' b + u_i$$

where  $X_i$ s are the set of explanatory variables. The relation between  $I_i$  and actual exclusion can be summarised in the following way:

$$I_i^* = 1 \text{ if } I_i \geq k_i$$

$$= 0 \text{ if } I_i < k_i$$

In the mentioned formulation,  $k_i$  is the threshold value (of the index variable) above which a family is considered credit excluded.

Given the assumption of normality, the probability that  $k_i$  is less than or equal to  $I_i$  can be computed from the standardised normal cumulative distribution function (CDF) as:

$$P_i = P(Y = 1 | X) = P(k_i \leq I_i) = P(Z_i \leq X_i' b) = F(X_i' b)$$

$$P_i = P(Y = 0 | X) = 1 - F(X_i' b)$$

The estimation of  $b$  is approximated by using the maximum likelihood method. If  $b$  is positive, it implies that the probability of being excluded from credit service increases with an increase in the explanatory variable.

In probit models, the joint significance of the variables is tested by the likelihood ratio test or the Wald test.

#### 4.1 Variables Selected for Analysis

The dependent variable in the analysis is a dichotomous variable, which assumes a value of 1 if a household is credit excluded and zero otherwise. A household can be excluded from credit services for three reasons: demand-side reasons, supply-side factors and institutional factors.

##### *Demand-side factors*

A household may prefer to remain credit excluded due to risk aversion behaviour, which either depends on the cost of availing a loan (Stiglitz and Weiss, 1981) or on the economic status of the household (see Friedman and Savage, 1948). In our analysis, the cost of credit is captured by incorporating the rate of interest as a variable. We note that in our sample there are households that have not availed a loan and we wish to examine whether this is due to demand or supply-side reasons. But for such households, we do not have the figure for the rate of interest. For households which have not availed a loan, we ascribe an imputed interest rate which is equal to the average rate of interest prevailing in the district to which the household belongs. Further, the economic status of a household is captured by considering land size as one of the explanatory variables.

In addition to risk aversion behaviour, households with alternative non-farm sources of income are likely to have a lower demand for credit since they have a possibly higher level of income compared to households engaged in a single activity. This aspect is captured by a dummy variable. Households which derive a major portion of their income from non-agricultural activities were assigned the value 1, while zero values were assigned otherwise.

### ***Supply-side factors***

Generally, the supply of loans is lower for households that lenders consider risky. This may happen if the household possesses fewer assets (compared to the loan demanded) or if the household is already deeply in debt. We have considered land size as a proxy for assets owned by a household; outstanding loans as of 30 June 2002 have also been considered as a variable to represent existing liabilities (outstanding debt).

The nature of risk may also vary from region to region. For instance, moneylenders in agriculturally developed regions may face lower risks of default and therefore may extend loans to more households. To capture this aspect, we have introduced average profit per district as one of the variables.

Apart from this, studies have also pointed out differences in financial accessibility to credit with respect to the caste status of respective households (Jodhka, 1995). Generally, lending relationships are built among households belonging to the same caste. Since the economic status of higher-caste households is higher, one can expect higher-caste households to face less exclusion from access to credit. In the proceeding analysis, to capture this aspect, a dummy variable has been introduced. A value of 1 has been assigned to households belonging to a General Caste, and 0 otherwise. To look into the impact of differences in accessibility to credit across male and female-headed households, appropriate dummy variables have been considered. Education can also play a major role in the supply of credit. Owing to better information, one can expect educated households to have greater supply of credit.

### ***Institutional factors***

'Institutions are social rules, conventions and other elements of the structural framework of social interaction' (Bardhan, 1989). We have considered religion-specific and region-specific dummies to capture the institutional differences across regions as certain social conventions and rules vary across different religions and localities. For example, charging an interest rate is not desirable in Islam. Securities provided for availing a loan can well be considered as an institutional variable. However, the data which we have used here do not provide terms and conditions of confiscating a security. In other words, appropriate data are not available to capture the institutional aspect of this variable. Usually in the case of cultivators, land is considered security and land size is already considered as a determining variable.

## 5. RESULTS

The results of our analysis are given in Table 6. As expected, it is observed that a household whose principal activity is non-agricultural faces a lower probability of being excluded from credit services. Agriculture is more shock-prone and hence, agents engaged in both agriculture and non-agricultural activities are able to diversify their risks compared to agents engaged in agriculture alone. Hence, lenders may consider the former set of households less risky for the advancement of loans. Second, one finds that the higher the supply of loans from the formal market, the lower the probability of being excluded in a region. One also observes that possessing a higher level of education (for example, secondary education vis-à-vis primary education or illiteracy) reduces the probability of exclusion.

There are, however, certain unanticipated results. First, it is observed that the variable ‘interest rate’ is negatively related with the probability of being excluded from financial services. It was expected that a higher interest rate would stop many households from availing credit due to risk aversion as it carries the risk of default. However, an opposite result may have occurred for the following reasons. In this context, it is necessary to recall our construction of the variable ‘interest rate’ as mentioned earlier. We have formed the variable ‘interest rate’ in the following way: for households which have availed a loan, the actual rate of interest was considered; for households which have not availed a loan, the ‘interest rate’ variable was formed from the average rate of interest paid by households in the district that have availed a loan. The problem with framing the variable in this manner is that districts with more formal borrowing will show a lower average interest rate. Studies have shown that the formal sector is the main source of credit in less-developed regions (Bhattacharjee et al., 2009; Bhattacharjee and Rajeev, 2010). Informal lenders who are usually from rich households are less numerous in poorer regions, since such resourceful households themselves are less prevalent in such regions. Moreover, in less-developed districts owing to poorer repayment ability of the borrowers, informal lenders may not be forthcoming. Thus, a negative relation between credit exclusion and interest rate results from the fact that households in less-developed districts (where the average interest rate is low due to primarily accessing low-interest bearing formal loans) have lower accessibility to credit (as the informal sector is not active and the formal sector is the only source).

The nature of the relationship between rate of interest and credit accessibility proves two things: first, the Indian credit market remains dependent to a large extent on private players for financial support. Second, the financial

market does not clear in risky zones through private participation. Thus, there is a greater need for government intervention for the provisioning of credit.

Let us now consider the differences across states. It is observed that households in Assam are less excluded from financial services compared to other states in India. In this context, one should note that Assam is characterised by a lower incidence of borrowing. An analysis of lower incidence of borrowing figures may initially lead to the conclusion that borrowers in Assam face credit market constraints. However, the methodology derived in this article clearly shows that based only on the incidence of borrowing figures one cannot draw a conclusion about the extent of financial inclusion or exclusion. This is because the low incidence of borrowing may also be due to the fact that the households have no demand for credit. The case of Assam may be an example of this.

However, apart from Assam, other eastern states such as West Bengal, Bihar and Orissa have a higher share of households excluded from credit services. Our analysis in the previous section revealed that among the eastern states, Assam has a higher repayment rate and fewer households below the poverty line. All the other eastern states considered had a repayment rate below the national average. Thus, lower repayment rates and the economic status of households are some of the major reasons behind credit exclusion. This is because private players do not wish to provide credit in risky regions. Therefore, many households are excluded from the market, which in turn may affect their income.

**Table 6 Regression Results: Determinants of Exclusion from the Credit Market (Probit Model)**

<i>Number of observations</i>	38,808			
Wald chi2 (22)	3,194.27***			
Pseudo R2	0.0678			
Log pseudo likelihood	-23,934.51			
		<i>Robust</i>		
<i>Explanatory Variables</i>	<i>Coefficient</i>	<i>Standard Error</i>	<i>z</i>	<i>P &gt;  z </i>
Presence of majority of income from non-agricultural sources (D.V.)	-0.31003***	0.018236	-17	0.000
Incidence of borrowing formal	-0.01313***	0.001798	-7.3	0.000
West Bengal (D.V.)	0.405204***	0.030869	13.13	0.000
Uttar Pradesh (D.V.)	0.473027***	0.027812	17.01	0.000
Tamil Nadu (D.V.)	0.073935**	0.040328	1.83	0.07
Rajasthan (D.V.)	0.751883***	0.036729	20.47	0.000

(Table 6 continued)

(Table 6 continued)

Explanatory Variables	Coefficient	Robust		
		Standard Error	z	P >  z
Punjab (D.V.)	0.14104***	0.052186	2.7	0.007
Orissa (D.V.)	0.560485***	0.039734	14.11	0.000
Maharashtra (D.V.)	0.677645***	0.035743	18.96	0.000
Madhya Pradesh (D.V.)	0.699266***	0.035781	19.54	0.000
Karnataka (D.V.)	0.58935***	0.039373	14.97	0.000
Haryana (D.V.)	0.427949***	0.050039	8.55	0.000
Gujarat (D.V.)	0.534806***	0.043766	12.22	0.000
Bihar (D.V.)	0.581184***	0.035614	16.32	0.000
Andhra Pradesh (D.V.)	0.36918***	0.038189	9.67	0.000
General Caste (D.V.)	-0.09337***	0.015828	-5.9	0.000
Long-term loan (D.V.)	-0.42366***	0.014886	-28.46	0.000
Secondary education (D.V.)	-0.26119***	0.014822	-17.62	0.000
Average agricultural profit per district	-3.67E-07	4.65E-07	-0.79	0.43
Land size	-3.8E-05***	4.29E-06	-8.86	0.000
Interest rate	-0.00372***	0.000449	-8.3	0.000
Amount outstanding as on 30.06.02	2.69E-06***	3.14E-07	8.58	0.000
Constant	0.426803***	0.031828	13.41	0.000

**Note:** Kerala was dropped because of collinearity; D.V. = dummy variable, \*\*\* implies significance at the 1 per cent level.

## 6. CONCLUSIONS

Economic theory establishes that investment (be it in fixed capital or working capital such as seed, fertiliser and so on) is critical for generating growth. Financial intermediaries provide the necessary link for mobilising savings and channelling them into productive investment. For inclusive growth, easy accessibility of credit facilities by the poor has to be ensured. In India, these facilities come from different sources, which can be broadly classified as formal and informal. The sources of credit in turn influence terms and conditions of a loan. Stringent terms and conditions can act as a critical constraint for new investment. They can also make loan burdens untenable for the poor, leading to a debt trap. Thus, accessibility to credit at reasonable terms and conditions is essential for the well-being of the poor. Within poor households, accessibility as well as terms and conditions may differ across various social groups. If that is so, it is necessary to take corrective actions to bring about equity in the system.

This article highlights the problem of accessibility to credit across states in India and shows how certain regions need prioritised attention from the government for the proper delivery of credit.

The major focus of this article was to identify the factors that explain exclusion of cultivators from the credit market, both formal and informal. It is observed that households in India are credit constrained mainly due to supply-side factors. The Indian credit market depends to a large extent on the performance of private/informal players for their financial services needs. However, the development of informal markets largely depends on the repayment ability of households in a region. If the risks of default are higher for poor households due to poverty, informal lenders will reduce credit services, which would in turn increase credit exclusion. Thus, the main contention of this article is that there is a greater need for government intervention for the provisioning of credit. In addition, the article also shows that diversion of economic activity to non-agricultural sources and the spread of education reduces the problem of excludability.

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