



Institutional versus non-institutional credit to agricultural households in India: Evidence on impact from a national farmers' survey



Anjani Kumar^{a,*}, Ashok K. Mishra^b, Sunil Saroj^a, P.K. Joshi^a

^a South Asia Office of the International Food Policy Research Institute (IFPRI), New Delhi, India

^b Arizona State University, USA

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ABSTRACT

A goal of agricultural policy in India has been to reduce farmers' dependence on informal credit. To that end, recent initiatives are focused explicitly on rural areas and have a positive impact on the flow of agricultural credit. Despite the significance of the above initiatives in enhancing the flow of institutional credit to agriculture, the links between institutional credit and net farm income and consumption expenditures in India are not very well documented. Using large, national farm household level data and IV 2SLS estimation methods, we investigate the role of institutional farm credit on farm income and farm household consumption expenditures. Findings show that, in India, formal credit does indeed play a critical role in increasing both net farm income and per capita monthly household expenditures of Indian farm families. Finally, we find that, in the presence of formal credit, social safety net programs like the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) may have unintended consequences. In particular, MGNREGA reduces both net farm income and per capita monthly household consumption expenditures. On the other hand, in the presence of formal credit, the Public Distribution System may increase both net farm income and per capita monthly household consumption expenditures.

1. Introduction

Since India's independence, the main objective of the nation's agricultural policy has been to improve farmers' access to institutional credit and reduce their dependence on informal credit. Informal credit is often usurious. In pursuit of this goal, the Government of India (GoI) has undertaken several initiatives. For example, major milestones in improving access to rural farm credit include the acceptance of the Rural Credit Survey Committee's Report (1954), the nationalization of the large commercial banks (1969 and 1980), the establishment of Regional Rural Banks (1975) and the National Bank for Agriculture and Rural Development in 1982, and the 1991 financial sector reforms. Since the passage of the historic 1991 financial reforms in India, the GoI has also launched farm credit programs including the Special Agricultural Credit Plan (1994–1995), the Kisan Credit Cards (1998–1999), Doubling Agricultural Credit within three years (2004), the 2008 Agricultural Debt Waiver and Debt Relief Scheme and the Interest Subvention Scheme (2010–11), and, more recently, the 2014 Jan Dhan Yojana (Kumar et al., 2015).

Simultaneously, several other measures have been taken to strengthen formal credit programs in India. Examples include the establishment of the Lead Bank Scheme, direct lending for priority sectors, and the banking sector's linkage with government-

* Corresponding author.

E-mail addresses: anjani.kumar@cgiar.org (A. Kumar), ashok.k.mishra@asu.edu (A.K. Mishra), s.saroj@cgiar.org (S. Saroj), p.joshi@cgiar.org (P.K. Joshi).

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sponsored programs targeted at the poor. Other programs like the Differential Rate of Interest Scheme, the Service Area Approach, the Self Help Group-Banks linkage program, Special Agricultural Credit Plans, and the Rural Infrastructure Development Fund were introduced to enhance the flow of credit to the rural sector. These initiatives with an explicit rural focus have had a positive impact on the flow of agricultural credit (Ghosh, 2005; Golait, 2007; Kumar et al., 2010, 2015; Mohan, 2006; Hoda and Terway, 2015). Since the launch of Doubling Agricultural Credit in 2004, the actual credit flow has exceeded the target consistently, and the ratio of agricultural credit to agricultural GDP has increased from 10% in 1999–2000 to about 38% in 2012–2013 (Economic Survey, 2015–2016). About 85% of the agricultural credit was used to secure inputs in the agriculture and allied sectors (Narayanan, 2016).

A number of studies have estimated the benefits of formal credit in developing countries (Binswanger and Khandker, 1995; Carter, 1989; Carter and Wiebe, 1990; Feder et al., 1990; Pitt and Khandker, 1996, 1998; Khandker and Faruqee, 2003; Awotide et al., 2015; Narayanan, 2016). These studies show that access to formal credit contributes to an increase in agricultural productivity and household income. However, despite the significance of the above initiatives in enhancing the flow of institutional credit¹ to agriculture, the links between institutional credit and agricultural productivity or household income in India are not very well documented. The literature on the effects of credit on farmers' income and economic development is sparse. The best-known study of the impact of formal rural credit in the context of India is by Binswanger and Khandker (1995), who estimated the impact of formal credit using district-level panel data, and found that formal credit increases rural income and productivity.

Other studies (Burgess and Pande, 2005; Das et al., 2009) suggested that the effect on agricultural output is either non-existent or negligible. They also point out the importance of financial inclusion in enhancing agricultural production. Subbarao (2012) found the elasticity of real agricultural GDP (AgGDP) with respect to institutional credit to be 0.22. More recently, the productivity of agricultural credit in India was examined by Narayanan (2016), who notes that credit was performing the twin roles of (1) preserving productivity through supporting mechanisation, and (2) contributing to the growth of AgGDP through the purchase of variable inputs. However, none of the above studies are based on the information provided by actual users of credit, and very little is known about the impact of formal institutional credit on returns to farming. In this context, this study aims to help understand the role of institutional farm credit on farm income and farm household consumption expenditures, with the help of a nationally representative agricultural household survey. Thus, the contribution of the present study lies in assessing the impact of formal, institutional credit on farm households' welfare (including net farm income and household consumption expenditures) based on a unique farm- and household-level dataset.

The paper is organized as follows. Section 2 describes the sample data used for the study. Section 3 explains the approach and econometric models used to assess the determinants and the impact of institutional credit. Section 4 provides the characteristics of the agricultural credit market in India. Section 5 discusses characteristics of institutional and non-institutional borrowers. Section 6 discusses the determinants for access to formal credit and Section 7 discusses the impact of institutional credit on farm income and household expenditures. Finally, Section 8 concludes and discusses policy implications.

2. Data

The study uses farm-level data from a nationally representative survey conducted by the National Sample Survey Organization in 2013. The survey's purpose was to assess the status of farmers and farming in India (Gol, 2014). It covered 4529 villages spread across the country and elicited information from 35,200 farming households. The information was collected primarily for the agricultural year 2012–2013. The same households were visited twice during the survey period. The first visit was in January–July 2013, and the second visit was in August–December 2013. For crops, information on *expenses* and *receipts of cultivation* were collected for the period July–December 2012 on the first visit and for January–June 2013 on the second visit. The survey made sure that all the crops, whether principal or not, harvested during the agricultural year 2012–2013 were considered in the first or second visit. The same reference period was also used for collecting information on *productive assets*. For other information, different reference periods were used. For instance, information on land possession and indebtedness was '*as on the date of survey*'; information on farming of animals was collected as in '*last 30 days*'; and information on non-farm business and consumer expenditures and the principal source of income was collected on a '*last 365 days*' basis. In other words, the survey collected comprehensive information on the socioeconomic well-being of agricultural households, consumption expenditures, income from productive assets, borrowing, lending and indebtedness, their farming practices and preferences, resource availability, receipts and expenses of households' farm and non-farm businesses, their awareness of technological developments and access to modern technology.

3. Empirical framework

To investigate the effect of formal credit on farmers' well-being, we use two specific research objectives. First, we assess the characteristics of farms and households associated with their access to institutional credit — a participation equation. Note that we put forward the issue as one of involvement and not of selection, because several characteristics that we observe now would be different at the time of selection. Second, we assess the impact of formal credit on the economic welfare (farm income and household consumption expenditures) of farm operator households.

One of the significant problems in the literature is to identify the causal impact of formal credit on farm income. It is clear that several observed and unobserved characteristics that result in positive or negative selection to participate in the formal credit market

¹ In this study, institutional credit is also referred to as formal credit, while non-institutional credit is referred to as informal credit.

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