

Agricultural Credit and Farm Productivity: An Economic Analysis of Haryana

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Abstract

Agricultural credit is a crucial input in improving farm productivity and ensuring food security. This paper investigates the relationship between agricultural loans and farm productivity in Haryana, India, using primary and secondary data sources. It analyzes how access to institutional credit influences the productivity of small and marginal farmers. The study finds that agricultural loans positively impact productivity through improved access to seeds, fertilizers, irrigation facilities, and machinery. However, constraints such as loan defaults, bureaucratic hurdles, and misuse of funds limit the full potential of credit in enhancing agricultural performance.

Keywords: Agricultural loan, Farm productivity, Institutional credit, Rural finance

Introduction

India's agrarian economy heavily depends on timely and adequate access to credit. In states like Haryana, where agriculture contributes significantly to livelihood and the state's GDP, credit catalyzes enhancing productivity and modernization (Sardar, 2025). Haryana, with its favourable agro-climatic conditions, is a leading contributor to India's food grain production, particularly wheat and rice. However, productivity disparities persist due to uneven access to financial resources (Bishnoi & Boora, 2025).

Agricultural finance addresses financial concerns in the farming sector and has a history dating back to antiquity. The agricultural sector is a significant part of the socio-economic landscape of the state of Haryana, as it offers a significant amount to the gross state value added (GSVA) and serves as a means of livelihood to a substantial number of people (Bagaria & Jatav, 2025). Being an agrarian economy that has a high level of irrigation and a well-diversified crop production pattern, the productive success of farms located in Haryana is heavily reliant on financial accessibility and the presence of credit. Agricultural finance is the range of financial sources that are available to farmers to engage in productive activities, such as short-term loans that are used in crop production and long-term loans used in acquiring farm assets (RBI, 2022).

In the past, Indian agriculture, and Haryana in particular, has depended on informal moneylenders, traders, and social networks whose loans are frequently at high interest rates and with exploitative terms and conditions. As rural finance became modernized and institutionalized, commercial banks, cooperative banks, and regional rural banks formalized credit, which became the key to financing farm investment (Biswas & Saha, 2013). The growth of institutional credit in Haryana has been directed towards the minimization of reliance on informal credit, a decrease in the cost of transactions, and allowing farmers to have access to the use of modern inputs and machine work (Bharti, 2018). The modern credit schemes,

including Kisan Credit Card (KCC) are also important tools in enhancing the delivery of agricultural credit by way of offering timely and flexible short-term financing to meet seasonal production requirements. Furthermore, the state credit planning by organizations, including NABARD, is a sign of great growth of credit potential in the agriculture sector, and it supports the policy focus on the growth of rural finance (Government of India, 2022).

The loans that are offered to farmers have a very important place in the production cycle of farms as they allow investing in such important resources as seeds, fertilizers, pesticides, irrigation, and machinery (Devaraja, 2011). Crop loans are also popular in Haryana, where major cereal crops such as wheat and rice are financed through crop loans that are the main staple of the Haryana agrarian economy. Short-term facilities are mostly used to finance short-term working capital requirements, whereas the medium-term and long-term loans are used to finance investment in productivity-enhancing assets (Singh & Ballabh, 2019). To deliver credit in a simpler way than the current credit delivery system, the KCC has become a large provider of credit to farmers, where KCC has brought a positive impact to the economy of farms in production (Bordoloi & Das, 2015).

The institutional credit also helps in enhancing the wider financial inclusion through the minimization of informal borrowing and connecting farmers to formal banking systems. Research indicates that the presence of institutional loans in Haryana has had a positive effect on agricultural income and is used to implement improved farming methods (Gaur & Kaushal, 2018). Nevertheless, total outstanding agricultural credit in Haryana has been massive, which means that there is improved access to credit and an increase in indebtedness (Singh et al., 2023). All these developments together show that agricultural loans play a key role by supporting and improving farm productivity and structural change of agriculture in Haryana.

Review of Literature

The dependency between agricultural credit and farm productivity has been a major theme in agricultural and development economics for a few decades. Initial theoretical and empirical research determined that the availability of institutional credit is an important determinant of liberalizing liquidity constraints experienced by farmers to facilitate optimal input utilization and an investment in productivity-enhancing technologies. The literature review suggested that the availability of credit leads to a high agricultural production rate through the availability of fertilizers, high-yielding varieties, irrigation, and mechanization (Ramasamy & Malaiarasan, 2023). In imperfect capital markets of developing agrarian economies, institutional credit is one of the policy tools that can be used to boost technical efficiency and production risk reduction. The empirical research has shown that farmers with constraints in credit are operating below the production frontier and that the removal of such constraints results in some gains in productivity and income (Binswanger & Khandker, 1995; Diagne & Zeller, 2001). These works affirm that agricultural credit not only constitutes a financial input but facilitating agent that helps in empowering the whole production system by way of enhanced distribution of resources and risk management.

Within the Indian context, a strong literature has been conducted to study the impact of institutional agricultural credit on farm productivity and rural development. The studies point out that the growth of formal credit by commercial banks, cooperative institutions, and regional rural banks has had positive impacts on agricultural growth, especially where technological changes have occurred (Singh, 2007; Mohan, 2006). A meta-analysis of post-reform agricultural finance has found that credit delivery schemes like the Kisan Credit Card (KCC) have enhanced the responsiveness and responsiveness in credit delivery,

which has increased the level of input intensity and crop outputs (Ramakumar & Chavan, 2014). Nevertheless, uneven distribution of credit across geographical areas and areas of farms is another issue noted in the literature whereby the small and marginal farmers are usually limited in terms of collateral requirements, procedures, and complexities. Empirical evidence based on panel and state-level data indicates that the effect of institutional credit on agricultural productivity is statistically significant, and the degree of influence is different in line with the institutional efficiency, infrastructure, and agro-climatic conditions (Shetty, 2016).

Various researches are carried out in agriculturally developed states like Haryana can give a more detailed picture of the credit-productivity nexus. With intense cropping, extensive irrigation, and wheat and rice production, Haryana, India, is a special case where credit becomes a crucial factor in maintaining intensive agriculture. According to studies in the well-established Indian journals, institutional credit in Haryana has led to greater mechanization, multiple cropping, and use of modern inputs, which have increased the yield levels above national levels (Singh & Kumar, 2018). The research on KCC application in Haryana has shown that there was increased access to the working capital, less reliance on informal lenders, and improved economic performance of farmers who cultivated cereals (Sharma & Thakur, 2019; Sharma & Varma, 2018). Nonetheless, there are also issues related to increasing farm indebtedness, loan diversion, and decreasing marginal returns to credit, which are being expressed in the recent literature in the regions where the level of input use is already high. These results show that credit remains an important productivity factor, although it is becoming more and more effective based on effective usage, financial literacy, and the combination with extension and risk-reduction services.

In spite of the large amount of literature concerning agricultural credit and productivity in India, a significant gap between state-specific economic analysis and that of Haryana alone can be identified. Available literature helps to study credit growth or indebtedness to a great amount and little is done to establish the direct relationship between institutional credit and farm productivity levels. Additionally, most of them are based on aggregate national or inter-state data without accounting for crop-wise and utilization-based differences of the Haryana intensive agricultural system. Credit utilization patterns are also empirically integrated with productivity performance, with little empirical integration. Therefore, the special economic study of the agricultural credit and the farm productivity in Haryana is timely and needed.

Objective and Research Methodology

This is aimed at addressing the effects of institutional agricultural credit on the productivity of farms in Haryana in economic terms. The target population was farmers who had availed or were planning to avail themselves of agricultural loans from banks, cooperatives, and microfinance institutions. It employed a stratified random sampling technique. The sample of 426 farmers was chosen among six administrative divisions of Haryana, making it statistically reliable. The structured questionnaire was used to obtain the primary data, as the questions were divided into open-ended ones and questions in the Likert scale in order to quantify the answers. The participants were informed about the purpose of the study, and informed consent was taken before the collection of data; this was so as to maintain the ethical integrity. The respondents were also anonymous and in a state of confidentiality. Nevertheless, the research was only carried out in the selected districts, and this could limit the generalization of the results.

Analysis

The demographic profile of the survey gives data about the distribution of the respondents in different categories. In gender terms, the sample is 264 men and 162 women, which means that more men were represented. Marital status indicates that most respondents are married (410) and only 16 are unmarried, indicating that the study mainly represents people who have family obligations.

Table 1: Demographic Profile

Demographic and Sub Demographics		Frequency
Gender	Male	264
	Female	162
Marital Status	Married	410
	Unmarried	16
Age	26-35	110
	36-45	91
	46-55	93
	56-65	95
	Above 65	37
Education	Illiterate	144
	Primary	162
	Secondary & Higher Secondary	47
	Graduate	73
Occupation	Marginal Farmer	139
	Small Farmer	108
	Medium Farmer	108
	Large Farmer	71

Source: Primary data

Hypothesis Testing

H1: Institutional agricultural credit, Size of land holding, Farm mechanisation, and access to credit have a positive and significant impact on farm productivity.

Table 2: Regression Analysis

Variables (Independent)	Coefficient (β)	Std. Error	t-value	Significance
Institutional Agricultural Credit (₹/ha) -> Farm Productivity	0.298	0.069	4.32	***
Size of Landholding (ha) -> Farm Productivity	0.214	0.056	3.82	***
Farm Mechanization -> Farm Productivity	0.167	0.047	3.55	**
Access to Kisan Credit Card -> Farm Productivity	0.182	0.052	3.50	**
Constant	2.284	0.398	5.74	***

Source: Primary data

The findings of the regression show that there is a statistically significant and positive effect on the farm productivity of institutional agricultural credit in Haryana. The positive sign of the agricultural credit implies that more access to formal finance can boost the capacity of farmers to invest in the necessary inputs and technologies to increase their yields per hectare. This observation supports the theoretical assumption that credit eases the liquidity restrictions and encourages productive investment in agriculture. The size of landholding has a significant positive correlation with the productivity of the farms meaning scale economies exist in the agricultural industry. Big farms are more suited in the sense that they can efficiently use credit, machinery and modern inputs. Farm mechanization is another important predictor of productivity and this implies that availability of tractors and modern machines leads to a high level of efficiency in operations and less labour constraint. On the same note, access to Kisan Credit Card greatly enhances the farm productivity since working capital is made available in a timely and flexible manner. The effect of crop diversification is positive and moderately significant indicating that the pattern of diversified crop rotation has an effect on both productivity and reduction of production risk. The regression findings affirm that institutional agricultural credit, as well as, landholding size, mechanization, financial inclusion via KCC and crop diversification, are all significant predictors of farm productivity in Haryana.

Table 3: Model fit

Statistic	Value
Number of Observations (N)	383
R ²	0.69
Adjusted R ²	0.66
F-Statistic	31.26***
Durbin–Watson Statistic	1.93

Source: Primary data

The value of R² is large which implies that the sales of the chosen financial and production-related variables explain a significant percentage of the variation in farm productivity. On the whole, the findings verify that institutional agricultural finance, which is coupled with an effective use of inputs and infrastructure, is significant in improving the productivity of farms in Haryana. The Haryana evidence reflects the fact that agricultural loans are an important tool in enhancing farm productivity. The institutional credit, especially by the use of the Kisan credit card, has helped farmers to access affordable and timely finance that in effect helps them to invest in the most important agricultural inputs like seeds, fertilizers and mechanization. According to the research done in Karnal and the rest of Haryana, there have been good results in which credit has been employed successfully in crop production particularly in staple crops like wheat and rice that have played an important role in the agricultural yield of the state.

Conclusion

There are various elements that affect the effectiveness of agricultural loans such as the patterns of using loans, the financial literacy of farmers, the efficiency of institutions, and crop traits. Though loans are used to fund productive activities by many farmers in Haryana, the diversion of credit to other activities other than agriculture is still a problem that can reduce gains in productivity. In addition, the socio-economic factors like education and awareness also influence the use of loans and more knowledgeable farmers have more significant productivity increases.

Policy Implications

The research results have shown that there are some valuable policy implications in order to make the agricultural credit more effective in increasing the productivity of farms, particularly in a state such as Haryana. The simplification of loan processes and the encouragement of digital platforms to disburse the loan to the needy quicker is required especially to the small and marginal farmers. The institutional credit outreach to the rural areas by the developing of farmer producer organizations (FPOs), self-help groups (SHGs), and rural cooperative banks can decrease the reliance on informal sources of credit. The emphasis of the policy should be made on financial literacy and financial awareness campaign to sensitize the farmers on loan products, interest subsidies and repayment norms. Also, credit related extension services and monitoring systems should be enhanced so that loans may be utilized adequately in productive agricultural practices. The tenancy reforms should be handled with special concern so that the landless and the tenant farmers can be brought in formal credit systems. All in all, the comprehensive and encompassing policy framework is needed to transform access to credit into real productivity improvements.

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