



Punjab farmers' financial journey: evaluating loan sources from 2002 to 2019

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Abstract

This study examines the evolution of loan sources accessed by farmers in Punjab from 2002 to 2019, focusing on income growth and the dynamics of institutional and non-institutional credit. Utilizing data from the 59th and 77th rounds of the National Sample Survey Office (NSSO) Situation Assessment Survey, this analysis covers a range of factors, including outstanding loan amounts, borrowing patterns, and interest rates across various landholding categories.

Findings indicate a notable increase in average income across all farmer categories, with significant correlations to enhanced access to institutional loans. The proportion of institutional loans has risen sharply, with marginal farmers increasing their reliance from 24.9% to 79.7% by 2019. Conversely, non-institutional loan dependence declined, reflecting a shift towards more formal credit sources. The analysis reveals that while larger farmers benefit more from institutional credit, marginal and small farmers also exhibit improved access, though they continue to face challenges. Overall, this study highlights the changing landscape of farmer financing in Punjab, underscoring the impact of policy initiatives aimed at improving credit accessibility and financial stability among agricultural households.

Keywords: Punjab, Farmers, Loan sources, Institutional credit, Non-institutional credit, Income growth

Introduction

Agriculture remains the backbone of India's economy, with over half of the population reliant on farming for their livelihood. Punjab, known as the "Granary of India," plays a critical role in the country's food production, contributing significantly to the national grain reserves. However, the financial landscape for farmers in this region is fraught with challenges that make loans an integral part of their financial journey. For decades, farmers in Punjab have relied on both institutional and non-institutional loans to manage the cyclical nature of agriculture, which is marked by uncertain returns and high costs. Fluctuating agricultural income, driven by factors such as unpredictable weather, fluctuating crop prices, high input costs, and the risk of crop failure, places significant financial pressure on farmers, often compelling them to seek external financial assistance (Sharma, 2007) ^[6]. Beyond these economic challenges, rural households in Punjab also face additional financial burdens due to non-productive expenditures like consumption needs, education, and marriage ceremonies, further driving their reliance on credit (Gill & Singh, 2016) ^[9].

The farming sector in Punjab is heavily dependent on credit as a buffer against the volatility of agricultural income. Several studies have highlighted the vulnerability of Indian farmers to financial risks due to erratic weather patterns, market volatility, and rising input costs. For instance, Gill and Brar (2007) ^[3] emphasize that the cost of essential agricultural inputs—such as seeds, fertilizers, pesticides, and irrigation—has surged in

recent years, leading to an increase in the cost of production. This, combined with price fluctuations in the market, has often left farmers with insufficient earnings to cover these costs. Moreover, unpredictable environmental factors like monsoons or droughts heighten the risk of crop failures, further straining farmers' financial resources (Singh et al., 2018) ^[8]. In such conditions, access to credit becomes indispensable for sustaining agricultural operations and ensuring the livelihood of rural households.

Beyond agricultural concerns, rural families in Punjab often face considerable expenses related to social customs such as weddings, dowries, and religious ceremonies, which require significant outlays of capital. These financial commitments frequently compel farmers to seek loans, compounding their debt burden and affecting their overall financial stability (Gill, 2012) ^[11]. Therefore, farmers in Punjab often turn to both institutional and non-institutional sources of credit to manage their financial challenges.

Institutional loans: promoting agricultural growth and rural livelihoods

Institutional loans, provided by banks, cooperatives, and government-backed financial institutions, have been widely recognized as a crucial mechanism for fostering agricultural growth and rural development. These loans generally offer more favorable interest rates, transparent lending conditions, and formal financial security, which are essential for enabling farmers to invest in productivity-enhancing agricultural

technologies and practices (Kumar et al., 2014) ^[4]. By improving access to credit, institutional loans can help alleviate some of the financial pressures faced by farmers and encourage greater agricultural productivity, ultimately leading to enhanced livelihoods in rural areas.

Several studies have highlighted the role of institutional credit in promoting sustainable agricultural growth. For instance, Singh and Sidhu (2010) ^[7] argue that formal financial institutions play a vital role in providing capital to farmers, allowing them to invest in better inputs, machinery, and irrigation facilities. Similarly, Nair and Tankha (2015) ^[5] emphasize that institutional loans often come with formalized structures that include clear repayment schedules, reasonable interest rates, and provisions for loan rescheduling in cases of crop failure. These features make institutional loans a more reliable and transparent source of credit compared to non-institutional options.

Despite the availability of institutional credit, non-institutional loans from moneylenders, traders, and informal sources remain prevalent in Punjab's rural economy. The reasons for this persistence are manifold, ranging from ease of access and informal relationships to the absence of strict collateral requirements (Gill, 2017) ^[2]. Non-institutional lenders often provide quicker access to credit, without the bureaucratic hurdles associated with formal financial institutions, making them an attractive option for farmers facing urgent financial needs.

Moreover, in many rural areas, long-standing relationships between farmers and moneylenders have created a system of informal credit that operates outside the formal financial sector. These relationships often rely on trust and social ties, allowing farmers to secure loans even without substantial collateral or formal documentation (Singh & Singh, 2019) ^[10]. This flexibility is particularly important for small and marginal farmers, who may not meet the eligibility criteria for institutional loans due to a lack of collateral or poor credit history. Consequently, despite the government's efforts to increase access to institutional credit, non-institutional sources continue to play a significant role in rural financial ecosystems.

Literature review

The rural credit market plays a fundamental role in supporting agricultural productivity and income growth for farmers, particularly in Punjab, India. Access to credit is essential for farmers to manage uncertainties such as seasonal income fluctuations, high input costs, and crop failure risks. Over time, two primary credit sources have emerged: institutional and non-institutional loans. Institutional loans are provided by banks, cooperatives, and other formal financial institutions, whereas non-institutional loans come from moneylenders, traders, and relatives. Both forms of credit have had significant impacts on Punjab's agricultural economy, although the effects on farmers' prosperity differ substantially (Singh, 2019) ^[10]. This literature review assesses key studies that focus on the relationship between institutional and non-institutional loans and farmers' economic well-being, loan distribution, and interest rate trends from 2002 to 2019.

Several studies highlight the relationship between institutional loans and farmers' income growth. According to Gill (2012) ^[1], institutional credit plays a vital role in increasing agricultural productivity by enabling farmers to invest in essential agricultural inputs, such as seeds, fertilizers, and machinery. Institutional loans generally come with lower interest rates, making them more affordable for farmers and fostering long-term income growth. Similarly, Singh and Sidhu (2010) ^[7] found that farmers with regular access to institutional credit have greater opportunities for agricultural investment, leading to sustained income growth.

In contrast, non-institutional loans often impose exploitative interest rates and informal repayment terms, which stifle income growth. Non-institutional loans are primarily used for consumption expenditures, such as medical emergencies and weddings, rather than for agricultural investments (Gill, 2017) ^[2]. As a result, farmers who depend on non-institutional credit are more likely to fall into cycles of debt, thereby limiting their financial stability and income growth.

The distribution of credit across different landholding categories shows significant disparities. According to Gill and Brar (2007) ^[3], larger landholders have better access to institutional loans due to their ability to offer collateral and maintain financial records. Institutional lenders, such as banks and cooperatives, prefer to lend to farmers with larger landholdings, as these farmers are perceived to be more creditworthy. This enables large-scale farmers to invest in productivity-enhancing technologies, which further boosts their income.

In contrast, small and marginal farmers often face barriers to accessing institutional credit, including a lack of collateral and formal documentation. As a result, these farmers turn to non-institutional lenders, who provide loans without collateral but at significantly higher interest rates (Kumar, Singh, & Joshi, 2014) ^[4]. The ease of access to non-institutional loans is counterbalanced by the high cost of borrowing, which limits small farmers' ability to improve their agricultural productivity and income.

Institutional loans are characterized by structured interest rates, which are typically lower and more stable compared to non-institutional loans. According to Nair and Tankha (2015) ^[5], interest rates on institutional loans have remained relatively low due to government initiatives to promote agricultural credit, particularly through subsidized loans from banks and cooperatives. This has made institutional loans an attractive option for farmers who qualify for such loans.

Non-institutional loans, on the other hand, are notorious for their high interest rates, which often range from 36% to 50% annually (Gill, 2017) ^[2]. Moneylenders and traders in rural areas exploit the lack of formal financial access by charging exorbitant rates, trapping farmers in cycles of debt. As Singh, Kaur, and Dhillon (2018) ^[8] note, the informality and lack of regulation surrounding non-institutional lending practices further exacerbate the financial vulnerabilities of farmers, particularly smallholders.

The existing literature consistently underscores the advantages of institutional loans in promoting income growth and financial

security for farmers. However, significant gaps remain in understanding the accessibility of institutional credit across different landholding sizes. Gill (2017) ^[2] argues that institutional credit policies have disproportionately benefited large-scale farmers, while smallholders continue to face significant barriers. This suggests a need for further investigation into how institutional lending policies could be restructured to better serve small and marginal farmers.

Additionally, while there is ample evidence of the adverse effects of non-institutional loans, few studies have examined how the government's efforts to expand institutional credit access have impacted the prevalence of non-institutional loans over time. For instance, Singh and Sidhu (2010) ^[7] and Kumar et al. (2014) ^[4] acknowledge the expansion of institutional credit but do not explore how this has influenced the overall loan market composition, particularly in rural areas where non-institutional credit persists.

The literature demonstrates the strong relationship between loan access and income growth, which is central to the objectives of this study. However, few studies have explored the long-term changes in borrowing patterns and the shift from non-institutional to institutional loans. This research will fill this gap by providing a comprehensive analysis of borrowing trends from 2002 to 2019, examining loan outstanding amounts, borrowing patterns, and the distribution of loans across landholding sizes.

Additionally, this study will investigate the evolution of interest rate trends among both institutional and non-institutional loan sources. By focusing on Punjab's unique agricultural landscape, this research will offer insights into how policy changes and market dynamics have influenced farmers' loan access and their financial outcomes. The findings from this study will contribute to the broader discourse on rural credit markets and offer practical recommendations for improving financial inclusion among small and marginal farmers.

Objective of the study

1. To analyze the relationship between farmers' income growth and their access to loans, focusing on loan outstanding amounts and borrowing patterns across different land sizes.
2. To evaluate the changes in the distribution of institutional and non-institutional loan sources among Punjab farmers across various landholding categories between 2002-03 and 2018-19.
3. To investigate trends in interest rates and loan shares among institutional and non-institutional sources.

Research methodology of the study

This study utilizes data from two key rounds of the Situation Assessment Survey (SAS) of Farmer Households, conducted by the National Sample Survey Office (NSSO) in India. The

focus is on analyzing the financial journey of farmers in Punjab between 2002-03 and 2018-19, particularly examining credit accessibility, income, and indebtedness trends. The two rounds of surveys, the 59th round (2003) and the 77th round (2019), provide comprehensive data on rural households, including their income, assets, farming practices, and indebtedness, which are critical for evaluating changes in loan sources over time.

The 59th round, conducted in 2003, surveyed 51,770 farmer households across rural India, including 1,279 farmer families from Punjab, representing a population of 7,467 individuals. This survey categorized loans into institutional and non-institutional sources, with institutional loans including those from government agencies, cooperatives, and banks, and non-institutional loans from moneylenders, traders, and relatives. The 77th round, conducted in 2019, surveyed 939 agricultural households in Punjab, representing a population of 4,759 individuals. This round provided a more detailed classification of loan sources, such as micro-finance institutions and other government-backed schemes. To ensure comparability between the two rounds, loan sources were harmonized into two broad categories: institutional loans and non-institutional loans. Institutional loans included sources such as banks, cooperatives, and government bodies, while non-institutional loans consisted of loans from moneylenders, traders, and personal networks.

The methodology addresses the challenge of differing classifications of loan sources between the two surveys by consolidating them into comparable categories. This harmonization allows for a meaningful comparison of credit sources across both time periods. In addition, exclusion criteria were applied to ensure consistency, with small loans (outstanding amounts below Rs. 300 in 2003 and Rs. 500 in 2019) excluded from the analysis. The primary focus of the analysis is on changes in the distribution of institutional and non-institutional loans across different landholding sizes and examining trends in interest rates and the relative shares of these loan sources over time. This approach provides insights into how farmers' reliance on various credit sources has shifted, particularly the growing role of institutional loans such as formal banking institutions and government schemes in improving credit access.

To ensure accuracy in comparing the financial data from the two periods, all monetary values were adjusted for inflation using the Consumer Price Index (CPI) with 2016-17 as the base year. This inflation adjustment allows for a realistic comparison of the economic conditions of farmers over time by accounting for changes in purchasing power. Through this methodology, the study aims to provide a detailed understanding of the evolution of rural credit markets in Punjab, focusing on how access to institutional and non-institutional credit has impacted farmers' income, debt levels, and overall financial well-being between 2002-03 and 2018-19.

Analysis of the study**Landholding patterns and credit accessibility among farmers****Table 1:** Punjab farmers' income and credit accessibility patterns by landholding size (2002-03 vs. 2018-19)

Year	Farmer category	Farmer households	Average annual income (₹)	% Loanee households	% Institutional loan recipients	% Non-institutional loan recipients	Average loan outstanding (₹)
2002-03	Marginal (< 1 Acre)	937,990	95,520	56.7	16.6	43.5	57,261
	Small (1-1.99 Acre)	128,837	102,580	57.4	29.2	37.3	123,103
	Medium (2-4.99 Acre)	389,197	149,022	77.8	48.0	41.6	135,051
	Large (5 Acre & more)	388,149	355,853	78.1	64.2	36.2	424,233
	Overall	1,844,174	162,098	65.7	34.1	41.1	172,572
2018-19	Marginal (< 1 Acre)	626,560	211,546	35.1	24.6	18.1	118,577
	Small (1-1.99 Acre)	327,309	175,749	57.9	32.7	34.9	215,221
	Medium (2-4.99 Acre)	276,674	263,932	72.5	65.0	33.9	365,010
	Large (5 Acre & more)	236,596	667,930	79.2	76.4	40.1	778,750
	Overall	1,467,139	287,037	54.4	42.4	28.4	358,621

The results presented in this table are calculated by the authors using unit-level data from the NSSO 59th Round (Situation Assessment Survey, 2002-03) and the NSSO 77th Round (Situation Assessment Survey, 2018-19). The data are estimated in Indian Rupees (₹), adjusted to constant 2016-17 prices.

Income growth

Between 2002-03 and 2018-19, Punjab farmers experienced significant increases in average annual income across all landholding categories. For marginal farmers (less than 1 acre), income rose from ₹95,520 in 2002-03 to ₹211,546 in 2018-19. Similarly, small farmers (1-1.99 acres) saw their income increase from ₹102,580 to ₹175,749, while medium farmers (2-4.99 acres) experienced growth from ₹149,022 to ₹263,932. Large farmers (5 acres and above) witnessed the most pronounced increase, with income more than doubling from ₹355,853 to ₹667,930.

This data highlights a clear correlation between landholding size and income growth, with larger farmers benefiting the most. The rise in income for larger farmers likely reflects their access to better resources, including advanced technologies, economies of scale, and more efficient farming practices. However, the marked improvement in income for marginal farmers may be attributed to agricultural modernization, government policies, and rural development initiatives that have helped boost small-scale farmer incomes.

Loan accessibility

Loan accessibility patterns also underwent significant changes during this period. For marginal farmers, the percentage of households with loans decreased drastically from 56.7% in 2002-03 to 35.1% in 2018-19. This suggests that smaller farmers may have either faced greater barriers to credit access or reduced their reliance on loans due to financial challenges or improved self-reliance.

In contrast, the percentage of loanee households among small farmers remained relatively stable, increasing slightly from 57.4% in 2002-03 to 57.9% in 2018-19. Medium and large farmers, however, consistently showed high levels of loan access, with medium farmers dropping slightly from 77.8% to 72.5%, and large farmers increasing from 78.1% to 79.2%.

The data also points to a shift towards institutional credit. For marginal farmers, institutional loan recipients increased from 16.6% in 2002-03 to 24.6% in 2018-19, indicating an

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improvement in formal credit access. This trend is more pronounced for larger farmers, with institutional loan recipients rising from 64.2% to 76.4% over the same period. These findings suggest that institutional credit schemes have become more accessible, though larger farmers appear to have benefited disproportionately.

Average loan outstanding

The average outstanding loan amount increased substantially across all landholding categories. Marginal farmers saw their average loan amount grow from ₹57,261 in 2002-03 to ₹118,577 in 2018-19. Similarly, small farmers' average loan outstanding rose from ₹123,103 to ₹215,221, medium farmers from ₹135,051 to ₹365,010, and large farmers from ₹424,233 to ₹778,750.

This sharp increase in loan sizes may reflect a growing need for credit to meet rising input costs, higher investments in technology, and consumption expenditures. Larger farmers, with their significant gains in income, also saw the highest increase in average loan size, indicating a clear linkage between landholding size, income, and the capacity to secure larger loans.

Several key trends emerge from the analysis of the data in Table 1. First, landholding size is a critical determinant of both income growth and credit access. Larger farmers consistently access more credit and experience higher income growth, while marginal farmers face challenges in maintaining loan accessibility.

Second, there has been a clear shift toward institutional loans, with a decline in non-institutional loan recipients across all categories. For example, non-institutional loan recipients among marginal farmers dropped from 43.5% in 2002-03 to 18.1% in 2018-19, while small farmers saw a decline from 37.3% to 34.9%. This suggests that formal credit schemes aimed at reducing rural indebtedness to informal lenders have been relatively successful.

In conclusion, while income levels have risen across all landholding sizes, access to credit—particularly from

institutional sources—has become increasingly polarized. Larger farmers have benefited the most from improved credit access and higher incomes, whereas marginal farmers still face significant challenges in securing the financial resources

needed for growth. This divergence has important implications for rural development and the need for more targeted interventions to support smaller farmers in accessing formal credit systems.

Institutional and non-institutional loans proportion in Punjab

Table 2: Changes in institutional and non-institutional loan rates and amounts among Punjab farmers by land size (2002-03 and 2018-19)

Year	Farmer Category	Avg Inst. Loan	Inst. Loan Rate	Avg Non-Inst. Loan	Non-Inst. Loan Rate	Proportion Inst. Loan
2002-03	Marginal (< 1 Acre)	14,252	14.2	43,009	18.9	24.9
	Small (1-1.99 Acre)	55,383	12.2	67,720	15.8	45.0
	Medium (2-4.99 Acre)	65,304	13.4	69,746	23.4	48.4
	Large (5 Acre & more)	226,790	14.5	197,444	23.1	53.5
	Overall	82,719	14.1	89,854	22.0	47.9
2018-19	Marginal (< 1 Acre)	94,484	10.4	24,093	10.2	79.7
	Small (1-1.99 Acre)	142,119	8.3	73,103	19.7	66.0
	Medium (2-4.99 Acre)	269,979	7.7	95,031	17.8	74.0
	Large (5 Acre & more)	658,284	8.6	120,467	15.6	84.5
	Overall	282,407	8.5	76,214	16.7	78.7

The results presented in this table are estimated by the authors using unit-level data from the NSSO 59th Round (Situation Assessment Survey, 2002-03) and the NSSO 77th Round (Situation Assessment Survey, 2018-19). The data are estimated in Indian Rupees (₹), adjusted to constant 2016-17 prices.

Table 2 provides a detailed overview of the changes in institutional and non-institutional loan sources among Punjab farmers by landholding category from 2002-03 to 2018-19. This analysis is essential for understanding the evolution of credit accessibility and its implications for farmers' economic conditions.

Changes in average loan amounts

The average institutional loans for marginal farmers (those with less than 1 acre) saw a significant increase from ₹14,252 in 2002-03 to ₹94,484 in 2018-19, indicating enhanced financial support from formal sources. In contrast, non-institutional loans for the same group increased from ₹43,009 to ₹24,093, reflecting a contrasting trend and a complex reliance on both loan sources.

Small and medium farmers

For small farmers (1-1.99 acres), average institutional loans grew from ₹55,383 to ₹142,119, whereas non-institutional loans rose more modestly from ₹67,720 to ₹73,103. This trend continues for medium and large farmers, demonstrating a consistent shift towards greater access to institutional credit, especially among larger landholders.

Interest rates trends

The interest rates on loans exhibited notable changes. Institutional loan rates decreased across all categories; for instance, marginal farmers experienced a drop from 14.2% to 10.4%. Conversely, non-institutional rates showed a mixed trend, with marginal farmers seeing a slight decline from 18.9% to 10.2%, while small farmers faced an increase from 15.8% to 19.7%. This disparity underscores a growing incentive to prefer institutional loans.

Proportion of institutional loans

The proportion of institutional loans has substantially increased across all landholding categories. Marginal farmers' reliance on institutional loans surged from 24.9% in 2002-03 to 79.7% in 2018-19. Similarly, small farmers' reliance grew from 45.0% to 66.0%, medium farmers from 48.4% to 74.0%, and large farmers from 53.5% to 84.5%. This indicates a strong shift toward institutional credit sources, likely influenced by policies aimed at improving access to formal credit.

In conclusion, Table 2 highlights significant transformations in the distribution of institutional and non-institutional loan sources among Punjab farmers between 2002-03 and 2018-19. The marked increase in average loan amounts, the decline in institutional loan rates, and the rising proportion of institutional loans collectively reflect the changing dynamics of farmer financing in Punjab. These insights are critical for understanding how credit access influences farmers' economic viability, especially amid ongoing agrarian challenges in the region.

Institutional loan pattern

The total loan disbursed in Punjab in 2002-03 was 20,909.10 crore, distributed across 17.51334 lakh loans and 15.46739 lakh persons. As per the data from 2018-19, the total loan disbursed changed to 28,603.77 crore, with 13.79926 lakh loans given to 12.01018 lakh persons. We have categorized the following types of sources to explain institutional and non-institutional loans: The analysis of Tables 3 and 4 provides critical insights into the trends in interest rates and loan shares among institutional and non-institutional loan sources for Punjab farmers from 2002-03 to 2018-19. This examination is vital for understanding the evolution of credit accessibility and affordability in the region, aligning with the third research objective of investigating these trends. Below is a detailed explanation and interpretation of both tables.

Institutional sources

1. **Government:** Includes loans from government bodies, insurance companies, provident funds, employers, and other institutional agencies.
2. **Co-operative banks:** Encompasses both co-operative societies and co-operative banks that follow a cooperative lending model.
3. **Banks:** Covers loans from scheduled commercial banks, regional rural banks, and bank-linked self-help groups (SHGs) or joint liability groups (JLGs).

Table 3: Institutional loan patterns: source-wise interest rates and loan shares among Punjab farmers (2002-03 vs. 2018-19)

Year	Loan Source	Avg. Interest Paid (%)	Loan Share (%)	Loan Number Share (%)	Person Share (%)
2002-03	Government	12.9	1.9	0.8	0.9
	Co-operative Bank	13.7	17.6	27.4	30.0
	Bank	14.5	28.4	14.9	14.8
	All Institutional Loan	14.1	47.9	43.1	45.7
2018-19	Government	9.8	1.9	8.8	6.2
	Co-operative Bank	6.1	10.2	17.8	17.8
	Bank	8.8	66.7	39.8	38.3
	All Institutional Loan	8.5	78.8	66.4	62.3

The results are estimated by the author using unit-level data from the NSSO 59th round (Situation assessment survey, 2002-03) and the NSSO 77th round (Situation assessment survey, 2018-19).

a) Interest rate trends

The average interest rates for institutional loans demonstrate significant reductions between 2002-03 and 2018-19:

- **Government loans:** The interest rate decreased notably from 12.9% to 9.8%, indicating an improvement in the affordability of loans from government sources.
- **Co-operative banks:** The average interest rate saw a considerable drop from 13.7% to 6.1%, reflecting a more favourable lending environment.
- **Banks:** Interest rates for bank loans also declined from 14.5% to 8.8%.

Overall, the average interest rate across all institutional loans fell from 14.1% in 2002-03 to 8.5% in 2018-19, demonstrating a substantial shift towards more accessible and cheaper credit options for farmers.

b) Loan share

The loan share percentages reveal significant changes in the distribution of loans among different institutional sources:

- **Government:** Maintained a stable share at 1.9%, suggesting consistent reliance but minimal growth.
- **Co-operative banks:** Loan share decreased from 17.6% to 10.2%, indicating a declining importance relative to other sources.
- **Banks:** The bank loan share increased dramatically from 28.4% to 66.7%, signifying a major shift towards formal banking channels.

The overall institutional loan share rose from 47.9% to 78.8%,

indicating an increasing reliance on institutional financing over the years.

c) Loan number and person share

The analysis of loan number share (%) and person share (%) illustrates changes in how loans are distributed:

- **Loan number share:** Increased from 43.1% to 66.4%, showing that a greater proportion of loans are now issued through institutional sources.
- **Person share:** Increased from 45.7% to 62.3%, reflecting a broader reach of institutional loans among farmers.

These changes indicate a significant shift in both the quantity and the demographic reach of institutional loans, marking a trend towards greater inclusion of farmers in formal lending systems.

Non-institutional loan

Non-institutional sources

- **Agricultural/professional moneylender:** Refers to loans provided by professional moneylenders, particularly those tied to agriculture.
- **Traders:** Includes loans from traders, input suppliers, and market commission agents.
- **Relatives & friends:** Represents informal lending from personal networks, such as family or friends.
- **Others:** Comprises loans from miscellaneous sources, including chit funds, landlords, and professionals like doctors or lawyers.

Table 4: Non-Institutional Loan Patterns: Source-Wise Interest Rates and Loan Shares Among Punjab Farmers (2002-03 vs. 2018-19)

Year	Loan Source	Avg. Interest Paid (%)	Loan Share (%)	Loan Number Share (%)	Person Share (%)
2002-03	Relatives & Friends	3.2	6.3	17.8	16.3
	Trader	22.4	8.8	16.4	14.7
	Agricultural/Professional Moneylender	25.1	36.3	21.2	21.7
	Others	22.4	0.7	1.6	1.7
	All Non-Institutional Loan	22.0	52.1	57.0	54.4
2018-19	Relatives & Friends	0.0	3.0	9.3	10.4
	Trader	20.9	8.6	13.2	14.8
	Agricultural/Professional Moneylender	19.6	8.8	8.5	9.5
	Others	3.2	0.8	2.7	3.0
	All Non-Institutional Loan	16.7	21.2	33.7	37.7

The results are estimated by the author using unit-level data from the NSSO 59th Round (Situation Assessment Survey, 2002-03) and the NSSO 77th Round (Situation Assessment Survey, 2018-19).

a) Interest rate trends

Interest rates for non-institutional loans exhibited varied trends:

- **Relatives & Friends:** The interest rate dropped to 0.0% in 2018-19, likely reflecting the informal nature of these loans.
- **Traders:** The interest rate slightly decreased from 22.4% to 20.9%.
- **Agricultural/Professional moneylender:** The rate decreased from 25.1% to 19.6%.

Overall, the average interest rate for all non-institutional loans decreased from 22.0% to 16.7%, suggesting a trend towards lower costs for borrowing from informal sources.

b) Loan share

The loan share percentages for non-institutional sources reveal significant shifts:

- **Relatives & Friends:** The share decreased from 6.3% to 3.0%, indicating reduced reliance on informal family and friends.
- **Trader loans:** The share remained relatively stable, declining only slightly from 8.8% to 8.6%.
- **Agricultural/Professional moneylender:** The share dropped significantly from 36.3% to 8.8%, suggesting a major decline in dependence on this source.

The overall share of non-institutional loans decreased from 52.1% to 21.2%, highlighting a significant decline in reliance on informal lending.

c) Loan number and person share

The changes in loan number share (%) and person share (%) for non-institutional loans show:

- **Loan number share:** Dropped from 57.0% to 33.7%, indicating a substantial reduction in the number of loans issued through informal channels.
- **Person share:** Decreased from 54.4% to 37.7%, reflecting a reduced proportion of individuals relying on non-institutional loans.

Both Tables 3 and 4 indicate notable trends in the landscape of loan sources for Punjab farmers from 2002-03 to 2018-19. For institutional loans, there is a clear shift towards greater access, reduced interest rates, and a higher reliance on formal banking systems, with significant increases in loan shares and reach among farmers. Conversely, non-institutional loans have seen

a marked decline in both interest rates and loan shares, suggesting a diminishing role in the overall credit landscape for farmers. These trends underscore a broader movement towards institutional financing, potentially enhancing farmers' financial stability and economic resilience.

Findings of the study

i. Income growth across landholding sizes

- The study shows a significant rise in income for all landholding categories between 2002-03 and 2018-19. For example, marginal farmers saw their average annual income increase from ₹95,520 to ₹211,546, while large farmers' income grew from ₹355,853 to ₹667,930.
- This income growth correlates positively with landholding size, indicating that larger landowners benefit more due to economies of scale, better access to technology, and higher productivity. However, marginal farmers also experienced considerable income growth, suggesting improvements in agricultural practices and rural income due to modernization and government initiatives.

ii. Loan accessibility and shifts

- The percentage of farmers accessing loans declined among marginal farmers (from 56.7% in 2002-03 to 35.1% in 2018-19), but remained stable or increased among small, medium, and large farmers.
- Institutional loans became more accessible over time, with the percentage of institutional loan recipients rising across all categories. For example, institutional loan recipients among marginal farmers grew from 16.6% to 24.6%, while large farmers saw an increase from 64.2% to 76.4%.
- Non-institutional loans declined significantly, especially for marginal farmers (from 43.5% to 18.1%).

iii. Increase in loan outstanding amounts

- The average loan outstanding increased significantly across all landholding categories between 2002-03 and 2018-19. According to the data from Table 1, marginal farmers saw their average loan outstanding rise from ₹57,261 in 2002-03 to ₹118,577 in 2018-19—more than doubling during this period. Large farmers experienced a notable increase as well, with average loan outstanding

amounts growing from ₹424,233 to ₹778,750, representing nearly a twofold rise.

- These increases indicate growing credit demands, which are likely driven by several factors including rising input costs, investments in modern agricultural technology, and greater consumption needs. The larger rise in loan amounts among larger landholders could also be linked to their greater access to formal credit channels and their larger-scale operations.

iv. Trends in institutional vs. non-institutional loans

- Institutional loan interest rates declined significantly across all categories. For instance, rates for co-operative banks dropped from 13.7% to 6.1%, and bank loan rates decreased from 14.5% to 8.8%.
- The share of institutional loans rose dramatically, from 47.9% in 2002-03 to 78.8% in 2018-19. In contrast, non-institutional loans' share declined from 52.1% to 21.2%.
- Non-institutional loan reliance, particularly from moneylenders, saw a significant decline, while informal lending from relatives and friends also diminished.

v. Interest rate trends

- Interest rates for institutional loans dropped significantly, from an average of 14.1% in 2002-03 to 8.5% in 2018-19, while non-institutional loans also saw a decline from 22.0% to 16.7%, reflecting a broader reduction in borrowing costs.

Policy suggestions

1. Enhancing credit access for marginal and small farmers

▪ Financial inclusion programs

The sharp decline in loan accessibility for marginal farmers indicates a need for targeted policies to ensure that small and marginal farmers can access institutional loans more easily. Expanding financial inclusion programs and improving access to micro-finance institutions could help these farmers avoid dependence on non-institutional sources.

▪ Customizing credit products

Policies should focus on developing loan products tailored to the needs of marginal and small farmers, such as low-interest rates, flexible repayment plans, and crop insurance integration, to reduce the barriers they face in accessing formal credit.

2. Promoting institutional lending

▪ Strengthening cooperative banks and rural credit schemes

While institutional lending has grown, its share in some areas remains skewed toward larger farmers. Strengthening cooperative banks and expanding rural credit schemes can further enhance credit availability to smallholders, helping bridge the gap in credit access.

▪ Lowering interest rates for small farmers

The government should consider further reducing interest rates on institutional loans for small and marginal farmers to increase their uptake of these loans and reduce dependence on high-interest non-institutional sources.

3. Addressing non-institutional credit dependency

▪ Encourage formal credit channels

Although non-institutional loans have declined, many farmers, particularly smallholders, continue to rely on them. Strengthening outreach efforts for formal credit channels in rural areas could reduce farmers' dependency on informal lenders, especially in regions with high borrowing costs from non-institutional sources.

4. Supporting income growth for small and marginal farmers

▪ Income diversification

Policies should encourage income diversification, such as promoting agri-businesses, value addition, and non-farm employment opportunities to enhance the income growth of small and marginal farmers.

▪ Subsidized access to technology

Facilitating access to modern agricultural technologies through subsidies or government-backed loan programs can help smallholders improve productivity and income levels.

5. Continued monitoring of credit market dynamics

▪ Data-driven interventions

Continuous assessment and monitoring of loan distribution patterns, borrowing behavior, and interest rate trends can inform adaptive policies that respond to emerging credit market dynamics and ensure equitable access for all farmer categories.

These policy recommendations aim to create an inclusive rural credit system, enhance the economic resilience of small and marginal farmers, and promote equitable income growth across all farming categories.

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