

Review Article

Empirical Literature Review on Determinants of Farmers' Access to Agricultural Credit in Ethiopia

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Abstract

Agriculture plays a fundamental role in Ethiopia's economy, serving as the main source of livelihood for a large proportion of the rural population. The sector contributes significantly to employment, food supply, and income generation. Nevertheless, its overall performance remains constrained by several structural challenges, among which limited access to agricultural credit is particularly critical for smallholder farmers. This study provides a comprehensive review of existing empirical studies to explore the factors that determine farmers' access to agricultural credit in Ethiopia and to examine its implications for farm performance. A systematic review methodology was used, drawing on evidence from peer-reviewed journal articles, institutional publications, and reports. The review identifies a range of factors that influence credit accessibility. These include socio-demographic characteristics such as gender, human capital attributes, and farming experience, as well as economic factors. In addition, institutional factors as well as physical factors play an important role in shaping farmers' ability to obtain credit. Furthermore, the evidence consistently showed that access to agricultural credit was associated with improvements in farm productivity and household income. However, disparities in access persist, with women and resource-poor farmers facing greater barriers to financial services, thereby limiting their capacity to benefit from credit opportunities. Therefore, strengthening inclusive rural financial systems is essential for improving agricultural productivity, enhancing market integration, and supporting long-term agricultural development in Ethiopia. Furthermore, policy intervention should prioritize expanding financial service coverage, addressing structural constraints, and reinforcing institutional support systems to ensure that rural household farmers can access credit on equitable terms.

Keywords

Determinants, Rural Household, Agricultural Credit, Ethiopia

1. Introduction

Agriculture remains one of the most important sectors in the Ethiopian economy, playing a central role in ensuring food security, employment creation, and poverty reduction. Globally, agriculture continues to be recognized as a key driver of structural transformation and inclusive growth in developing countries [9, 29]. In Ethiopia, the sector contributes a substantial

share to gross domestic product (GDP), employs the majority of the labor force, and serves as the main source of livelihood for rural households [6, 11]. Beyond food production, agriculture supplies raw materials to agro-industries, generates foreign exchange earnings through exports such as coffee and oilseeds, and contributes to overall macroeconomic stability [28].

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Despite its importance, access to agricultural credit remains a major constraint for smallholder farmers in rural areas of developing countries, including Ethiopia. Limited collateral, high transaction costs, information asymmetry, and underdeveloped rural financial markets restrict farmers' ability to obtain formal credit [17, 27]. Inadequate access to finance reduces farmers' capacity to adopt improved technologies, purchase modern inputs, and expand production, thereby constraining productivity growth and rural income improvement [5].

According to recent demographic estimates, Ethiopia remains predominantly rural, although urbanization is gradually increasing. The 2023 revision of World Urbanization Prospects indicates that a large share of Ethiopia's population still resides in rural areas and depends primarily on agriculture for income and subsistence [26]. Recognizing this reality, the government has continued to prioritize agricultural transformation as a pathway to economic development and poverty reduction.

Following the Growth and Transformation Plans (GTP I and II), Ethiopia adopted the Ten-Year Development Plan (2021–2030), which emphasizes agricultural modernization, productivity enhancement, commercialization of smallholder farming, and expansion of rural financial services [12, 23]. The plan aims to accelerate structural transformation, enhance export performance, and support the country's aspiration to achieve lower middle income status. Strengthening access to agricultural credit remains a critical policy instrument within this framework, as it enables farmers to invest in improved seeds, irrigation, mechanization, and climate-resilient technologies, thereby increasing agricultural output and improving national food security.

1.1. Statement of the Problem

Access to agricultural credit remains a critical instrument for strengthening farmers' productive capacity and enhancing their contribution to national economic growth. Credit enables smallholder farmers to invest in improved seeds, fertilizers, farm equipment, irrigation technologies, and other productivity-enhancing inputs. Recent evidence from sub-Saharan Africa shows that alleviating credit constraints significantly increases farm productivity and commercialization [27]. In Ethiopia, studies indicate that improved access to rural finance enhances technology adoption, input utilization, and agricultural output, thereby supporting the country's broader ambition of structural transformation and income growth [2, 17].

Despite its importance, limited access to agricultural credit continues to constrain smallholder farmers in Ethiopia. Challenges such as a lack of collateral, high transaction costs, limited outreach of financial institutions, weak financial infrastructure, and information asymmetries restrict farmers' ability to obtain sufficient and timely credit. According to recent assessments, financial exclusion remains particularly pronounced in rural areas, where formal lending institutions face

high operational costs and perceived risks [5, 18]. As a result, many smallholder farmers rely on informal sources of finance, which are often inadequate to meet agricultural investment needs.

Therefore, strengthening rural financial institutions, expanding microfinance outreach, promoting digital financial services, and designing inclusive agricultural credit policies are essential for accelerating agricultural development. Without a robust and inclusive rural financial system that effectively serves smallholder farmers, efforts to modernize agriculture, enhance food security, and reduce rural poverty are likely to remain constrained.

This study reviews determinants of farmers' access to agricultural credit in Ethiopia by systematically organizing and analyzing existing published research. It descriptively examines prior studies to identify, compare, and summarize the key determinants influencing farmers' access to credit, as well as the characteristics and performance of agricultural credit systems. The review also discusses the impact of credit access on agricultural productivity and output, highlighting related institutional and socioeconomic factors.

The study aims to provide a comprehensive reference for researchers, policymakers and lending institutions by consolidating dispersed findings into a single source. It also outlines future research directions and prospects for the Ethiopian agricultural credit system.

1.2. Objectives

- 1) To review status of the existing agricultural credit systems in Ethiopia
- 2) To review the key determinants of farmers' access to agricultural credit in Ethiopia
- 3) To review the impact of agricultural credit access on farm productivity in Ethiopia
- 4) To review research gaps and give policy recommendations

2. Results and Discussion

2.1. Conceptual Understanding of Agricultural Credit

Agricultural credit can be conceptualized as a financial mechanism that enables farmers to access capital or productive resources before harvest, with repayment expected at a predetermined future date. The defining feature of agricultural production is the temporal gap between expenditure and revenue realization. Farmers must incur costs for land preparation, seeds, fertilizer, labor, and other inputs well in advance of harvesting and marketing their output. This production consumption lag creates liquidity constraints, particularly for smallholder farmers who operate with limited savings and irregular

income streams. In this context, credit serves as a bridging instrument that sustains production continuity and prevents underinvestment in essential inputs [3, 21].

Unlike sectors characterized by relatively stable and frequent revenue flows, agriculture is inherently seasonal and exposed to climatic variability. Income is typically realized once or twice a year, depending on cropping patterns, while expenditures occur at multiple stages throughout the production cycle. This mismatch intensifies the need for short-term working capital and, in some cases, longer-term investment finance. As noted in rural finance literature, the absence of timely credit often compels farmers to reduce input application, delay planting, or rely on suboptimal technologies, thereby perpetuating low productivity [28, 7].

Agricultural credit may be provided in direct monetary form through commercial banks, development banks, microfinance institutions (MFIs), and savings and credit cooperatives. These formal institutions typically structure loans according to crop cycles and repayment capacity. In addition to formal channels, credit can also be delivered indirectly through value chain arrangements. For example, input suppliers, traders, or agribusiness firms may provide seeds, fertilizers, agrochemicals, or mechanization services on deferred payment terms, with repayment occurring after harvest. Such embedded financing mechanisms are increasingly recognized as important components of agricultural value chain development [12].

Beyond its immediate function of input financing, agricultural credit performs broader economic roles within rural development processes. First, it enhances farmers' ability to manage production risk by providing liquidity buffers during adverse weather events or price fluctuations. Second, it enables producers to respond to market incentives by scaling up output or shifting toward higher value crops when profitable opportunities arise. Third, access to investment credit can facilitate asset accumulation, including irrigation infrastructure, farm equipment, and livestock, thereby supporting long-term productivity growth.

By relaxing capital constraints, credit contributes to increased commercialization, income diversification, and gradual structural transformation of rural economies [1, 20].

Therefore, agricultural credit should not be viewed merely as a short-term financial transaction but rather as a strategic development instrument that influences production decisions, technology adoption, and rural economic dynamism.

2.2. Evolution and Current Status of Agricultural Credit in Ethiopia

The structure of agricultural finance in Ethiopia has undergone significant transformation in response to broader political and economic reforms implemented over the past several decades. During the Imperial and Derg regimes, agricultural credit was largely administered through centralized state-controlled mechanisms. Public financial institutions allocated

credit according to government planning priorities rather than market based risk assessment. In practice, this system disproportionately favored state farms, producer cooperatives, and politically connected large-scale agricultural enterprises, while smallholder farmers who constituted the majority of producers received limited and irregular financial support [4, 22]. As a result, rural credit allocation during this period was characterized by inefficiencies, weak repayment enforcement, and limited outreach to dispersed smallholders.

The economic reforms introduced after 1991 marked a turning point in Ethiopia's financial sector development. The government initiated market-oriented reforms under structural adjustment programs, leading to partial financial liberalization and the emergence of microfinance institutions (MFIs) specifically mandated to serve low-income and rural populations [14, 27].

The establishment and expansion of MFIs were intended to address financial exclusion by providing smaller, more accessible loans tailored to smallholder production cycles. Over time, regulatory oversight by the National Bank of Ethiopia strengthened the institutional framework governing rural financial services. Nevertheless, despite the expansion of microfinance outreach, agriculture's proportion of total formal lending remains relatively low compared to its substantial contribution to employment and gross domestic product [5, 16, 29]. This imbalance highlights persistent structural challenges within the credit allocation system.

At present, Ethiopia's agricultural finance landscape consists of multiple actors operating across formal and informal segments. Formal providers include commercial banks, the Development Bank of Ethiopia, microfinance institutions, and rural savings and credit cooperatives. These institutions vary in lending capacity, collateral requirements, and geographic coverage. While outreach has expanded in recent years, particularly through microfinance growth and cooperative-based lending models, access remains uneven across regions.

Financial institutions face high operational costs in remote rural areas due to poor infrastructure, dispersed settlements, and limited borrower documentation. These constraints increase transaction costs and perceived lending risks, thereby limiting credit supply [17, 20]. Consequently, a considerable number of farmers continue to depend on informal sources such as traders, moneylenders, rotating savings groups, and family networks to meet short term liquidity needs. Although informal arrangements provide flexibility and minimal bureaucratic requirements, they often involve smaller loan sizes and limited investment capacity, which restrict long term agricultural productivity growth.

2.3. Major Empirical Studies Included in the Review

A comprehensive search for recent and relevant studies on determinants of farmer's access to agricultural credit in Ethi-

opia was conducted using major academic databases, including Google Scholar, Science Direct, and Web of Science. The table summarizes key empirical studies examined in the review and aligns them with the determinants presented in the comparative results [Table 2](#).

Table 1. Summary of Major Empirical Studies Included in the Review.

Author(s) & Year	Research Title	Geographical Focus	Analytical Method	Source / Journal
Yohanis (2023)	Determinants of Smallholder Farmers’ Access to Rural Credit: Evidence from Ethiopia	Ethiopia	Probit Regression Analysis	Journal of Development and Agricultural Economics
Lemane et al. (2019)	Factors Affecting Farmers’ Access to Formal Credit Services in Rural Ethiopia	Oromia Region	Probit Regression Analysis	International Journal of Agricultural Policy and Research
Efa et al. (2017)	Determinants of Smallholder Farmers’ Access to Agricultural Credit in Ethiopia	Oromia Region	Probit Regression Analysis	Journal of Agricultural Economics and Rural Development
Gudisa et al. (2024)	Institutional and Economic Determinants of Rural Households’ Access to Formal Credit in Ethiopia	Ethiopia	Logistic Regression Analysis	African Journal of Rural Development
Shewit et al. (2022)	Socioeconomic and Institutional Determinants of Credit Utilization among Smallholder Farmers in Ethiopia	Ethiopia	Probit Regression Analysis	Ethiopian Journal of Agricultural Sciences

2.4. Determinants of Farmers’ Access to Agricultural Credit

Empirical research across Ethiopia identifies several interrelated factors influencing credit participation. Although findings vary by region and methodology, recurring patterns.

Table 2. Determinants of Farmers Access to Agricultural Credit.

Independent Variables	Yohanis (2023)	Lemane et al. (2019)	Efa et al. (2017)	Gudisa et al. (2024)	Shewit et al. (2022)
Demographic Factors					
Age	0.082*	-0.0174*	-0.123***	-0.1091***	-0.012
Gender	0.398	0.6845**	0.798	0.40903	0.681*
Marital Status	0.129	-0.7307	0.304		
Education	0.000***	-0.0749**	0.133*		0.101**
Family Size	0.953		0.464*		0.187**
Economic Factors					
Land Size	0.417	0.889	1.27*		0.251**
Income Level	0.725		1.11*	-0.00172	
Livestock (TLU)				0.25516***	0.109
Diversification	0.000***	0.1535***			
Collateral	0.001***	0.00034			
Saving Culture	0.000***			0.0026	

Independent Variables	Yohanis (2023)	Lemane et al. (2019)	Efa et al. (2017)	Gudisa et al. (2024)	Shewit et al. (2022)
Institutional Factors					
Membership to Credit Institution	0.027**	0.0936***			
Distance from Credit Source		-0.2237***	0.105	-0.4203	-0.054**
Experience of Credit Use	0.072*				
Extension Service	0.000***	0.3121***	0.015		0.038**

(*, **, ***) indicate 10%, 5% and 1% significance levels respectively, (—) shows the variable was not statistically significant

Comparative findings from empirical studies reveal that a number of determinants of rural credit access exhibit consistent patterns of influence. In particular, age and education stand out as the most reliable predictors. Several studies report a negative and statistically significant association between age and access to credit [10, 15, 19], indicating that younger farmers are generally more likely to secure loans. This tendency may reflect greater willingness among younger producers to take risks and adopt new practices. In contrast, education shows a positive and significant relationship with credit access in multiple investigations [10, 24, 30], suggesting that higher levels of human capital strengthen financial literacy and enhance borrowers' credibility within formal financial institutions.

Regarding institutional dimensions, access to extension services consistently emerges as a significant factor [19, 24, 30], highlighting the supportive role of advisory and information services in promoting financial inclusion. Similarly, membership in credit-related institutions [19, 30], saving behavior [15, 30], ownership of collateral [19, 30], and shorter distance to lending institutions [19, 24] repeatedly appear as significant determinants. These factors collectively underscore the importance of institutional connectivity and asset-based guarantees in improving farmers' access to formal credit.

Economic characteristics such as farm size [10, 24] and income diversification [19, 30] are also found to exert positive effects in several contexts, although their magnitude and significance vary across locations and study designs. By contrast, total income, livestock holdings, and previous credit experience demonstrate less stable relationships across the reviewed literature. Taken together, the evidence suggests that access to rural credit is influenced by an interplay of human capital, asset ownership, and institutional engagement, with education and extension services appearing as particularly important entry points for policy action.

2.5. The Impact of Agricultural Credit Access on Farm Productivity

A substantial body of empirical and theoretical literature

demonstrates a positive relationship between access to financial services and agricultural performance. In smallholder based farming systems, liquidity constraints often limit farmers' ability to purchase productivity-enhancing inputs at the appropriate time. Access to credit alleviates these capital shortages and enables the timely procurement of improved seed varieties, chemical fertilizers, crop protection inputs, irrigation equipment, and mechanized services.

When farmers lack sufficient working capital, they may apply inputs below recommended levels or postpone critical farm operations, which negatively affects yields and overall output [25, 28]. By relaxing short-term financial constraints, credit improves allocative efficiency and enhances production intensity.

In addition to support input acquisition, agricultural credit facilitates longer-term capital investment. Farmers with access to medium or long term loans are more likely to invest in irrigation systems, livestock improvement, storage facilities, and farm machinery. Such investments increase technical efficiency and contribute to sustained productivity growth over time [1, 8]. Therefore, credit not only influences seasonal production decisions but also shapes structural improvements in farm operations.

Access to credit further strengthens farmers' resilience in the face of production and market risks. Agriculture is inherently vulnerable to climatic variability, pest infestations, and price fluctuations. In the absence of financial buffers, negative shocks can force farmers to reduce input use, liquidate productive assets, or exit market participation. Credit provides liquidity that allows households to smooth consumption and maintain production activities during adverse periods. Studies in rural finance emphasize that improved financial access enhances risk management capacity and stabilizes income flows in shock-prone environments [17, 20].

Empirical evidence from Ethiopia supports these theoretical arguments. Micro-level analyses indicate that farmers who obtain formal credit tend to apply higher levels of fertilizer and improved seed, hire more labor, and achieve higher crop yields compared to credit-constrained households [1, 13]. Furthermore, access to financial services has been associated with increased market participation and higher household income levels, suggesting that credit contributes to both productivity

enhancement and commercialization [5, 29]. While the magnitude of impact differs across regions and crop types, the direction of the relationship is consistently positive.

Despite these documented benefits, a significant proportion of Ethiopian farmers remain credit-constrained. Persistent financial exclusion indicates the existence of unrealized productivity potential within the agricultural sector. If institutional and structural barriers limiting credit access were reduced, smallholders could expand input use, adopt improved technologies, and increase market engagement. Consequently, expanding equitable and affordable financial services represents a critical pathway toward accelerating agricultural growth, enhancing rural incomes, and supporting broader economic transformation.

3. Conclusion and Recommendation

3.1. Conclusion

Modernizing agriculture requires financial resources to support improved input adoption and technological advancement. Access to agricultural credit is therefore fundamental for raising productivity. However, a large proportion of Ethiopian farmers remain excluded from formal credit systems due to socioeconomic and institutional constraints.

The reviewed studies show that credit access is influenced by demographic characteristics, education, asset ownership, institutional participation, and geographic proximity. Although findings vary across contexts, the overall evidence confirms that agricultural credit is a powerful policy instrument for productivity enhancement and rural transformation.

Ensuring equitable, affordable, and timely financial access for smallholder farmers remains essential for sustainable agricultural development and national food security objectives.

3.2. Recommendations

Based on the review study findings, the following recommendations are made to enhance farmers' access to agricultural credit in Ethiopia:

- 1) Strengthen Rural Financial Institutions: Expand micro-finance outreach, improve cooperative lending systems, and promote digital financial services to reduce transaction costs and enhance rural coverage.
- 2) Promote Gender Inclusive Policies: Support women's participation in financial institutions and encourage income-generating activities that enhance women's credit-worthiness.
- 3) Improve Institutional Efficiency: Simplify loan procedures, reduce bureaucratic barriers, increase transparency, and strengthen monitoring mechanisms to improve service quality and farmer trust.
- 4) Encourage Further Research: Future studies should assess long-term impacts of credit access on productivity,

income, and food security, and evaluate the effectiveness of current financial inclusion strategies.

Abbreviations

GTP	Growth and Transformation Plans
MFIs	Microfinance Institutions

Author Contributions

Lemma Gutema: Conceptualization, Data curation, Formal Analysis, Methodology, Visualization, Investigation, Software, Validation, Resources, Writing – original draft, Writing – review & editing

Conflicts of Interest

The author declares no conflicts of interest

References

- [1] Abate, G. T., Rashid, S., Borzaga, C., & Getnet, K. (2016). Rural finance and agricultural technology adoption in Ethiopia: Does the institutional design of lending organizations matter? *World Development*, 84, 235–253.
- [2] Abedullah, A., Mahmood, N., Khalid, M., & Kouser, S. (2009). The role of agricultural credit in the growth of livestock sector: A case study of Faisalabad. *Pakistan Veterinary Journal*, 29(2).
- [3] Adams, D. W., & Vogel, R. C. (1986). Rural financial markets in low-income countries: Recent controversies and lessons. *World Development*, 14(4), 477–487.
- [4] Admassie, A. (2004). A review of the performance of agricultural finance in Ethiopia: Pre- and post-reform periods. Conference paper.
- [5] African Development Bank. (2023). African economic outlook 2023. AfDB.
- [6] Amanuel, A., & Degye, G. (2018). Determinants of micro-finance loan utilization by smallholder farmers. *Journal of Development and Agricultural Economics*, 10(7), 246–252.
- [7] Awunyo-Vitor, D., & Abankwah, V. (2012). Formal and informal credit demand by maize farmers. *International Journal of Agriculture and Forestry*, 2(3), 105–112.
- [8] Doreen, A., & Philip, A. M. (2014). Determinants of credit access among smallholder farmers in Tigray region (Master's thesis). Norwegian University of Life Sciences.
- [9] E. Saqib, S., Kuwornu, J. K. M., Panezia, S., & Ali, U. (2018). Determinants of farmers' access to agricultural credit. *Kaset-sart Journal of Social Sciences*, 39(2), 262–268.
- [10] Efa, G., (2017). Determinants of smallholder farmers' access to agricultural credit in Ethiopia. *Journal of Agricultural Economics and Rural Development*, 5(2), 45–58.

- [11] FAO. (2022). Ethiopia at a glance. Food and Agriculture Organization of the United Nations.
- [12] FAO. (2023). Agricultural finance and rural development report. FAO.
- [13] Gebeyehu, L., Emana, B., & Mitiku, F. (2019). Impact of agricultural credit on maize productivity. *Ethiopian Journal of Applied Science and Technology*, 10(2), 27–41.
- [14] Girma, M., & Abebaw, D. (2015). Determinants of formal credit participation. Conference paper.
- [15] Gudisa, T., (2024). Institutional and economic determinants of rural households' access to formal credit in Ethiopia. *African Journal of Rural Development*, 9(1), 112–128.
- [16] Haji, J., & Tilahun, A. (2013). Impact of microfinance on the livelihood of smallholder farmers. Doctoral dissertation, Haramaya University.
- [17] IFAD. (2022). Rural finance and inclusive development report. International Fund for Agricultural Development.
- [18] International Monetary Fund. (2023). Ethiopia country report. IMF.
- [19] Lemane, M., (2019). Factors affecting farmers' access to formal credit services in rural Ethiopia. *International Journal of Agricultural Policy and Research*, 7(4), 89–102.
- [20] Mukasa, A. N., Simpasa, A. M., & Salami, A. O. (2017). Credit constraints and farm productivity in Ethiopia (Working Paper No. 247). African Development Bank.
- [21] Mulatu, E., Geta, E., & Melaku, E. (2020). Smallholder farmers' credit participation. *Journal of Agricultural Economics and Rural Development*, 6(3), 888–898.
- [22] Nouman, M., Siddiq, M. F., Mohammed, S., & Hussain, Z. (2013). Socioeconomic characteristics of farmers and access to credit. *Journal of Agriculture*, 29(3), 469–476.
- [23] Planning and Development Commission of Ethiopia. (2021). Ethiopia's ten year development plan (2021–2030). PDC.
- [24] Shewit, H., (2022). Socioeconomic and institutional determinants of credit utilization among smallholder farmers in Ethiopia. *Ethiopian Journal of Agricultural Sciences*, 32(3), 67–81.
- [25] Tang, S., Guan, Z., & Jin, S. (2017). Formal and informal credit markets in rural China. Conference proceedings.
- [26] United Nations Department of Economic and Social Affairs. (2023). World urbanization prospects 2023 revision. UN DESA.
- [27] World Bank. (2018). Rural population (% of total population) Ethiopia.
- [28] World Bank. (2022). Agricultural finance and productivity report. World Bank.
- [29] World Bank. (2023). Ethiopia economic update: Ensuring resilient growth. World Bank.
- [30] Yohanis, B. (2023). Determinants of smallholder farmers' access to rural credit: Evidence from Ethiopia. *Journal of Development and Agricultural Economics*, 15(6), 210–224.