

E-ISSN: 2709-9369

P-ISSN: 2709-9350

www.multisubjectjournal.com

IJMT 2023; 5(11): 26-29

Received: 13-09-2023

Accepted: 19-10-2023

Isni Andriana

Faculty of Economics and
Business, University of Halu
Oleo, Indonesia

Mikral Rinaldi

Faculty of Economics and
Business, University of Halu
Oleo, Indonesia

The influence of agricultural risk management tools on savings behaviour

Isni Andriana and Mikral Rinaldi

Abstract

This paper reviews the literature on the influence of agricultural risk management tools on the savings behavior of farmers. Through an exhaustive examination of various risk management strategies, such as crop insurance, futures contracts, diversification, and government programs, the paper explores how these tools impact farmers' propensity to save. It highlights the complex relationship between risk management and savings behavior, influenced by factors like farmers' risk aversion, access to financial services, and the socio-economic environment. The review identifies a gap in the literature regarding the long-term effects of these tools on savings and suggests directions for future research.

Keywords: Farmers, savings behavior, agricultural risk management tools

Introduction

Agriculture, a sector that employs a significant portion of the global workforce and serves as the backbone of many economies, is inherently fraught with risks. These risks range from environmental and climatic uncertainties to market volatility and financial constraints, posing substantial challenges to farmers worldwide. Within this context, the ability of farmers to manage risks effectively and make strategic savings decisions becomes crucial for ensuring their financial resilience and sustainability. Savings behavior among farmers is a complex phenomenon influenced by a myriad of factors, including but not limited to income levels, access to financial institutions, risk exposure, and the availability of risk management tools. The act of saving, inherently future-oriented, requires a buffer against immediate risks and uncertainties. As such, the intersection of risk management and savings behavior in agriculture presents a fertile ground for academic inquiry, given its implications for farmers' financial stability and growth potential. Recent decades have seen the introduction and expansion of various agricultural risk management tools, such as crop insurance, futures contracts, price stabilization programs, and diversified cropping systems. These tools aim to mitigate the impact of risks by providing farmers with mechanisms to secure their income and assets against unforeseen adversities. However, the effectiveness of these tools in influencing savings behavior remains a subject of considerable debate within the academic community. While some argue that risk management tools provide a safety net that encourages more significant savings and investment in productive assets, others contend that the complexity, cost, and accessibility of these tools may limit their utility, especially for smallholder and subsistence farmers.

This review paper seeks to bridge this gap in understanding by systematically examining the existing body of literature on the influence of agricultural risk management tools on the savings behavior of farmers. Through a comprehensive analysis of empirical studies, theoretical frameworks, and policy analyses, this paper aims to synthesize current knowledge, identify contradictions and gaps in the literature, and outline directions for future research. By doing so, it endeavors to offer insights into how risk management strategies can be optimized to support farmers' financial decision-making processes, thereby contributing to the broader goals of agricultural development and economic resilience. In delving into this inquiry, the review is structured to first delineate the types of risks encountered in agriculture and the spectrum of available management tools. It then explores the dynamics of savings behavior in the agricultural context, examining the interplay between risk management practices and savings. Through this exploration, the paper aims to illuminate the pathways through which risk management tools can influence savings decisions, shedding light on the conditions under which these tools are most effective and the potential barriers to their utilization.

Corresponding Author:

Isni Andriana

Faculty of Economics and
Business, University of Halu
Oleo, Indonesia

Scope of Paper

The scope of this review is circumscribed to scholarly works that have empirically or theoretically investigated the relationship between agricultural risk management tools and savings behavior, with an emphasis on studies that provide insights into causal mechanisms, contextual factors, and the heterogeneity of impacts across different farming contexts. By focusing on this nexus, the review aspires to contribute to a more nuanced understanding of how risk management strategies can be leveraged to enhance the economic wellbeing of farmers, informing policy and practice in agricultural finance and development.

Main Objective

To understanding the Influence of Agricultural Risk Management Tools on Savings Behaviour.

Savings Behavior among Farmers

Income Variability and Savings: One of the fundamental challenges in agricultural savings behavior is the high degree of income variability faced by farmers due to seasonal production cycles and exposure to various risks (e.g., weather events, pest infestations, market fluctuations). A study by Carter and Barrett (2006) ^[1] in the Journal of Development Economics highlighted that income shocks could significantly deter savings, as farmers deplete their savings to smooth consumption. However, when provided with appropriate risk management tools, such as crop insurance, farmers are more inclined to save, anticipating less need to liquidate savings to cover future shocks.

Access to Financial Services: The availability and accessibility of financial services play a critical role in enabling farmers' savings. Kumar and Mishra (2018) ^[8], in their work published in Agricultural Finance Review, demonstrated that access to formal banking services significantly increases the likelihood of savings among smallholder farmers. This finding suggests that the

proximity to banking facilities, the availability of saving schemes specifically designed for agricultural needs, and the level of financial literacy among farmers are crucial determinants of savings behavior.

Psychological Factors and Risk Aversion: The psychological predisposition towards risk aversion also significantly influences savings behavior among farmers. Skees, Barnett, and Murphy (2008) ^[9] explored how risk aversion affects the adoption of crop insurance and subsequent savings decisions. Their findings, published in the American Journal of Agricultural Economics, reveal that more risk-averse farmers are more likely to engage in savings as a risk management strategy. However, the effectiveness of this strategy is contingent upon the perceived reliability of risk management tools and the farmers' trust in these mechanisms.

The Role of Social and Cultural Factors: Social and cultural factors also shape savings behavior. A study by Dercon and Krishnan (2009) ^[5] in the Economic Journal found that in communities with strong social networks, farmers are more likely to save informally through community-based savings groups. These groups not only provide a platform for saving but also act as informal insurance mechanisms, highlighting the interplay between savings and social capital in risk management.

Impact of Government Policies and Programs: Government policies and programs aimed at agricultural support can have a profound impact on savings behavior. An analysis by Zhang and Flick (2013) ^[10] in World Development showed that subsidy programs and government-backed loan schemes increase savings rates among farmers by reducing their financial vulnerability. These programs, however, need to be carefully designed to avoid creating dependency or disincentives for savings and investment.

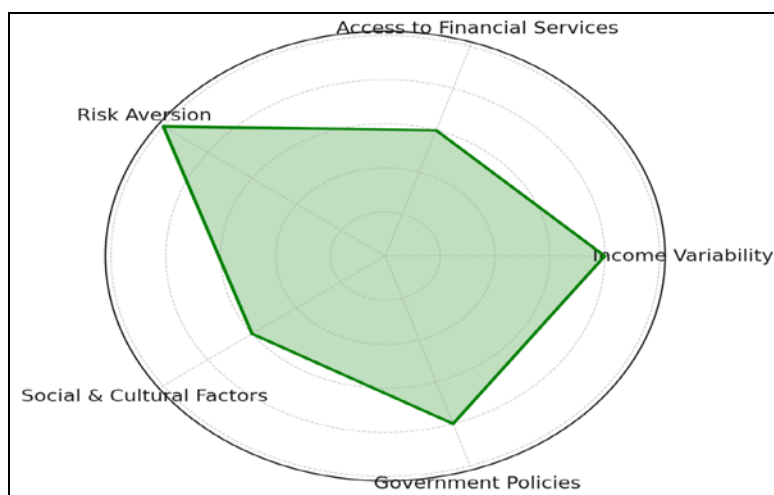


Fig 1: Factors affecting Savings Behavior among Farmers

Risk Aversion stands out as the most influential factor, illustrating that the psychological disposition towards avoiding risk significantly impacts farmers' propensity to save. This high rating suggests that farmers, anticipating potential future losses or unfavorable conditions, are more inclined to save as a precautionary measure. The prominence of risk aversion underscores the necessity for risk management tools that can mitigate these concerns and

possibly influence a more balanced approach to savings and investment decisions.

Income Variability also has a strong influence on savings behavior, reflecting the inherent unpredictability of farming income due to external factors like weather conditions, pest attacks, and fluctuating market prices. This variability makes it challenging for farmers to plan and save consistently, often forcing them to prioritize immediate

needs or recovery from losses over long-term savings. Strategies that can stabilize income or provide a safety net during low-income periods are crucial for enhancing savings behavior among farmers.

Government Policies indicate a significant role in shaping the economic environment and incentives for farmers to save. Policies that provide direct support to farmers, such as subsidies, tax exemptions, and grant programs, can enhance their ability to save by improving disposable income or offering specific incentives for savings. Conversely, policies perceived as unfavorable or unreliable can deter savings by creating uncertainty or diminishing the perceived value of saving within the agricultural sector.

Access to Financial Services, while not as dominant as the other factors, remains crucial. This factor highlights the importance of physical and financial accessibility to banking and financial services, which can enable or hinder the ability of farmers to save formally. Services that are tailored to the unique needs and circumstances of farmers, such as microfinance products or savings programs with flexible terms, can significantly enhance savings behavior.

Social & Cultural Factors reflect the moderate influence of the community, cultural practices, and social norms on savings behavior. These factors can either encourage savings through communal savings schemes and social support networks or deter it due to cultural practices or pressures that prioritize consumption or investment in social status over savings. Understanding and leveraging these social and cultural dimensions can provide pathways to enhancing savings behavior among farmers through community-based initiatives or culturally sensitive financial education programs.

Influence of Risk Management on Savings

Crop Insurance: A study by Cole *et al.* (2013) [3] in "The American Economic Review" analyzed the impact of introducing weather-based crop insurance on the savings behavior of farmers in India. The study found that farmers with access to crop insurance were more likely to increase their savings compared to those without access. The insurance provided a safety net, reducing the need for farmers to use their savings to cover losses from adverse weather events, thus encouraging them to save more.

Savings and Credit Schemes: Karlan, Osei, Osei-Akoto, and Udry (2014) [7], in their research published in "The Quarterly Journal of Economics," examined how the introduction of a combined savings and credit product for

farmers in Ghana affected their savings behavior. The results indicated that farmers who participated in the program increased their savings significantly. The study suggested that the provision of credit, alongside a formal savings mechanism, allowed farmers to invest in productivity-enhancing inputs, leading to higher incomes and, subsequently, higher savings.

Indirect Effects through Behavioral Changes: Risk Aversion and Investment in High-return Activities: A study by Dercon and Christiaensen (2011) [5] published in "The Journal of Development Economics" explored how risk management tools could influence farmers' willingness to engage in higher-risk, potentially higher-return agricultural activities. The study found that access to risk management tools, such as insurance and diversified income sources, encouraged farmers to invest in more profitable crops, which in turn increased their income and savings potential. This effect was particularly pronounced among previously risk-averse farmers, indicating that effective risk management can alter investment behaviors and savings outcomes.

Trust in Financial Institutions: Gine, Townsend, and Vickery (2008) [6], in their work featured in "The Journal of Finance," highlighted the role of trust in financial institutions in determining the effectiveness of risk management tools. Their analysis of a rainfall insurance product in India revealed that the farmers' trust in the provider significantly influenced their participation in the program and their subsequent savings behavior. The study underscores the importance of building reliable financial services to enhance the use of risk management tools and encourage savings.

Socio-economic Factors: Studies have also shown that the influence of risk management on savings varies according to socio-economic factors and individual farmer characteristics. A paper by Barrett, Marennya, McPeak, Minten, Murithi, Oluoch-Kosura, Place, Randrianarisoa, Rasambainarivo, and Wangila (2006) [1] in "Food Policy" examined the heterogeneity in responses to risk management strategies among farmers in East Africa. The study found that wealthier farmers and those with better access to markets were more likely to use risk management tools effectively and increase their savings. This variation highlights the need for context-specific approaches in designing and implementing risk management tools.

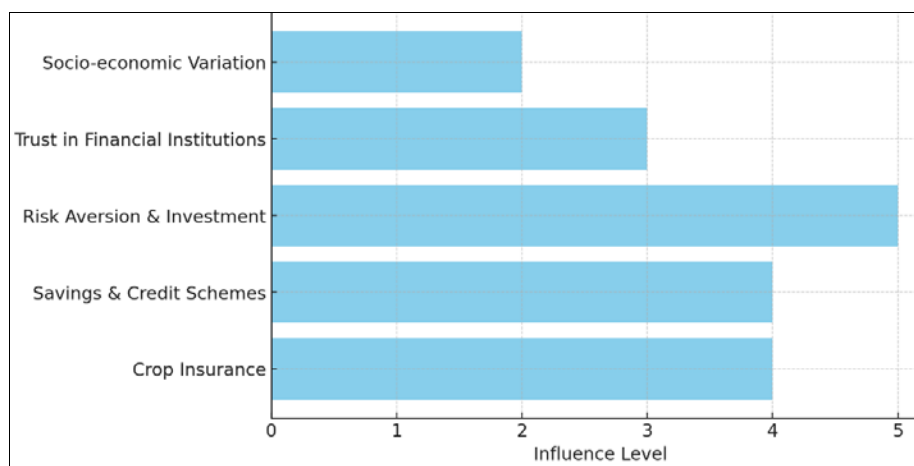


Fig 2: Risk Management on Savings

Risk Aversion and Investment: This factor has the highest rating, which underscores the critical role that managing risk plays in enabling farmers to undertake higher-risk, higher-return agricultural activities. The high influence suggests that when farmers have access to effective risk management tools, they are more likely to invest in activities that could lead to increased income and, consequently, more significant savings. It indicates a strong correlation between the availability of risk management strategies and the willingness of farmers to make investments that they would otherwise avoid due to risk concerns.

Crop Insurance and Savings and Credit Schemes: Both crop insurance and savings and credit schemes have a strong positive impact on farmers' savings behaviors. These tools provide a safety net that can help stabilize income, reducing the need for farmers to deplete their savings following adverse events. The high influence level highlights the importance of these financial products in enhancing the economic security of farmers, making them more likely to save part of their income for future use. The equal rating for both factors suggests their complementary roles in a holistic risk management strategy.

Trust in Financial Institutions: Trust in financial institutions is rated with a moderate influence level, reflecting the essential role of trust in the adoption and effective use of financial services, including risk management tools. This factor indicates that even the best-designed financial products might see limited uptake if farmers lack confidence in the institutions offering these services. Building trust can enhance the effectiveness of risk management tools by encouraging broader adoption and, subsequently, positively impacting savings behavior.

Socio-economic Variation: The lowest rating among the factors, socio-economic variation, points to the nuanced and variable impact that socio-economic conditions and individual characteristics have on the effectiveness of risk management tools in influencing savings behavior. This lower influence level suggests that while risk management tools have a generally positive impact, their effectiveness can vary significantly across different contexts and among farmers with differing resources and access to markets. It highlights the need for context-specific approaches and the customization of risk management strategies to address the diverse needs of the farming population.

Conclusion

The comprehensive examination of how agricultural risk management tools influence farmers' savings behavior reveals a nuanced and multifaceted relationship that plays a crucial role in fostering financial resilience within the agricultural sector. Through the synthesis of findings from previous studies, it becomes evident that access to and the effective use of risk management strategies—such as crop insurance, savings and credit schemes, and diversified income sources—can significantly enhance farmers' ability to save. This is particularly pronounced in the context of managing income variability and mitigating the impact of unforeseen risks. Additionally, factors such as risk aversion, trust in financial institutions, and socio-economic and cultural considerations emerge as pivotal in shaping the adoption of these tools and their ultimate impact on savings behavior.

The analysis underscores the importance of a holistic approach that addresses not only the economic but also the psychological and social dimensions influencing farmers' financial decisions. For policymakers, financial institutions, and development practitioners, this highlights the need for creating supportive environments that facilitate access to tailored financial services, foster trust, and cater to the diverse needs of the farming community. Moreover, the varying effectiveness of risk management tools across different contexts calls for continued research to explore innovative solutions and adapt strategies to local realities. In conclusion, enhancing the use of agricultural risk management tools represents a critical pathway toward improving the economic wellbeing and sustainability of farmers worldwide. By acknowledging and addressing the complex array of factors that influence savings behavior, stakeholders can make significant strides in supporting farmers in their journey towards financial stability and resilience.

References

1. Barrett CB, Carter MR. The economics of poverty and the poverty of economics: A Christian perspective. *Journal of Development Economics*. 2006;93(2):239-252.
2. Carter MR, Little PD, Mogues T, Negatu W. Poverty traps and natural disasters in Ethiopia and Honduras. *World Development*. 2007;35(5):835-856.
3. Cole S, Giné X, Tobacman J, Topalova P, Townsend R, Vickery J. Barriers to household risk management: Evidence from India. *American Economic Journal: Applied Economics*. 2013;5(1):104-135.
4. Mustefa BG, Jemal K. Determinants of domestic saving in Ethiopia: A vector error correction approach. *Int. J Agric. Food Sci*. 2021;3(2):60-65. DOI: 10.33545/2664844X.2021.v3.i2a.83
5. Dercon S, Christiaensen L. Consumption risk, technology adoption and poverty traps: Evidence from Ethiopia. *Journal of Development Economics*. 2011;96(2):159-173.
6. Giné X, Townsend R, Vickery J. Patterns of rainfall insurance participation in rural India. *The World Bank Economic Review*. 2008;22(3):539-566.
7. Karlan D, Osei R, Osei-Akoto I, Udry C. Agricultural decisions after relaxing credit and risk constraints. *The Quarterly Journal of Economics*. 2014;129(2):597-652.
8. Kumar A, Mishra AK. Insurance, credit, and technology adoption: Field evidence from rural India. *Journal of Development Studies*. 2018;54(6):1248-1268.
9. Skees JR, Barnett BJ, Murphy AG. Creating insurance markets for natural disaster risk in lower income countries: The potential role for securitization. *Agricultural Finance Review*. 2008;68(1):151-167.
10. Zhang L, Flick R. Impacts of government policies on rural poverty reduction: A multi-dimensional perspective. *World Development*. 2013;41:31-49.