

Determinants of Private Savings in Malawi: A Micro-Econometric Analysis

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DOI: <https://dx.doi.org/10.47772/IJRISS.2026.1015EC00016>

Received: 19 February 2026; Accepted: 24 February 2026; Published: 13 March 2026

ABSTRACT

Private savings constitute a critical source of domestic finance for investment and economic growth, particularly in low-income economies where access to external capital is limited. Despite its importance, household-level saving behavior in Malawi remains insufficiently understood, especially regarding the distinct determinants of formal and informal savings. This study examines the socio-economic and demographic drivers of private savings using nationally representative data from the 2017 Malawi Financial Literacy and Consumer Protection Survey. A Probit regression framework is employed to distinguish between formal savings held in financial institutions and informal savings accumulated through community-based mechanisms. The results reveal a pronounced reliance on informal savings, with 34% of households participating in informal arrangements compared to only 9% in formal financial institutions. Employment status, educational attainment, and receipt of remittances emerge as the most robust determinants of saving behavior. Employment significantly increases the probability of saving through both channels, while secondary or higher education strongly promotes formal savings participation. Remittances positively affect both saving mechanisms. Income quintiles and age show limited influence once other factors are controlled for, although gender differences are evident in informal savings participation. The findings underscore the segmented nature of Malawi's savings landscape and highlight the importance of employment generation, education, financial literacy, and digital financial integration in strengthening domestic resource mobilization.

Keywords: financial inclusion, household savings, informal finance, remittances, Probit model, Malawi

INTRODUCTION

Private savings play a central role in economic development by providing resources for investment, capital accumulation, and sustained economic growth. Classical growth frameworks—including the Harrod–Domar and Solow models, emphasize savings as a prerequisite for long-run expansion (Domar, 1946; Harrod, 1939; Solow, 1956). In developing economies characterized by shallow capital markets and limited access to external finance, domestic savings are particularly critical for reducing dependence on foreign capital inflows (Loayza et al., 2000; World Bank, 2022).

Saving patterns vary significantly across regions. East Asian economies exhibit high savings rates driven by income growth, demographic transitions, and financial deepening, whereas Sub-Saharan Africa continues to record relatively low savings rates (Athukorala & Sen, 2004; Deaton, 1999). Malawi mirrors this regional trend, with domestic savings insufficient to finance the investment required for structural transformation (Reserve Bank of Malawi [RBM], 2018; World Bank, 2023).

Financial Inclusion and Digital Finance in Sub-Saharan Africa

Recent developments in Sub-Saharan Africa have reshaped saving behavior through mobile money and digital finance. Evidence from Kenya demonstrates that mobile money significantly enhances household financial resilience and savings accumulation (Suri & Jack, 2016). Studies from Tanzania and Uganda indicate that digital wallets facilitate micro-savings and liquidity management (Riley, 2018). The Global Findex (Demirgüç-Kunt et al., 2022) further documents rapid growth in digital financial account ownership across Africa between 2017 and 2021. However, digital access alone does not automatically translate into savings uptake. Employment,

education, and trust remain critical determinants. Despite fintech expansion, Malawi's savings landscape remains dominated by informal mechanisms such as village savings and loan associations (VSLAs). Micro-level evidence distinguishing formal and informal saving determinants remains limited.

This study addresses this gap by examining (a) socio-economic determinants of household saving behavior in Malawi and (b) whether these determinants differ between formal and informal saving mechanisms.

THEORETICAL FRAMEWORK

The Keynesian Absolute Income Hypothesis posits that savings increase with disposable income (Keynes, 1936). The Permanent Income Hypothesis suggests that household's base saving decisions on expected lifetime income rather than transitory income (Friedman, 1957). The Life-Cycle Hypothesis predicts saving during working years and dissaving in retirement (Modigliani & Ando, 1963). These frameworks emphasize income stability, demographic structure, and employment as central determinants of saving behavior.

METHODOLOGY

Data Source

The study uses nationally representative data from the 2017 Malawi Financial Literacy and Consumer Protection Survey conducted by the Reserve Bank of Malawi. The survey includes rural and urban households and identifies individuals responsible for household financial decisions. The final analytical sample consists of 1,000 households (996 used in regression analysis after data cleaning).

Variable Definitions

Dependent Variables

Formal Savings. A binary variable coded 1 if the household reported saving in a formal financial institution (bank, microfinance institution, SACCO), and 0 otherwise.

Informal Savings. A binary variable coded 1 if the household saved through informal mechanisms (savings clubs, VSLAs, money kept at home), and 0 otherwise.

Independent Variables

Employment. A Binary indicator equal to 1 if the respondent engaged in any income-generating activity (formal or informal sector).

Education. Coded 1 for secondary education or higher; 0 for primary education or less.

Income Quintiles. Five categorical income groups (poorest quintile as reference).

Remittances. A Binary variable equal to 1 if the household received domestic or international monetary transfers in the past 12 months.

Sex of Household Head. 1 = male; 0 = female.

Age Group. Five categories (15–25 reference group).

Model Specification

Given the binary nature of the dependent variables, a probit regression model was employed. Two models are estimated: one for formal savings (saving at a financial institution) and another for informal savings (saving through informal savings groups).

The general specification is:

$$P(S_i=1) = \Phi(\beta_0 + \beta X_i + \varepsilon_i)$$

Where S_i is a binary indicator of saving behaviour, X_i is a vector of socio-economic and demographic characteristics, β represents parameters to be estimated, and Φ is the cumulative normal distribution function.

Variable Description

The dependent variables are binary indicators of whether a household saved formally or informally. Explanatory variables include income quintile, education level and employment status, receipt of remittances, age group, and sex of household head. These variables are selected based on theoretical relevance and data availability.

Diagnostic Tests

Robust standard errors are used to address potential heteroscedasticity. Multicollinearity is assessed using pairwise correlation coefficients, while model specification is tested using link tests. The diagnostic results confirm that the models are correctly specified.

Limitations

The limitations of this study include the following:

- Cross-sectional design limits causal inference.
- Self-reported savings may contain measurement error.
- Data from 2017 may not fully capture recent fintech expansion.
- Binary explanatory variables mask within-category variation.
- Under-representation of older age groups limits life-cycle testing.

Therefore, future research should incorporate panel data and digital finance variables.

RESULTS AND DISCUSSION

Descriptive Statistics

Table 1 presents the descriptive statistics of the variables used in the analysis, based on a sample of 1,000 households drawn from the Malawi 2017 Financial Literacy and Consumer Literacy Survey. The statistics provide preliminary insights into household saving behaviour, socio-economic characteristics, and demographic composition of the sample. The results indicate that household participation in informal saving mechanisms is substantially higher than formal saving. On average, 34 percent of households reported saving through informal channels such as savings clubs or village banks, while only 9 percent reported saving in formal financial institutions. This wide disparity underscores the continued dominance of informal savings arrangements in Malawi, reflecting limited access to, or trust in, formal financial service as well as the importance of community-based financial systems.

Employment levels among respondents are relatively high, with 77 percent of households reporting at least one employed member. This suggests that a majority of households have some income-generating activity, although the low formal saving rate indicates that employment alone may not be sufficient to translate income into formal financial savings. Income distribution across quintiles is fairly even, with each quintile accounting for between 17 and 23 percent of the sample. The poorest 20 percent constitute 17 percent of respondents, while the richest 20 percent account for 23 percent, suggesting modest representation of higher-income households.

In addition, educational attainment varies considerably across the sample. Approximately 36 percent of respondents have primary education or less, while 64 percent have attained secondary education or higher. This relatively high proportion of educated respondents may have implications for financial literacy and saving behaviour, particularly with respect to participation in formal financial institutions. Remittance receipts are reported by 25 percent of households, indicating that a significant share of respondents benefit from income transfers from external sources. Remittances may serve as an important supplementary income stream and potentially enhance households' capacity to save, either formally or informally.

With respect to demographic characteristics, 33 percent of households are male-headed, implying that female headed households constitute the majority of the sample. This distribution is relevant given evidence from the literature suggesting gender differences in saving behaviour, particularly in informal savings participation. The age distribution reveals a relatively young population, with 40 percent of respondents aged 15–25 and an additional 31 percent aged 26–36. Only 29 percent of respondents are above the age of 36. This youthful demographic structure is consistent with Malawi's population profile and has important implications for saving behaviour, as younger individuals are often at earlier stages of the life cycle with limited saving capacity.

Table 1: Descriptive statistics

Variable	Mean	Min.	Max.
Informal saving	34%	0	1
Formal saving	9%	0	1
Employment	77%	0	1
Poorest 20%	17%	0	1
Second 20%	19%	0	1
Middle 20%	19%	0	1
Fourth 20%	21%	0	1
Richest 20%	23%	0	1
Education	36%	0	1
Primary/Less	64%	0	1
Secondary/greater	36%	0	1
Remittances	25%	0	1
Sex	33%	0	1
Age 15-25	40%	0	1
Age 26-36	31%	0	1
Age 37-47	13%	0	1
Age 48-58	8%	0	1
Age 59-99	8%	0	1
N	1000	0	1

Source: author's tabulation from FinLit data

Econometric Results

Table 2 reports the marginal effects from the Probit estimations examining the determinants of household saving behaviour in Malawi, distinguishing between formal savings (saving through financial institutions) and informal savings (saving through informal savings groups). The reported marginal effects indicate the change in the probability of saving associated with a unit change in each explanatory variable, holding other factors constant. The results reveal that education plays a critical role in determining participation in formal savings. Attaining at least secondary education increases the probability of saving in a financial institution by approximately 6.2 percentage points, and this effect is statistically significant at the 1 percent level. This finding suggests that education enhances financial awareness, confidence in formal financial systems, and the ability to navigate banking services. In contrast, education has a negative but statistically insignificant effect on informal savings, implying that higher educational attainment may shift households away from informal arrangements toward formal financial institutions rather than increasing overall saving participation.

Likewise, Employment status emerges as a strong and consistent determinant of saving behaviour across both saving mechanisms. Being employed increases the likelihood of saving formally by about 8.7 percentage points and informally by 15.6 percentage points, with both effects statistically significant at the 1 percent level. This indicates that regular income from employment substantially enhances households' capacity to save, regardless of the saving channel. The stronger effect observed for informal savings may reflect the accessibility and flexibility of informal savings groups for employed individuals, particularly in contexts where formal financial inclusion remains limited. Remittances also exert a positive and statistically significant influence on both forms of saving. Receipt of remittances raises the probability of saving in financial institutions by approximately 6.1 percentage points and informal savings by 11.8 percentage points. This suggests that remittances act as an important supplementary income source, easing liquidity constraints and enabling households to allocate part of these inflows toward savings rather than immediate consumption.

Income quintiles display a weak and largely insignificant relationship with formal savings, indicating that higher income alone does not necessarily translate into increased use of formal financial institutions. However, for informal savings, households in higher income quintiles, particularly the second quintile, exhibit a positive and marginally significant effect, suggesting that modest income gains may first translate into participation in informal savings arrangements before transitioning into formal savings. Demographic characteristics yield mixed results. Gender of household head has no statistically significant effect on formal savings but shows a negative and significant effect on informal savings, indicating that male-headed households are less likely to save through informal savings groups compared to female-headed households. This finding is consistent with evidence that women are more actively engaged in community-based savings mechanisms, such as village savings and loan associations.

Furthermore, age effects provide limited support for the life-cycle hypothesis. Most age categories do not significantly influence formal saving behaviour. However, individuals aged 37–47 years are more likely to save informally, with a statistically significant positive effect at the 10 percent level. This suggests that middle-aged individuals, who often face higher household responsibilities and income instability, may rely more on informal savings mechanisms for precautionary and consumption-smoothing purposes.

The Probit regression results, therefore, demonstrate that employment, education, remittances, and gender are key determinants of private savings in Malawi, while income and age play more limited roles once other factors are controlled for. Importantly, the determinants of saving differ between formal and informal mechanisms, highlighting the segmented nature of Malawi's savings landscape. These findings underscore the need for policies that promote employment generation, enhance educational attainment, and leverage remittance inflows, alongside targeted financial inclusion strategies that facilitate the transition from informal to formal saving systems.

Table 2: Marginal Effects of the models

Variable	Formal Savings		Informal Savings	
	Dy/dx	SE	Dy/dx	SE
1.Income				
2.Income	0.004	(0.034)	0.100*	(0.053)
3.Income	-0.003	(0.034)	0.085	(0.052)
4.Income	0.036	(0.034)	0.063	(0.052)
5.Income	0.036	(0.035)	0.068	(0.051)
Education	0.062***	(0.019)	-0.015	(0.037)
Employment	0.087***	(0.030)	0.156***	(0.040)
Sex	0.032	(0.020)	-0.122***	(0.033)
Remittances	0.061***	(0.021)	0.118***	(0.039)
Age 15-25				
Age 26-36	0.001	(0.022)	0.055	(0.040)
Age 37-47	-0.021	(0.025)	0.092*	(0.054)
Age 48-58	0.072	(0.050)	0.102	(0.067)
Age 59-99	0.040	(0.056)	-0.081	(0.057)
N	996		996	

Robust standard errors in parenthesis

CONCLUSION AND POLICY IMPLICATIONS

This study provides micro-econometric evidence on the determinants of private savings in Malawi using nationally representative household data and a Probit modelling framework that distinguishes between formal and informal saving mechanisms. The findings reveal persistently low participation in formal financial savings alongside a strong reliance on informal savings arrangements, underscoring the segmented structure of Malawi's savings landscape.

Employment status, educational attainment, and receipt of remittances emerge as the most robust determinants of private saving behaviour. Employment significantly increases the likelihood of saving through both formal and informal channels, highlighting the importance of stable income flows in enabling households to allocate resources beyond immediate consumption. Education plays a critical role in promoting formal savings, suggesting that human capital development and financial capability are central to deepening financial inclusion. Remittances also positively influence saving behaviour, indicating that external income transfers ease liquidity constraints and create opportunities for precautionary and long-term savings. In contrast, income quintiles exert

limited influence on formal savings once other socioeconomic factors are controlled for, implying that income growth alone is insufficient to drive formal financial participation. Demographic effects are mixed: female headed households are more likely to save through informal mechanisms, while age effects offer only limited support for the life-cycle hypothesis.

These findings carry important policy implications. Strengthening private savings in Malawi requires policies that go beyond income enhancement to address structural and institutional constraints. Employment creation and income stability should remain central policy priorities, as they directly enhance households' saving capacity. Investments in education and financial literacy, particularly at the secondary level and beyond, are essential for fostering confidence in and access to formal financial institutions. Given the positive role of remittances, policies that link remittance inflows to affordable and accessible savings products could further mobilize domestic savings.

Therefore, the continued dominance of informal savings mechanisms suggests that informal savings groups should be recognized as complementary to the formal financial system. Policies that support linkages between informal savings groups and formal financial institutions, such as through microfinance, cooperative banking, or digital financial platforms, can facilitate a gradual transition toward formal savings without undermining trusted community-based arrangements. Finally, gender-sensitive financial inclusion strategies are necessary to ensure that women, who are more active in informal savings, can access and benefit from formal financial services.

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