

Household savings in rural areas: determinants and empirical insights

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Abstract

Purpose – This study examines the determinants of rural household saving behaviour in Odisha, India. Since household savings constitute a major share of total savings in the Indian economy and rural households possess significant saving potential, the paper aims to identify the socio-economic and demographic factors influencing rural household savings and surplus budgeting behaviour.

Design/methodology/approach – The study is based on primary data collected during 2022–23 from 422 households across four villages in four districts of Odisha – Anugul, Jagatsinghpur, Boudh and Nayagarh. Simple random sampling was used for data collection. To analyse the determinants of household savings, the study employed descriptive statistics, Ordinary Least Squares (OLS) regression, and Binary Logistic Regression models. Diagnostic tests for multicollinearity, heteroscedasticity and normality were also conducted.

Findings – The results reveal that monthly household income has a positive and significant effect on rural household savings, while monthly household expenditure has a significant negative effect. Household size and the number of bank accounts negatively influence savings, though insignificantly. Mean age and education level of household members positively affect savings but remain statistically insignificant. Agricultural landholding positively influences savings but is not significant. The logistic regression results show that salaried persons, non-agricultural labourers and self-employed household heads are more likely to maintain surplus budgets and save. In contrast, cultivator households are significantly less likely to save. Household liabilities significantly reduce the probability of saving, whereas the cost incurred in saving through financial institutions negatively affects savings insignificantly.

Originality/value – The study contributes to the limited empirical literature on rural household saving behaviour in Odisha by using micro-level primary data from selected rural districts. Unlike many earlier studies focusing on broader national patterns, this paper specifically analyses rural financial saving behaviour using both OLS and binary logit models. It also highlights the role of financial literacy, financial inclusion initiatives such as PMJDY, SHG linkages and rural cooperatives in enhancing rural household savings.

Keywords Rural household saving, Socio-economic factors, Demographic factors

Paper type Research article

1. Introduction

Saving is that portion of personal disposable income, which is not expended or spent. The starting and initial points for the analysis of household saving behaviour were the life cycle theory (Modigliani and Brumberg, 1954) and Keynes's (1936) and Friedman's (1957) income theories. These are mainly based on the income structure of the household and demographic features of the family, which is widely used in determining saving behaviour. From the classical days, saving has greater role in the growth of an economy. In the Indian economy, household sector saving has the biggest part of total savings. Even though rural households



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have enormous saving potential, yet, only a few studies are focused on assessing the rural saving potential.

The rate of saving should be enhanced to increase the pace of growth in developing countries. For individuals or households, saving can be seen as a cushion of security against future contingencies, while for a nation, saving provides funds for development. According to the neo-classical growth theory, economic growth relies on the incremental capital-output ratio and rate of saving or investment. In the transition to steady-state growth, a larger growth in per-capita income and capital is achieved.

Private savings and public savings are the two main areas in the classification of savings. The economy's private sector performs private saving. Personal savings, often known as household savings and business savings are the two subcategories of private savings. While corporate savings refers to the acquisition of new capital equipment or the development of its operations, household savings refers to saving carried out by families and individuals. In contrast, according to the Reserve Bank of India's database, public saving refers to savings made by the government sector, which includes state, local and federal governments.

Making financial services (such as savings, credit, payments and insurance) accessible to everyone who wants them without any price or non-price barriers is called financial access or financial inclusion. Financial access implies that economic agents may use financial services when required (Bhavani and Bhanumurthy, 2011). According to Maps World of Finance, "Saving behaviour is defined as an understanding of how people save in a country to realise the economic condition of the country". In simple words, saving behaviour means how an individual or household acts and reacts to the process of savings. Hence, the study of saving behaviour entails the researcher to identify the motives for saving.

Rural household saving behaviour should be emphasised because the soul of India lives in its village. According to the census 2011, in India, rural-urban composition is 68.84% and 31.16% respectively. However, in many developed countries like the USA, UK and New Zealand, large proportion of the population is urban. People in rural areas are less acquainted with the financial services provided by banks, post offices and insurance companies. Even they are ignorant about the schemes that originated for the upliftment of rural areas. So far as the availability of financial services is concerned, it is lacking in rural areas. So, rural population needs to be educated on using various financial services and to make them financially literate and alert.

During 2011–12, the share of the household sector in total savings was 60.93% while private corporations accounted for 35% and the remaining 4.07% was from the public sector in India. During this time, the growth rate of household savings was at its lowest at 3.7%. Saving of private corporations grew by 17.4% and that of the public sector by 12.9% during 2012–17 FY. In this period, the household saving rate (Gross household saving/GDP) plunged to 16.3% in India. It is a topic of discussion because the household sector is the economy's greatest saver and overall saving rate has decreased.

The concept of financial inclusion originated in 2005 in India. Over the years, the Indian government has implemented several programmes that have improved the financial status of Indian citizens while also boosting the nation's economy. The Pradhan Mantri Jan Dhan Yojana (PMJDY), Sukanya Samriddhi Yojana (SSY), Rashtriya Swasthya Bima Yojana (RSBY), Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY), National Social Assistance Scheme, Pradhan Mantri Mudra Yojana and Kisan Vikas Patra (KVP) in Indian banking and postal systems are some notable financial schemes. In the rural sector, schemes such as PMJDY and KVP have a significant impact on the accessibility of financial services.

2. Literature framework

There is ample theoretical and empirical research that explains saving behaviour and its determinants. An effort has been made to review the existing literature that is relevant to the current investigation and it has been organised under the following headings.

2.1 Socio-economic determinants and saving behaviour

The most essential aspect in determining an individual's savings behaviour is his or her income. Higher-income usually equates to more savings, and vice versa. The financial relationship between saving and income has been tested in many ways. A few studies discovered a statistically significant effect of income on saving, whereas others found no such effect.

Both [Keynes \(1936\)](#) and [Friedman \(1957\)](#) claim that income has a positive effect on saving. The positive association between income and saving has been proven in studies by [Alessie et al. \(1995\)](#) and [Browning and Lusardi \(1996\)](#). According to [Avery and Kennickell \(1991\)](#), the highest income deciles of households in the United States contribute the most to overall savings. On the other hand, [Bosworth et al. \(1991\)](#) found that lower-income people save less. [Athukorala and Sen \(2004\)](#) discovered a positive association between saving and income in India, similarly, [Abdelkhalek et al. \(2010\)](#) discovered in the microeconomic research of Moroccan savings of households. These findings imply that when a household's income is higher, they save a larger share of the income. According to studies on financial exclusion by [Devlin \(2005\)](#) and [Kempson and Whyley \(1999\)](#), income has a significant impact on the likelihood of being financially excluded. Low-income persons are more likely to be eliminated from financial services, according to the data, since they have fewer resources and may have difficulty acquiring particular financial products.

The amount of consumption expenditure changes depending on prior consumption and the risk of labour income. Lagged changes in consumption had a strong negative impact on the current change in consumption, suggesting that habit development occurs in the utility function of rural Indian households. It is also concluded that rural households tend to save less under higher annual and seasonal weather risks due to vulnerable weather conditions ([Mishra et al., 2019](#)). Average monthly income significantly determines the saving habits of the community, but the age of the respondent, the average income from other income-generating activities and average assets from the parents have no significant relation to saving habits. The current living status and education level of respondents have significantly affected their saving habits ([Fenta et al., 2017](#)).

Individuals' occupations frequently define their cycle of income and affect the cohesion and frequency of their income, and it is hypothesised that people with higher-paying jobs can save more than those with lower-paying jobs. Precautionary saving is encouraged in occupations with uncertain revenue. Those with stable employment save less than those with an unpredictable and risky job income level ([Gutierrez and Solimano, 2007](#); [Guariglia and Kim, 2004](#); [Loayza and Shankar, 2000](#)). However, according to a study by [Denizer et al. \(2002\)](#), saving is unaffected by the source of income, that is occupation. According to [Fernandez et al. \(2009\)](#), income and employment uncertainty are substantially connected, implying a high and close relationship between income or job uncertainty and saving.

The household head's job position has received much attention as a source of disparities in household savings in developing countries. In India and Indonesia, [Ramanathan \(1969\)](#), [Kelley and Williamson \(1968\)](#) and [Williamson \(1968\)](#) discovered that self-employed people save the most. In the instance of West Africa, however, [Snyder \(1974\)](#) finds no support for this conclusion. According to [Blankson and Quartey \(2008\)](#), most of the households in Ghana who save are in the agricultural sector, although their average savings are lower than those in banking, insurance, business and services. Conversely, [Dupas and Robinson's \(2013\)](#) research found that potential savers in Kenya included market sellers, taxi drivers and self-employed craftspeople, who are not financially included but wanted to start one, implying that the poor have the willingness to save more ([Issahaku, 2011](#)).

Individuals' educational background is likely to indicate their ability and proficiency in making financial decisions. Educational achievement represents the knowledge and confidence of a person, and ability to seek information, and therefore the ability and confidence to make financial decisions for the family. Acquiring these skills boosts the chances of being able to save. [Mitchell and Lusardi \(2007\)](#) discovered that people with a lesser

educational qualification are more likely to be financially excluded and financially illiterate. [Avery and Kennickell \(1991\)](#), [Alessie et al. \(1995\)](#), [Attanasio \(1997\)](#), [Bernheim and Scholz \(1993\)](#) and [Lusardi \(2000\)](#) found a positive link between education and saving in their studies. Furthermore, [Devlin \(2009\)](#) discovered that education has a negative impact on the risk of being financially excluded, meaning that people with higher educational attainment are more likely to save.

According to the research, there is a strong and close correlation between household welfare and financial literacy. Financial literacy is defined as a person's understanding of how to hold their money in terms of insurance, investing and saving ([Hogarth, 2002](#)). According to studies, households with lower awareness and financial literacy are unable to plan for their future ([Lusardi, 2007](#)), have lower asset levels and take loans at higher interest rates ([Stango and Zinman, 2009](#)). Financial competency and literacy improve financial decision-making, allowing for better management and planning of life events such as education qualification, illness, home purchase and future retirement. According to studies, financially literate people understand how financial institutions operate, how to manage their finances and how to be financially responsible ([Beal and Delpachitra, 2003](#)). To assess the extent and distribution of financial literacy, a variety of studies has been done. People with a low level of education, particularly women, have poor financial literacy, which has an impact on financial decision-making ([Lusardi, 2007](#)).

Furthermore, asset holdings, such as the number of land holdings and the value of a home, can be used to predict a growth in household income and hence the ability to save. Larger land ownership allows farmers to take advantage of economies of scale, resulting in increased production and earnings ([Kulikov et al., 2007](#)). Similarly, [Bhalla \(1978\)](#) discovered that landholding has a significant impact on total saving rates, because landholding size increases income, and income affects savings favourably.

The empirical findings suggest that as the household income rises, the likelihood of owning financial assets and maintaining a well-diversified portfolio also rises. Interest rate on term deposits positively influences saving decision in assets like fixed deposits and post office savings, while house prices have a mixed impact across rural and urban areas on savings in financial assets ([Bhowmick et al., 2024](#)).

2.2 Demographic determinants and saving behaviour

There is a strong consensus among academics around the world that demographic characteristics affect savings. Age, gender, household size and other factors play a role in the decision to save.

In rural areas, the age of the head of household is a relevant factor in household saving ([Kelley and Williamson, 1968](#)), but [Schultz \(2005\)](#) found no significant association between saving and age composition in his study of demographic determinants of saving in Asia. In a study of the factors or determinants of household saving in Nigeria, [Akpokodje et al. \(2004\)](#) found that the youth and elderly have little income and save little, whereas those in middle age have better productivity, and income, and thus save more. [Fernandez et al. \(2009\)](#) researched the factors of saving in eight European nations and discovered that as people approach retirement, they prefer to save more, indicating a positive link between age and saving.

According to [Demery and Duck \(2006\)](#), the rate of savings is consistent with the life cycle hypothesis. They concluded that people who are working are more concerned with saving. Furthermore, [Bovenberg and Evans \(1990\)](#) found that the older the population of a country, the lower the economy's saving rate, whereas [Pyle and Foley \(2005\)](#) found that more people in their childhood and old age save less money than people in their middle years. As a result, the effect of age and dependence ratio as demographic factors on saving is mostly drawn from the life cycle model, which assumes that as the share and portion of the working population relative to that of retirees rises, savings will rise as well ([Lahiri, 1989](#); [Bosworth et al., 1991](#); [Higgins and Williamson, 1996](#)). The dependence ratio is calculated by adding a proportion of

people aged 14 years and below to a percentage of people aged 65 years and above. The results of studies examining the relationship between dependency ratio and savings have been inconsistent.

While [Manzocchi \(1999\)](#) discovered a positive association between dependency ratio and private savings, [Loayza and Shankar \(2000\)](#), [Deaton \(1992\)](#), and [Leff \(1969\)](#) discovered a negative relationship between dependency ratio and savings. [Elfindri \(1990\)](#) conducted a study in central Sumatra, Indonesia, to evaluate the demographic influence of family size on household savings, and found that the number of school-going children and the number of households have a negative impact on household savings. By evaluating micro theories and data on household savings, [Browning and Lusardi \(1996\)](#) discovered that household size can have a positive influence on saving due to economies of scale, which is contrary to [Elfindri \(1990\)](#). Financially literate consumers having high financial confidence are less financially fragile during COVID-19. Besides, the adverse impact of financial literacy on financial fragility is more for consumers having more than less wealth. The interaction with race is not significant, suggesting that financial literacy cuts across racial boundaries ([Chhatwami and Mishra, 2021](#)).

However, gender disparities are likely to affect saving behaviour due to differences in spending habits, attitudes, preferences and financial knowledge, as well as differences in the gender-based responsibilities of household heads. According to research, women are less knowledgeable about financial management than males ([Chen and Volpe, 2002](#); [Goldsmith and Goldsmith, 1997](#)). This is partly due to women's increased obligations in family life, lower incomes, longer life expectancy and lesser savings, all of which contribute to greater financial management issues ([Timmermann, 2000](#); [Anthes and Most, 2000](#)). [Croson and Gneezy \(2004\)](#) found a considerable difference between men and women when it comes to risk-taking. Women are more risk-averse than men, which influences their saving and spending decisions. However, there is little data on how saving practices differ between men and women. When it comes to taking risks, men and women behave differently.

In addition, the size of the household is a key indicator of its ability to save. To maintain the entire family, households with more children are more likely to incur higher levels of family expenses, which makes them less likely to save money. [Bloom and Williamson \(1998\)](#), [Bayoumi and Samiei \(1998\)](#), [Muradoglu and Taskin \(1996\)](#), [Kelley and Schmidt \(1996\)](#), [Orbeta \(2006\)](#) and [Loayza and Shankar \(2000\)](#) found that having a joint or larger family and more school-going children reduces household savings. Intergenerational linkages are particularly strong in developing nations due to a large number of family members, which lengthens the planning of saving of households effectively ([Gerzovitz, 1998](#)) and reduces the inclination to save for future or intergenerational transfer ([Deaton Angus, 1991](#)).

Similarly, in a study of the Peshawar district of Pakistan, there is a positive correlation between the income level of the household and household savings. The coefficient of education has a positive and significant effect in determining household savings. The number of respondents in the family has a negative impact on household savings. The employment status of the household head has a positive influence on household saving behaviour. The increase in income leads to a raise in investment. Education and employment status have a positive correlation with the amount of investment. Savings are positively influenced by household disposable income and economic expectations while spending negatively impacts savings ([Chua et al., 2016](#)). Income has a positive correlation with savings in both rural and urban areas. There is a positive association between age and the saving pattern of a person. However, there is a negative relation between the dependency ratio and the savings of households. Regarding education level, a more educated person saves more than an illiterate person. Income is the main determinant of saving than other variables. The lifecycle hypothesis is also indirectly tested because a person with a maturity of age is the main determinant of saving. An employed person has larger savings due to the consistent flow of income ([Saqib et al., 2016](#)).

In a study in Hungary, discriminant analysis and cluster analysis are used to determine the most dominating factor of household saving behaviour. Wishing for self-care is highest including the group for saving followed by life for today's cluster group. The major determinant of saving behaviour is financial attitude (Kokeny, 2015). The frequency of use, ease of access to banking products and physical proximity of bank branches are all influenced by higher income, greater education, gender and other occupational groups. These are closely related to banking service usage and accessibility as indicators of financial inclusion in the Pondicherry region (Nandru *et al.*, 2015). Components of wealth have a heterogeneous impact on saving. Among different components of wealth, the effect of real estate dominates other components. Demographic components of households strongly affect the saving rate. As per the notion of the permanent income hypothesis, the saving rate does not decline in a monotonic way because households in old age tend to raise their savings by receiving retirement benefits at the end of the service (Belke *et al.*, 2015).

According to a study from the Kerala area, rural households have a very high propensity to save. Income level, income disparity, asset value and education level of the household head have a positive impact on saving. The dependency ratio and several male children have a negative influence. In the Tigray region of Ethiopia, among the factors that determine saving behaviour of co-operative members, it is found that household family size has a significant impact on saving. It is likely that years of membership in a financial co-operative has a positive contribution towards saving but the amount of money borrowed negatively affect saving. The result shows that saving mobilisation is ascertained by gender and annual income level of households positively (Sebhatu, 2012).

Age consistently has a negative impact on both the amount saved and the pace of saving when evaluating the causes of the saving rate's rebound by conducting a new analysis of the factors affecting household saving. Additionally, it is discovered that a percentage point increase in compensation for a worker with a college degree compared to a worker with only a high school diploma reduces the personal saving rate by 0.2% points. Quantitatively speaking, the effect of the housing rate of return is greater than the effect of the stock rate of return on saving rates (Walden, 2012). There is a positive association between age and the number of insurances, which explains the older the age higher is the number of insurances. There is a negative relationship between age and saving and investment. The ability to save and invest is independent of the size of the family. There is no significant relationship between knowledge and awareness of saving and investment as against the savings and investment amount of the respondents (Amu, 2012). In a study of the variables influencing household saving among employees of a rural agro-based firm in the south region of Nigeria, it was discovered that workers' attitude toward saving was influenced by income, tax, job experience, education, family size and membership in a social group. Policies were proposed to periodically enhance worker wages and tax reductions by the shifting pattern of macroeconomic variables in the nation to encourage household savings among employees of the agro-based in Nigeria (Akpan *et al.*, 2011).

In the Multan district of Pakistan, to study rural-urban saving differentials, it is stated that in both cases of rural and urban areas, years of schooling of household head, educational expenditure for the children and family size have a negative impact on household saving. Another reason for low savings is the household head's liabilities. The total dependency rate significantly affected household savings in rural areas but not in urban areas (Rehman *et al.*, 2011). Similarly, to ascertain the importance of financial institution membership in accumulating financial saving by rural and semi-urban households, it was concluded that membership of some financial institutions such as banks, insurance and informal financial institution has a significant and positive impact on financial saving of rural households. The income and location of the financial institution have positive relationships and the dependency ratio has a negative relation to rural saving. Family size affects rural household savings negatively (Pailwar *et al.*, 2010).

Variability in income among US farm households considerably affects precautionary saving, hence, it is important to explore the effects of farm income variability, farm size and other socioeconomic variables on the precautionary saving behaviour of farm households. Households with higher-income risk save more and amass greater wealth. The decision to save is positively impacted by the operator and the couple's educational background. Cash holding by grain-focused farmers are more likely to have precautionary savings. The amount of savings by farm households is highly associated with farm size and farm net worth. Farm policies that minimise income variability or uncertainty will influence precautionary saving since unpredictability of higher household income promotes savings and farm wealth (Mishra and Chang, 2009). The study found that income, earning status of the household head, occupation of the household head and age of the household head was positively related to household savings in Pakistan, and that dependency ratio, educational attainment of the household head, employment status of the household head, secondary earners in the household and household age were negatively related to household savings. The value of the marginal propensity to save was found to be 0.22 in urban Pakistan and 0.37 in rural Pakistan (Burney and Sabelhaus, 1992). In a study on the number of households that saved, family size and rate of household saving rate shared a negative relationship. Having kids has a positive effect on the family's income, and indirectly, increases household savings. Children have a higher positive impact on family savings when they are close to finishing high school since parents are then starting to plan for college education expenses (Espenshade, 1975).

3. Research gap and question

After reviewing the earlier studies, the following research gaps are identified. There is ample literature on the concept of rural household saving behaviour in India. However, many of the studies have not focused on the case of rural household saving behaviour in Odisha.

To make a thorough investigation of the issues raised above, this study will attempt to answer the following research questions:

- (1) What are the factors that determine rural household saving behaviour?

4. Objective of the study

To determine the factors that affect the level of rural household saving behaviour.

5. Research methodology

5.1 Data source and sampling method

The empirical framework is solely based on primary data collection from the selected districts of Odisha, which is collected during 2022–23. Total of 30 districts in Odisha are classified into two broad categories: one with higher rural composition than the state average rural composition (greater than 83.32%) and another district with less rural composition than the state average rural composition (less than 83.32%). To look into the saving pattern of Odisha, the per capita deposit amount in the commercial bank from State Level Banking Committee is taken as a proxy. To examine the saving behaviour of rural households, two districts with the highest and two districts with the lowest per capita deposit in a commercial bank and higher rural composition are chosen. So, the two districts with the highest deposit amount having greater rural composition are Angul and Jagatsingpur. Similarly, the two Districts with the lowest per capita deposit amount having greater rural composition are Boudh and Nayagarh. Total sample size is 422 which is collected by simple random sampling, that is 100 households from Gobara village of Angul district, 100 households from Salijanga village of Jagatsinghpur district, 100 households from Madhupur village of Nayagarh district and 122 households from Dimiripali village of Boudh district.

5.2 Research techniques and methods

Considering objective of the study, the following statistical and econometric methods are used:

- (1) Saving behaviour of rural households in the study area will be analysed and interpreted through descriptive statistics.
- (2) Multiple regression and the Binary Logit model are used to determine the factor that affects saving behaviour. For the OLS model, the diagnostic test for multicollinearity, heteroscedasticity and normality are checked on residual. The histogram of residual is like bell- shaped distribution which is symmetric in nature and variance inflation factor (VIF) is 4.89, showing no multicollinearity.

6. Result discussion

Numerous factors affect rural household saving behaviour. Some factors are demographic, socio-economic and region specific which are explained in details.

6.1 Determinants that affect household rural saving in Angul district of Odisha

The multiple regression model has been used to define the factors that influence saving among rural households, as suggested in the methodology section.

Symbolically,

$$S_i = \beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \beta_3 X_{3i} + \beta_4 X_{4i} + \beta_5 X_{5i} + \beta_6 X_{6i} + \beta_7 X_{7i} + u_i \tag{1}$$

where S_i indicates Total Monthly Household Saving

X_{1i} indicates the Total number of household members

X_{2i} indicates the Mean age of household members

X_{3i} indicates the Mean years of schooling

X_{4i} indicates Monthly family income

X_{5i} indicates the Number of bank accounts of household members

X_{6i} indicates the Amount of agricultural land (in acres)

X_{7i} indicates Monthly family expense

β_0 is the intercept term

$\beta_1 \dots B_7$ are coefficients and

u_i is error term.

The Table 1 explains the model summary of the regression equation regarding factors that affect household saving in the sample district of Angul in Odisha. It is concluded from the

Table 1. Model summary (Angul district)

	F-statistics	Significant	R square	Adjusted-R square
Dependent variable: total household saving (monthly)	23.171***	0.00	0.638	0.611
Note(s): *, ** and ***- Significant at 10%, 5% and 1% levels, respectively				
Source(s): Authors' own calculation				

above table that F-statistics, which is highly significant at a 1% level, measures the overall significance of the model. The value of *R* square is 0.638, which explains that 63.8% variation on the dependent variable (Total household saving) is explained by independent variables in the model. The value of adjusted *R*-Square is 0.611, which explains that 61.1% variation in the dependent variable (Total household saving) is explained by independent variables in the model, by taking its degree of freedom.

It is found from the Table 2 that the total number of household members negatively affects total household saving insignificantly. Similarly, the mean age of household members positive but insignificantly determines household saving significantly. The monthly family income of households positively affects total household saving significantly at 1% level. The average number years of education of households negatively affect household saving insignificantly. Angul district's major occupation of the households is non-agricultural labour. The labourer is engaged in mining work with a high salary but has less educational qualification. The number of bank accounts of household members affects household saving positively, but it is insignificant. The amount of agricultural land (in acre) positively determines household saving. But monthly total family expenses negatively affect total household saving significantly at 5% level.

6.2 Determinants that affect household rural saving in Jagatsinghpur district of Odisha

The model summary of the regression equation for the determinants affecting household saving in the sample district of Jagatsinghpur, Odisha, is explained in the Table 3. The following table leads to the conclusion that the F-statistic, which assesses the model's overall significance, is very significant at the 1% level. The value of *R* square is 0.784, which indicates that 78.4% variation in the dependent variable (i.e. total monthly household saving) in the model is explained by independent variables. Adjusted *R*-Square is 0.768, indicating that the independent variables in the model account for 76.8% of the variation in the dependent variable (Total household saving).

It is found from the Table 4 that the total number of household members negatively affects total household saving insignificantly. Similarly, the mean age of household members positively determines household saving insignificantly. The monthly family income of households positively affects total household saving significantly at 1% level. The average number years of education of households has a positive effect on household saving insignificantly. Likely, the number of bank accounts of household members affect household saving negatively, but it is significant at 10% level. The amount of agricultural land (in acre) positively determines household saving. However, monthly total family expenses negatively affect total household saving significantly at 1% level.

Table 2. Determinants of rural household saving in Angul district: dependent variable: total household saving (monthly)

Independent variable	Coefficient	<i>t</i> -value	<i>p</i> -value	Decision
Constant	−872.259	−0.90	0.929	Accepted
Total number of household members	−1010.27	−0.558	0.578	Accepted
Mean age of the household members	189.674	0.930	0.353	Accepted
Mean years of education	−494.680	−0.828	0.410	Accepted
Total family income (monthly)	0.599***	7.754	0.00	Rejected
Number of bank accounts of household members	2524.640*	2.265	0.098	Rejected
Amount of agricultural land (acre)	158.298	0.150	0.881	Accepted
Total family expenses (monthly)	−0.192**	−2.82	0.048	Rejected

Note(s): *, ** and ***- Significant at 10%, 5% and 1% levels, respectively

Source(s): Authors' own calculation

Table 3. Model summary (Jagatsinghpur district)

	F-statistics	Significant	R square	Adjusted-R square
Dependent variable: total household saving (monthly)	47.743***	0.00	0.784	0.768
Note(s): *, ** and ***- Significant at 10%, 5% and 1% levels, respectively				
Source(s): Authors' own calculation				

Table 4. Determinants of rural household saving in Jagatsinghpur district: dependent variable: total household saving (monthly)

Independent variable	Coefficient	t-value	p-value	Decision
Constant	3446.361	0.799	0.462	Accepted
Total number of household members	−250.753	−0.335	0.739	Accepted
Mean age of the household members	94.225	0.867	0.388	Accepted
Mean years of education	3.578	0.012	0.990	Accepted
Total family income (monthly)	0.631***	13.395	0.000	Rejected
Number of bank account of household members	−1494.882*	−1.710	0.091	Rejected
Amount of agricultural land (acre)	9.460	0.184	0.854	Accepted
Total family expenses (monthly)	−0.322***	−4.543	0.000	Rejected
Note(s): *, ** and ***- Significant at 10%, 5% and 1% levels, respectively				
Source(s): Authors' own calculation				

6.3 Determinants that affect household rural saving in Boudh district of Odisha

The [Table 5](#) explains the model summary of the regression equation regarding factors that affect household saving in the sample district of Boudh in Odisha. It is concluded from the above table that F-statistics, which is highly significant at a 1% level, measures the overall significance of the model. The value of R square is 0.728, which explains that 72.8% variation in the dependent variable (Total household saving) is explained by independent variables in the model. Adjusted R-Square is 0.711, which explains that 71.1% variation in the dependent variable (Total household saving) is explained by independent variables in the model, by considering its degree of freedom.

It is found from the [Table 6](#) that the total number of household members negatively affects total household saving significantly at 5% level. Similarly, the mean age of household members positively determines household saving insignificantly. The monthly family income of households positively affects total household saving significantly at 1% level. The average number of years of education of households positively affects household saving insignificantly. Likely, the number of bank accounts of household members affects household saving positively, but it is insignificant. The amount of agricultural land (in acre)

Table 5. Model summary (Boudh district)

	F-statistics	Significant	R square	Adjusted-R square
Dependent variable: total household saving (monthly)	43.621***	0.00	0.728	0.711
Note(s): *, ** and ***- Significant at 10%, 5% and 1% levels, respectively				
Source(s): Authors' own calculation				

Table 6. Determinants of rural household saving in Boudh district dependent variable: total household saving (monthly)

Independent variable	Coefficient	t-value	p-value	Decision
Constant	−900.986	−0.678	0.499	Accepted
Total number of household members	−382.935**	2.287	0.031	Rejected
Mean age of the household members	23.265	1.246	0.215	Accepted
Mean years of education	9.833	0.135	0.893	Accepted
Total family income (monthly)	0.332***	13.848	0.000	Rejected
Number of bank accounts of household members	70.175	0.380	0.705	Accepted
Amount of agricultural land (acre)	125.478	1.251	0.214	Accepted
Total family expenses (monthly)	−0.106*	−2.065	0.099	Accepted

Note(s): *, ** and ***- Significant at 10%, 5% and 1% levels of significance, respectively

Source(s): Authors' own calculation

positively determines household saving. However, monthly total family expenses negatively affect total household saving, but it is insignificant.

6.4 Determinants that affect household rural saving in Nayagarh district of Odisha

The model summary of the regression equation for the determinants affecting household saving in the sample district of Nayagarh, Odisha, is explained in the Table 7. The following table leads to the conclusion that the F-statistic, which assesses the model's overall significance, is very significant at the 1% level. The value of R square is 0.870, indicating that 87% of the variation in dependent variables in the model is explained by dependent variable, that is monthly household saving. Adjusted R-Square is 0.860, explaining that the independent variables in the model account for 86% of the variation in the dependent variable (Total household saving).

It is found from the Table 8 that the total number of household members negatively affects total household saving insignificantly. Similarly, the mean age of household members positively determines household saving insignificantly. The monthly family income of households positively affects total household saving significantly at 1% level. The average number of years of education in households has a positive impact on household saving insignificantly. Likely, the number of the bank account of household members affects household saving negatively, but it is insignificant. The amount of agricultural land (in acres) positively determines household saving. However, monthly total family expenses negatively affect total household saving significantly at 1% level.

6.5 Determinants that affect household rural saving in sample districts of Odisha

The Table 9 shows the model summary of the regression equation regarding factors that affect household saving in four sample districts such as Angul, Jagatsinghpur, Boudh and Nayagarh in Odisha. It is concluded from the above table that F-statistics, which is highly significant at

Table 7. Model summary (Nayagarh district)

	F-statistics	Significant	R square	Adjusted-R square
Dependent variable: total household saving (monthly)	87.752***	0.000	0.870	0.860

Note(s): *, ** and ***- Significant at 10%, 5% and 1% levels, respectively

Source(s): Authors' own calculation

Table 8. Determinants of rural household saving in Nayagarh district: dependent variable: total household saving (monthly)

Independent variable	Coefficient	t-value	p-value	Decision
Constant	1215.356	0.461	0.646	Accepted
Total number of household members	−447.843	−0.772	0.442	Accepted
Mean age of the household members	59.087	1.009	0.315	Accepted
Mean years of education	80.642	0.480	0.632	Accepted
Total family income (monthly)	0.667***	18.329	0.000	Rejected
Number of bank accounts of household members	−15.891	−0.024	0.981	Accepted
Amount of agricultural land (acre)	175.524	0.556	0.581	Accepted
Total family expenses (monthly)	−0.559***	−5.935	0.000	Rejected

Note(s): *, ** and ***- Significant at 10%, 5% and 1% levels of significance, respectively
Source(s): Authors' own calculation

Table 9. Model summary (in all sample districts of Odisha)

	F-statistics	Significant	R square	Adjusted-R square
Dependent variable: total household saving (monthly)	200.922***	0.000	0.773	0.769

Note(s): *, ** and ***- Significant at 10%, 5% and 1% levels, respectively
Source(s): Authors' own calculation

1% level, measures the overall significance of the model. The value of *R* square is 0.773, which explains that 77.3% variation in the dependent variable (Total household saving) is explained by independent variables in the model. Adjusted *R*-Square is 0.769, which explains that 76.9% variation in the dependent variable (Total household saving), is explained by independent variables in the model, by taking its degree of freedom.

It is found from the [Table 10](#) that the total number of household members negatively affects total household saving insignificantly. Similarly, the mean age of household members positively determines household saving insignificantly. The monthly family income of households positively affects total household saving significantly at 1% level. The average number of years of education of households positively affects household saving insignificantly. Likely, the number of bank accounts of household members has a negative

Table 10. Determinants of rural household saving in all sample districts of Odisha: dependent variable: total household saving (monthly)

Independent variable	Coefficient	t-value	p-value	Decision
Constant	677.199	0.291	0.771	Accepted
Total number of household members	−218.528	−0.540	0.590	Accepted
Mean age of the household members	14.955	0.371	0.711	Accepted
Mean years of education	166.071	1.352	0.177	Accepted
Total family income (monthly)	0.641***	25.203	0.000	Rejected
Number of bank accounts of household members	−405.392	−0.927	0.354	Accepted
Amount of agricultural land (acre)	10.269	0.242	0.809	Accepted
Total family expenses (monthly)	−0.327***	−6.156	0.000	Rejected

Note(s): *, ** and ***- Significant at 10%, 5% and 1% levels, respectively
Source(s): Authors' own calculation

impact on household saving, but it is insignificant. Households have less usability of bank accounts for saving. The amount of agricultural land (in acre) positively determines household saving. However, monthly total family expenses negatively affect total household saving significantly at 1% level.

6.6 Factors that affect household saving behaviour in sample districts of Odisha

The choice to save is influenced by both the household's capacity for saving and the planned allocation. In this model, we looked at whether a household has money left over after paying its expenditure within a year. The family decides to save money in a positive amount in order to optimise its utility, taking into account its resources. We conceptually modelled a household's private savings (S_i) as a dichotomy or binary choice contingent on several explanatory variables:

$$S_i = 1 \text{ if } y > E \text{ and}$$

$$S_i = 0 \text{ if } Y \leq E$$

where y represents the income level of the household and E is the expenditure level of the household. Thus, if the income level is greater than the level of expenditure within a given year, the household is considered to have had positive private savings or the household is called a surplus budget household.

The model is represented as follows:

$$S_i = \beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \beta_3 X_{3i} + \beta_4 X_{4i} + \beta_5 X_{5i} + \beta_6 D_{1i} + \beta_7 D_{2i} + \beta_8 D_{3i} + \beta_9 D_{4i} + u_i \quad (2)$$

where X_{1i} is the Number of earners in the family.

X_{2i} is the amount of liabilities of a household.

X_{3i} is the amount of cost incurred to save in a financial institution.

X_{4i} is the age of the household head of the family.

X_{5i} is the years of Schooling of the household head of the family.

$D_{1i} = 1$, if the household head is a salaried person

$D_{1i} = 0$, if otherwise

$D_{2i} = 1$, if the household head is a cultivator

$D_{2i} = 0$, if otherwise

$D_{3i} = 1$, if the household head is a Non-agricultural labourer.

$D_{3i} = 0$, if otherwise

$D_{4i} = 1$, if the household head is a Self-employed person.

$D_{4i} = 0$, if otherwise

β_0 is the intercept term

$\beta_1 \dots \dots B_9$ are coefficients and

u_i is error term.

As shown in [Table 11](#), the test statistics are significant at 1% with $p = 0.012$, indicating that the data used in this study sufficiently fit the model. Additionally, to check whether our binary logistic regression model fits as Garson has suggested generally, the Hosmer and Lemeshow

Table 11. Test of the model coefficients

Chi-square		df	Sig.
Step	67.302	9	0.012
Block	67.302	9	0.012
Model	67.302	9	0.012

Source(s): Authors' own calculation

Chi-square test is used. It asserts that the model's estimated data fit is satisfactory at an acceptable level if the goodness-of-fit test statistics is greater than 0.05. In this model the Hosmer and Lemeshow test has the *p* value of 0.60 which is greater than 0.05. The model summary of the logistic regression model is explained below.

The [Table 12](#) explains that 57.4% variation in dependent variable is explained by independent variables as per Cox and Snell *R* square value. A common rule of thumb is to interpret Nagelkerke *R* square, a value of 0.2 or less indicates a weak relationship between the predictor and outcome. A value of 0.2–0.4 reveals moderate relationship. A value higher than 0.4 indicates strong relationship. The value of 0.613 indicates a strong relationship between the predictors and outcome in the model.

In [Table 13](#), it is illustrated that column β represents regression coefficients in terms of log-odds and column $\text{Exp}(\beta)$ represents odds ratios. The Wald test expresses the test of significance for individual regression coefficients in logistic regression. The odds of success are better for higher levels of predictor or for the given level of a factor if the odds ratio is greater than 1. Similarly, the odds of success are less for higher levels of a predictor or for the indicated level of a factor, if the odds ratio is less than 1.

The logistic regression indicates that the number of family members who are employed (independent variable) is positively correlated with the efficacy of the household, which indicates that the number of family members who are employed increases the likelihood that the household will be surplus budget. The age of the household head and years of schooling of the household head have an increasing impact on the surplus budget of the household although insignificant. The occupation of the household head, salaried person, non-agricultural labourer and self-employed person have an increasing impact on the surplus budget of the household.

Conversely, the amount of liabilities has no impact on chances of increasing the surplus income of the household significantly and the cost incurred to save in a financial institution has no impact on chances of increasing the surplus budget of the household, which is not significant. Being a cultivator significantly reduces the probability of the household being in surplus budget.

Thus, it can be concluded that the household head being a salaried person is the highest factor with an odds ratio of 3.443, followed by the household head being a non-agricultural labourer with an odds ratio of 1.327 and household head being a self-employed person with an odds ratio of 1.146. Sequentially, the number of earners in a family, the age of the household head of the family and years of schooling of the household head (with an odds ratio of 1.093,

Table 12. Model summary of logistic regression

-2Log likelihood	Cox and Snell <i>R</i> square	Nagelkerke <i>R</i> square
123.51	0.574	0.613

Source(s): Authors' own calculation

Table 13. Logistic regression equation and its variables

Variables	β	S.E.	Wald	Sig.	Exp (β)
Number of earners in the family (X_{1i})	0.089	0.161	0.306	0.580	1.093
Amount of liabilities of a household (X_{2i})	−0.002**	0.004	9.331	0.003	0.980
Cost incurred to save in a financial institution (X_{3i})	−0.001	0.006	0.018	0.893	0.999
Age of the household head of the family (X_{4i})	0.049***	0.011	18.357	0.00	1.050
Years of schooling of the household head of the family (X_{5i})	0.031	0.026	1.457	0.227	1.032
Household head is a salaried person (D_{1i})	1.236**	0.555	4.960	0.026	3.443
Household head is cultivator (D_{2i})	−0.975**	0.498	3.974	0.046	0.377
Household head is a non-agricultural labourer (D_{3i})	0.283	0.659	0.184	0.668	1.327
Household head is a self-employed person. (D_{4i})	0.137	0.506	0.073	0.787	1.146
Constant	−2.045**	0.858	5.676	0.017	0.129

Note(s): *, ** and ***- Significant at 10%, 5% and 1% levels, respectively

Source(s): Authors' own calculation

1.050 and 1.030, respectively) are the factors in the determination of surplus budget of the household.

7. Conclusion

Household saving is the mainstay of overall gross savings in India. Amid an expanding array of portfolio options, the paper seeks to contribute to the contemporary literature by exploring the role of both household-specific and time-varying macroeconomic factors in diversification of household portfolios towards riskier financial instruments. This paper summarizes the determinants which affect rural household saving in the study area. In all sample districts of Odisha, the number of household members and the number of bank accounts have a negative impact on household monthly saving insignificantly. Similarly, the mean age of household members and the average number of years of education have a positive impact on household saving, but it is insignificant. Only monthly household income and monthly expenditure have a positive significant impact and a negative significant impact on household saving, respectively. The amount of agricultural land in acres positively determines household saving, but it is insignificant.

The number of earners in the family, the age of the household head and the years of schooling of the household head have an increasing impact on the saving of the household, but it is not significant. In terms of the occupation of the household head, salaried persons, non-agricultural labourers and self-employed persons have an increasing impact on the saving of households. However, the probability or chance of cultivators and agriculture labourers being able to save some amount of money throughout the year is significantly less. Reversely, the amount of liabilities significantly reduces the chances of saving by the household and the cost incurred to save in a financial institution reduces the chances of a household to have savings insignificantly. Based upon the research findings from both secondary and primary data, the following suggestions and policy implications may be recommended.

- (1) Wide scale saving mobilization should be emphasized by Government to build inclusive financial system.
- (2) Government should formulate new, innovative, inflation beating and tax rebating saving schemes in order to divert saving from physical to financial.
- (3) Government should reduce lock in period of various long-term schemes.

- (4) Enhancing financial literacy should be the main goal of government for the better financial planning. A compulsory curriculum should be designed at school and college level for the knowledge of saving and investment products in the financial market.
- (5) There should be a strong regulatory mechanism to prevent fraud chit fund companies and agencies for discouraging the saving behaviour of savers.

8. Limitations and scope for future research

- (1) Present study is confined to only 422 household response of villages selected from four districts of Odisha. But in future micro-level data of all India NSSO/MPCE data can be used to look into the saving behaviour of the country.
- (2) Only identifying and assessing the saving behaviour of rural households is the main goal of the current study. There are number of causes and problems for rural savers' behaviour that this study does not explore. A motivated researcher can carry on in this vein.
- (3) Differences in the saving behaviour of rural and urban households may be highlighted and included in the research framework.
- (4) Separate studies may be performed for financial and non-financial saving by households, but in the current study, only financial saving is being focused on.
- (5) A comparative study of both the saving and investment behaviour of households may be performed in the study area of Odisha.
- (6) In the saving behaviour of households, the impact of gender inequality, income inequality and financial excludability may be illustrated as main factors.

References

- Abdelkhalek, T., Arestoff, F., De Freitas, N.E.M. and Mage, S. (2010), "A microeconomic analysis of household savings determinants in Morocco", *African Review of Money Finance and Banking*, Vol. 6 No. 1, pp. 7-27.
- Akpan, S.B., Udoh, E.J. and Aya, E.A. (2011), "Analysis of savings determinants among agro-based firm workers in Nigeria: a simultaneous equation approach", *Research on Humanities and Social Sciences*, Vol. 1 No. 13, pp. 1-12.
- Akpokodje, G.F., Lancon, O., Erenstein and Toure, A.A. (2004), "Saving trends and behaviour in Nigeria", *West African Journal of Monetary and Economic Integration*, Vol. 2 No. 2, pp. 87-102.
- Alessie, R., Lusardi, A. and Kapteyn, A. (1995), "Saving and wealth holdings of the elderly", *Ricerche Economiche*, Vol. 49 No. 3, pp. 293-314, doi: [10.1016/0035-5054\(95\)90006-3](https://doi.org/10.1016/0035-5054(95)90006-3).
- Amu, M.E.K. (2012), "Saving behaviour in Ghana: a study of rural households in the Ho Municipality of the Volta Region", *Journal of Social Sciences Research*, Vol. 1 No. 2, pp. 54-61.
- Anthes, W.L. and Most, B.W. (2000), "Frozen in the headlights: the dynamics of women and money", *Journal of Financial Planning*, Vol. 13 No. 9, p. 130.
- Athukorala, P.C. and Sen, K. (2004), "The determinants of private saving in India", *World Development*, Vol. 32 No. 3, pp. 491-503, doi: [10.1016/j.worlddev.2003.07.008](https://doi.org/10.1016/j.worlddev.2003.07.008).
- Attanasio, O. (1997), "Consumption and saving behaviour: modeling recent trends", *Fiscal Studies*, Vol. 18 No. 1, pp. 23-47, doi: [10.1111/j.1475-5890.1997.tb00252.x](https://doi.org/10.1111/j.1475-5890.1997.tb00252.x).
- Avery, R.B. and Kennickell, A.B. (1991), "Household saving in the US", *Review of Income and Wealth*, Vol. 37 No. 4, pp. 409-432.

- Bayoumi, T. and Samiei, H. (1998), "International evidence on the determinants of private saving", *The World Bank Economic Review*, Vol. 12 No. 3, pp. 483-501.
- Beal, D. and Delpachitra, S. (2003), "Financial literacy among Australian university students", *Economic Papers: A Journal of Applied Economics and Policy*, Vol. 22 No. 1, pp. 65-78, doi: [10.1111/j.1759-3441.2003.tb00337.x](https://doi.org/10.1111/j.1759-3441.2003.tb00337.x).
- Belke, A., Dreger, C. and Ochmann, R. (2015), "Do wealthier households save more? The impact of the demographic factor", *International Economics and Economic Policy*, Vol. 12 No. 2, pp. 163-173, doi: [10.1007/s10368-014-0275-x](https://doi.org/10.1007/s10368-014-0275-x).
- Bernheim, B.D. and Scholz, J.K. (1993), "Private saving and public policy", *Tax Policy and the Economy*, Vol. 7, pp. 73-110, doi: [10.1086/tpe.7.20060630](https://doi.org/10.1086/tpe.7.20060630).
- Bhalla, S.S. (1978), "The role of sources of income and investment opportunities in rural savings", *Journal of Development Economics*, Vol. 5 No. 3, pp. 259-281, doi: [10.1016/0304-3878\(78\)90031-7](https://doi.org/10.1016/0304-3878(78)90031-7).
- Bhavani, T.A. and Bhanumurthy, N.R. (2011), "Financial access measurement and determinants: a case study of unorganised manufacturing enterprises in India", *Indian Economic Review*, Vol. 49 No. 1, pp. 85-108.
- Bhowmick, C., Goel, S., Kumar, A. and Mishra, R. (2024), "Determinants of household saving portfolio in India: evidence from survey data", *Reserve Bank of India Occasional Papers*, Vol. 45 No. 1, pp. 1-39.
- Blankson, T. and Quartey, P. (2008), "Household saving in Ghana: does policy matter", in Aryeetey, E. and Kanbur, R. (Eds), *The Economy of Ghana: Analytical Perspective on Stability, Growth and Poverty*, James Curry Woeth Publishing Service, Accra New Town.
- Bloom, D.E. and Williamson, J.G. (1998), "Demographic transitions and economic miracles in emerging Asia", *The World Bank Economic Review*, Vol. 12 No. 3, pp. 419-455, doi: [10.1093/wber/12.3.419](https://doi.org/10.1093/wber/12.3.419).
- Bosworth, B., Burtless, G. and Sabelhaus, J. (1991), "The decline in saving: some microeconomic evidence", *Brookings Papers on Economic Activity*, Vol. 1 No. 1991, pp. 183-256.
- Bovenberg, A. and Evans, O. (1990), "National and personal saving in the United States: measurement and analysis of recent trends", *IMF Staff Paper*, Vol. 37 No. 3, pp. 1-29, doi: [10.2307/3867268](https://doi.org/10.2307/3867268).
- Browning, M. and Lusardi, A. (1996), "Household saving: micro theories and micro facts", *Journal of Economic Literature*, Vol. 34 No. 4, pp. 1797-1855.
- Burney, B.G. and Sabelhaus, J. (1992), "The decline of saving: evidence from household surveys", *Brookings Paper on Economic Activity*, Vol. 1, pp. 183-241.
- Chen, H. and Volpe, R.P. (2002), "Gender differences in personal financial literacy among college students", *Financial Services Review*, Vol. 11 No. 3, pp. 289-307, doi: [10.61190/fsr.v11i3.4739](https://doi.org/10.61190/fsr.v11i3.4739).
- Chhatwami, M. and Mishra, S.K. (2021), "Does financial literacy reduce financial fragility during COVID-19? The moderation effect of psychological, economic and social factors", *International Journal of Bank Marketing*, Vol. 37 No. 9, pp. 45-80.
- Chua, A., Kiong, S.K.L., Villa, K.H.M. and Paguta, R.B. (2016), "A tobit analysis of the determinants and potentials of savings in the case of Payatas households", *Information Management and Business Review*, Vol. 8 No. 3, pp. 47-57, doi: [10.22610/imbr.v8i3.1331](https://doi.org/10.22610/imbr.v8i3.1331).
- Croson, R. and Gneezy, U. (2004), "Gender differences in preferences", *Journal of Economic Literature*, Vol. 42 No. 2, pp. 448-474, doi: [10.1257/jel.42.2.448](https://doi.org/10.1257/jel.42.2.448).
- Deaton, A. (1992), "Household saving in LDCs: credit markets, insurance and welfare", *The Scandinavian Journal of Economics*, Vol. 94 No. 2, pp. 253-273, doi: [10.2307/3440451](https://doi.org/10.2307/3440451).
- Deaton Angus, S. (1991), "Saving and liquidity constraints", *Econometrica*, Vol. 59 No. 5, pp. 221-248.
- Demercy, D. and Duck, N.W. (2006), "Savings-age profile in the UK", *Journal of Population Economics*, Vol. 19 No. 3, pp. 521-441.
- Denizer, C., Wolf, H. and Ying, Y. (2002), "Household savings in the transition", *Journal of Comparative Economics*, Vol. 30 No. 3, pp. 463-475, doi: [10.1006/jceec.2002.1792](https://doi.org/10.1006/jceec.2002.1792).

- Devlin, J.F. (2005), "A detailed study of financial exclusion in the UK", *Journal of Consumer Policy*, Vol. 28 No. 1, pp. 75-108, doi: [10.1007/s10603-004-7313-y](https://doi.org/10.1007/s10603-004-7313-y).
- Devlin, J.F. (2009), "An analysis of influences on total financial exclusion", *The Service Industries Journal*, Vol. 29 No. 8, pp. 1021-1036, doi: [10.1080/02642060902764160](https://doi.org/10.1080/02642060902764160).
- Dupas, P. and Robinson, J. (2013), "Savings constraints and microenterprise development: evidence from a field experiment in Kenya", *American Economic Journal: Applied Economics*, Vol. 5 No. 1, pp. 163-192, doi: [10.1257/app.5.1.163](https://doi.org/10.1257/app.5.1.163).
- Elfindri (1990), "The effect of the dependency burden on household savings in parts of central Sumatra", *Majalah Demography Indonesia*, Vol. 17 No. 33, pp. 31-47.
- Espenshade, T.J. (1975), "The impact of children on household saving: age effects versus family size", *Population Studies*, Vol. 29 No. 1, pp. 120-130.
- Fenta, H.M., Dessie, Z.G., Mitku, A.A. and Muluneh, E.K. (2017), "Saving habits and its determinants in Amhara national regional state, Ethiopia", *Oman Chapter of Arabian Journal of Business and Management Review*, Vol. 6 No. 7, pp. 9-18, doi: [10.12816/0036739](https://doi.org/10.12816/0036739).
- Fernandez, S., Otero, L., Vivel, M. and Rodeiro, D. (2009), "Determinants of the Europeans' retirement savings", Working Paper. Economics Working Paper Series 2005, pp. 1-18.
- Friedman, M. (1957), *A Theory of the Consumption Function*, Princeton University Press, Princeton NJ.
- Gerzovitz, M. (1998), "Saving and nutrition at low income", *Journal of Political Economy*, Vol. 91 No. 5, pp. 1-12.
- Goldsmith, E. and Goldsmith, R.E. (1997), "Gender differences in perceived and real knowledge of financial investments", *Psychological Reports*, Vol. 80 No. 1, pp. 236-238, doi: [10.2466/pr0.80.1.236-238](https://doi.org/10.2466/pr0.80.1.236-238).
- Guariglia, A. and Kim, B.Y. (2004), "Earnings uncertainty, precautionary saving, and moonlighting in Russia", *Journal of Population Economics*, Vol. 17 No. 2, pp. 289-310, doi: [10.1007/s00148-004-0184-3](https://doi.org/10.1007/s00148-004-0184-3).
- Gutierrez, M. and Solimano, A. (2007), "Savings, investment and growth in the global age: analytical and policy issues", American University of Paris, Working Paper, (43).
- Higgins, M. and Williamson, J.G. (1996), "Age structure dynamics in Asia and dependence on foreign capital", *Population and Development Review*, Vol. 23 No. 2, pp. 261-293, doi: [10.2307/2137546](https://doi.org/10.2307/2137546).
- Hogarth, J.M. (2002), "Financial literacy and family and consumer sciences", *Journal of Family and Consumer Sciences*, Vol. 94 No. 1, pp. 15-28.
- Issahaku, H. (2011), "Determinants of saving and investment in deprived district capitals in Ghana-a case study of Nadowli in the upper west region of Ghana", *Continental Journal of Social Science*, Vol. 4 No. 1, pp. 1-12.
- Kelley, A.C. and Schmidt, R.M. (1996), "Saving, dependency and development", *Journal of Population Economics*, Vol. 9 No. 4, pp. 365-386, doi: [10.1007/s001480050023](https://doi.org/10.1007/s001480050023).
- Kelley, A.C. and Williamson, J.G. (1968), "Household saving behavior in the developing economies: the Indonesian case", *Economic Development and Cultural Change*, Vol. 16 No. 3, pp. 385-403, doi: [10.1086/450300](https://doi.org/10.1086/450300).
- Kempson, E. and Whyley, C. (1999), *Understanding and Combating Financial Exclusion*, Insurance Trends (The Association of British Insurers), Scientific Research: An Academic Publisher, pp. 18-22.
- Keynes, J.M. (1936), *The General Theory of Employment, Interest and Money*, Harcourt Brace and World, New York, p. 251.
- Kokeny, H. (2015), "Model of the influencing factors of the household savings", *International Journal of Managerial Studies and Research*, Vol. 3 No. 6, pp. 48-55.
- Kulikov, D., Paabut, A. and Staehr, K. (2007), "Factors affecting household saving behaviour in Estonia", *Kroon and Economy*, pp. 28-42.

- Lahiri, A. (1989), "Dynamics of Asian savings: the role of growth and age structure", *IMF Staff Papers*, Vol. 36 No. 1, pp. 228-261, doi: [10.2307/3867175](https://doi.org/10.2307/3867175).
- Leff, N.H. (1969), "Dependency rates and savings rates", *The American Economic Review*, Vol. 59 No. 5, pp. 886-896.
- Loayza, N. and Shankar, R. (2000), "Private saving in India", *The World Bank Economic Review*, Vol. 14 No. 3, pp. 571-594, doi: [10.1093/wber/14.3.571](https://doi.org/10.1093/wber/14.3.571).
- Lusardi, A. (2000), "Precautionary saving and the accumulation of wealth", Joint Center for Poverty Research Working Paper, pp. 1-21.
- Lusardi, A. (2007), "Household saving behaviour: the role of financial literacy, information and financial education programs", NBER Working Paper No 13824.
- Manzocchi, S. (1999), *Foreign Capital in Developing Economies: Perspectives from the Theory of Economic Growth*, St. Martin's Press, New York.
- Mishra, A.K. and Chang, H.H. (2009), "Factors affecting precautionary savings of self-employed farm households", *Agricultural Finance Review*, Vol. 63 No. 3, pp. 300-313.
- Mishra, A.K., Khanal, A.R. and Nedumaran, S. (2019), "Consumption, habit formation, and savings: evidence from a rural household panel survey", *Review of Development Economics*, Vol. 23 No. 1, pp. 256-274, doi: [10.1111/rode.12536](https://doi.org/10.1111/rode.12536).
- Mitchell, O.S. and Lusardi, A. (2007), "Baby boomer retirement security: the roles of planning, financial literacy, and housing wealth", *Journal of Monetary Economics*, Vol. 54 No. 1, pp. 205-224, doi: [10.1016/j.jmoneco.2006.12.001](https://doi.org/10.1016/j.jmoneco.2006.12.001).
- Modigliani, F. and Brumberg, R. (1954), "Utility analysis and the consumption function: an interpretation of cross-section data", *Franco Modigliani*, Vol. 1 No. 1, pp. 388-436.
- Muradoglu, G. and Taskin, F. (1996), "Differences in household savings behavior: evidence from industrial and developing countries", *The Developing Economies*, Vol. 34 No. 2, pp. 138-153, doi: [10.1111/j.1746-1049.1996.tb00734.x](https://doi.org/10.1111/j.1746-1049.1996.tb00734.x).
- Nandru, P., Anand, B. and Rentala, S. (2015), "Financial inclusion in Pondicherry region: evidence from accessibility and usage of banking services", *TSM Business Review*, Vol. 3 No. 2, pp. 23-30.
- Orbeta, A.C. (2006), "Children and household saving in the Philippines", Philippine Institute for Development Studies, Discussion Paper, Series No.2006-14.
- Pailwar, V.K., Kaur, J., Saxena, K. and Nijhara, M. (2010), "Impact of membership of financial institutions on rural saving: a micro-level study", *The International Business and Economics Research Journal*, Vol. 9 No. 10, p. 139, doi: [10.19030/iber.v9i10.647](https://doi.org/10.19030/iber.v9i10.647).
- Pyle, W. and Foley, M. (2005), "Household savings in Russia during the transition, Middlebury college economics", Discussion Paper, No. 05-22.
- Ramanathan, R. (1969), "An econometric exploration of Indian saving behavior", *Journal of the American Statistical Association*, Vol. 64 No. 325, pp. 90-101, doi: [10.2307/2283721](https://doi.org/10.2307/2283721).
- Rehman, H., Chaudhry, I.S., Faridi, M.Z. and Bashir, F. (2011), "Rural-urban saving differentials in Pakistan: investigation from primary data", *South Asian Studies*, Vol. 26 No. 01, pp. 19-35.
- Saqib, S., Panezai, S., Ullah, H., Ali, U. and Usman, H. (2016), "Determinants of household savings in rural and urban areas: the case of Chitral district, Pakistan", *International Journal of Academic Research in Business and Social Sciences*, Vol. 6 No. 3, pp. 54-64, doi: [10.6007/ijarbs/v6-i3/2032](https://doi.org/10.6007/ijarbs/v6-i3/2032).
- Schultz, T.P. (2005), "Demo graphic determinant of savings: estimating and interpreting the aggregate association in Asia", IZA Discussion Paper No. 1479.
- Sebhatu, K.T. (2012), "Determinants of saving behaviour of cooperative members survey evidence from Tigray region, Ethiopia", *Journal of Research in Economics and International Finance*, Vol. 1 No. 5, pp. 150-158.
- Snyder, D.W. (1974), "Econometric studies of household saving behaviour in developing countries: a survey", *The Journal of Development Studies*, Vol. 10 No. 2, pp. 139-153, doi: [10.1080/00220387408421481](https://doi.org/10.1080/00220387408421481).

- Stango, V. and Zinman, J. (2009), "What do consumers really pay on their checking and credit card accounts? Explicit, implicit, and avoidable costs", *American Economic Review*, Vol. 99 No. 2, pp. 424-429, doi: [10.1257/aer.99.2.424](https://doi.org/10.1257/aer.99.2.424).
- Timmermann, S. (2000), "Planning for the future: a focus on mature women", *Journal of Financial Service Professionals*, Vol. 54 No. 1, p. 22.
- Walden, M.L. (2012), "Will households change their saving behaviour after the 'great recession'? The role of human capital", *Journal of Consumer Policy*, Vol. 35 No. 2, pp. 237-254, doi: [10.1007/s10603-011-9180-7](https://doi.org/10.1007/s10603-011-9180-7).
- Williamson, O.E. (1968), "Wage rates as a barrier to entry: the Pennington case in perspective", *The Quarterly Journal of Economics*, Vol. 82 No. 1, pp. 85-116, doi: [10.2307/1882246](https://doi.org/10.2307/1882246).

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