

**MICROECONOMIC DETERMINANTS OF HOUSEHOLD SAVINGS IN
NIGERIA**

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Title page

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Approval page

This work has been approved by the Department of Economics, University of Nigeria, Nsukka.

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Dedication

This work is dedicated to my son- Ifechukwu.

Acknowledgement

I am ever grateful to Almighty God, who in His infinite mercy granted me the wisdom and strength to complete this course of study in this school.

My profound gratitude goes to my supervisor, Rev. Fr. Prof. H.E Ichoku, who made sure that this work got to this extent. Despite the various commitments he had, was still able to do his duty towards me, directly and indirectly. May God Almighty continue to bless you even as you do your academic duties.

My heartfelt appreciation goes to my lecturer, Dr. Emma Nwosu, who was ever ready to guide and direct when necessary. May the good Lord reward you abundantly.

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My sincere gratitude goes to my darling husband, Barr. Ephraim, who was a source of encouragement to me. You are really a good companion. And to my little baby, who passed through the stress with me, may God bless you all.

I cannot forget the good work of my parents and siblings, especially Rev. Fr. (Asp) C.U Nwangwu. Your contributions to the success of this programme cannot be overemphasised. May the Good lord reward you all.

All other persons whose names are not here should not feel left out or not being appreciated. All your efforts are ever green in my heart. I thank you all.

Abstract

This work investigates microeconomic determinants of savings in a Nigeria using household survey data. Tobit and Heckman selection model were used to ascertain the determinants of saving and decision to save. Our results show that household socioeconomic characteristics are important determinants of saving. Specifically, results show that land ownership has positive effect on the amount of savings but the result is not statistically significant. Household size has negative effect on savings and not statistically significant. Being a farmer is associated with about 7.42 percent decline in the amount of savings. The marginal effect of non food expenditure is positive and statistically significant. The marginal effects show that an increase in food expenditure by N1000 will increase the amount of savings by 11.6 percent (N116). However, an increase in household per capita expenditure leads to about 20.4 percent decrease in savings and this is statistically significant. The results further show that living in poor environment, which is proxied by cooking by firewood or charcoal and non-sanitary toilet, are associated with 15 percent and 10.5 percent decrease in household savings respectively. This means that household poverty conditions cause the ability to save to decrease. The results show that if the household lives in own house, the ability to save increases by about 5 percent, other things being equal. Our findings show that the variables that determine how much to save are different from the variables that determine the decision to save at least in terms of statistical significance and sign of the marginal effects. More specifically, landownership increases the probability that the household will save by 8.11 percent and this is statistically significant but this does not significantly determine how much the household can save significantly as shown in the Tobit results. The basic conclusion of this work is that household socioeconomic characteristics are important in saving accumulation in Nigeria and they should not be ignored by policy if the country wants to increase capital accumulation through saving.

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Chapter One

Introduction

1.1. Background

The importance of saving in economic growth process has been greatly emphasized in economic growth literature. Solow (1956) for example, suggests that saving influences the growth of the economy, as higher saving leads to capital accumulation and hence economic growth. According to Aghion, et.al (2009), domestic saving matters for innovation and therefore growth in poor countries, because it enables the local entrepreneur to put equity into cooperative venture, which mitigates an agency problem that would otherwise deter the foreign investor from participating. Iyoha, et.al (2003) argues that household savings in poor countries play important role in the economic growth process due to their role in the circular flow of income. This view is in consonance with those of Rutherford (1999) and Zeller and Sharma (2000) that savings are important means of improving well-being, insuring against times of shock and providing a buffer to help households cope in times of crisis.

The household sector is also of utmost importance to the economy not only because of the income generated and the employment potentials of the sector, but also because of the limits set by this sector to the growth of other sectors. In the light of this, the take-off of the household sector and the aggregate economy at large depends heavily on the amount of savings and their transfer into the hands of the more enterprising investors. There abounds numerous potential in the rural household sector. However, for a very long time, policy makers and financial intermediaries have generally ignored this fact, mainly due to the traditional or old view held by Adam Smith and other prominent economists that rural households are too poor to save and even if they get some additional income through some windfall they spend it on consumption or on ceremonies. Economic planners also need to know about the motives of saving and investment in order to frame appeals accordingly, Issahaku (2011).

The enormous importance of the rural household sector cannot therefore be overemphasized. As was observed by Mody (1983), “given the present weight of the household sector in total saving, to step up the saving in the economy would require a stepping up of the saving rate in the household sector. Thus, there is the need to carefully understand the determinants of both the household saving rate and the saving pattern”.

Traditionally, household saving consists of two different parts: financial and non-financial saving. Financial saving represents the part of their income that households dedicate to money and financial products purchases. Financial products consist of liquidities, securities, and contractual savings products. On the opposite, non-financial saving represents the part of their income that households keep in order to be able to take investment opportunities. In developing countries, savings are difficult to apprehend as it can be raised on an informal basis. As a result, it cannot be completely assessed by the national accounts, in contrast to the Organisation for Economic Cooperation and Development (OECD) countries in which savings are largely made up of property investments, monetary and financial investments. In developing countries, households hoard money. This is due to the fact that these savings are perfectly liquid so they can be used to face any urgent need or investment opportunity. This becomes all the more important since households' confidence in the banking system is low. Moreover, non-financial saving is important in developing countries (Abdelkhalek, et.al. 2009).

In Nigeria, like in many other economies, both the public and private sectors engage in investment expenditures and both sectors have to save and/or borrow in order to meet their investment requirements since deficit is inevitable in the economy. Households save or borrow in order to protect themselves from certain types of idiosyncratic shocks such as illnesses, death of household member and so on. The immediate source of funds for these three agents in Nigeria is own savings. The government, which represents the public sector, collects revenue from both tax and non-tax sources. After meeting its expenditure requirements on purchases of goods and services, the government uses whatever surplus there is to increase its stock of capital i.e. investment. This is also true of economic agents in the private sector. When investment expenditure exceeds the level of savings, the private and the public sectors mainly borrow from financial institutions (Nwachukwu and Odigie, 2009).

In terms of household conditions Nigeria does not rank high. Generally, Nigeria emerged from colonial status as a poor country. Her situation is weakened by poverty, disease and ignorance. Poverty in Nigeria is multi-faceted, multi-dimensional and multi-disciplinary. The Nigerian economy, until recently, has been characterized by the paradox of growth without poverty reduction and the trickledown effect of growth on the poor, slow response of government to the endemic and persistent problem of poverty and poor governance (NBS, 2005). Publications and several studies have provided graphical details of the escalating poverty

situation in Nigeria between the period of 1980 and 1996. These reports revealed marked deterioration in the quality of life of Nigerians over the years since independence, resulting in steady increase in the number of Nigerians caught below the poverty line, also, higher concentration of the poor live in the rural areas and the urban fringes. Poverty statistics showed that poverty level declined from 46.3 per cent in 1985 to 42.7 per cent in 1992, it rose sharply to 65.8 per cent of the population in 1996 (FOS, 1998). However, in absolute terms the population of the poor Nigerians increased four-fold between 1980 and 1996. Income inequality is also high in the country with the income share held by the lowest 20 percent of the population less than 5 percent on the average since 1992. In fact, these figures were 4.0, 5.0, 5.1, and 4.4 percent respectively for 1992, 1996, 2004 and 2010. The Human Development Index (HDI) score was 0.466 in 2002. The figures for 2005, 2009, 2010 and 2011 were respectively 0.429, 0.449, 0.454 and 0.459. Change in HDI between 2006 and 2011 was -4. These statistics categorised Nigeria in the Low Human Development Countries in the 156th ranking among 187 countries¹.

All these developments are expected to have impact on households' capacity to save in Nigeria. However, this study will investigate the microeconomic determinants of household saving in Nigeria using household survey data.

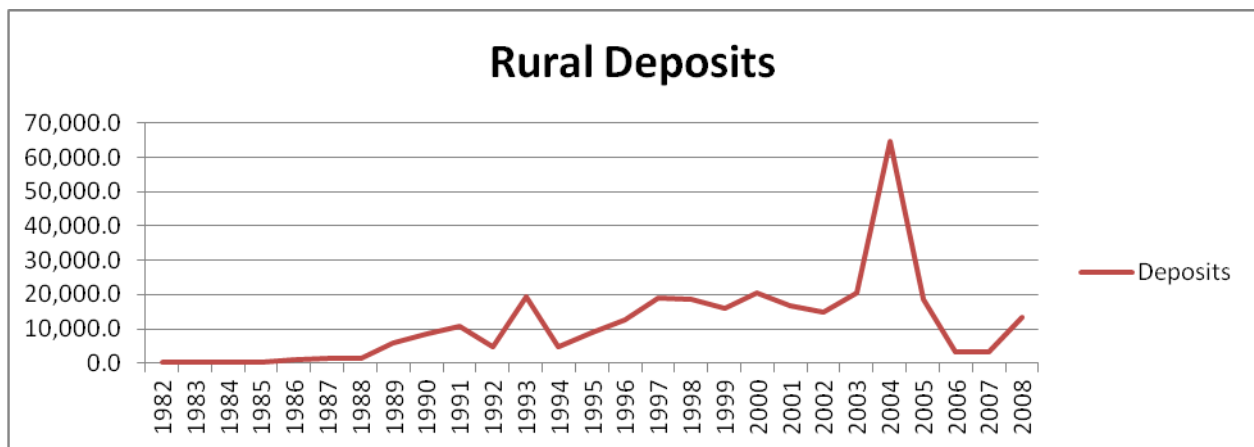
1.2. Problem Statement

Various efforts have been made by Nigerian governments to increase the rate of resource mobilization through private savings by embarking on different reforms such as financial liberalization, bank reforms and privatization of public enterprises. For example, the financial deregulation in Nigeria that started in 1986 and the associated financial innovations generated an unprecedented increase in the number of financial institutions. The deregulation initially pivoted powerful incentives for the expansion of both size and number of banking and non-banking institutions (Ogunleye, 2005). One of the objectives of the deregulation was to reduce interest rate spread, that is, the difference between deposit and lending rates in order to provide incentive for people to save more. The issue of interest rate spread and its impact on saving is a macroeconomic question that has been addressed variously in the literature.

Again, the Central Bank of Nigeria (CBN) mandated banks to open up branches in rural areas in the late 1990s in order to make financial services accessible to the significant proportion of the population living in the rural areas. This was intended to increase the rate of resource

¹ <http://data.un.org/DocumentData.aspx?id=269>

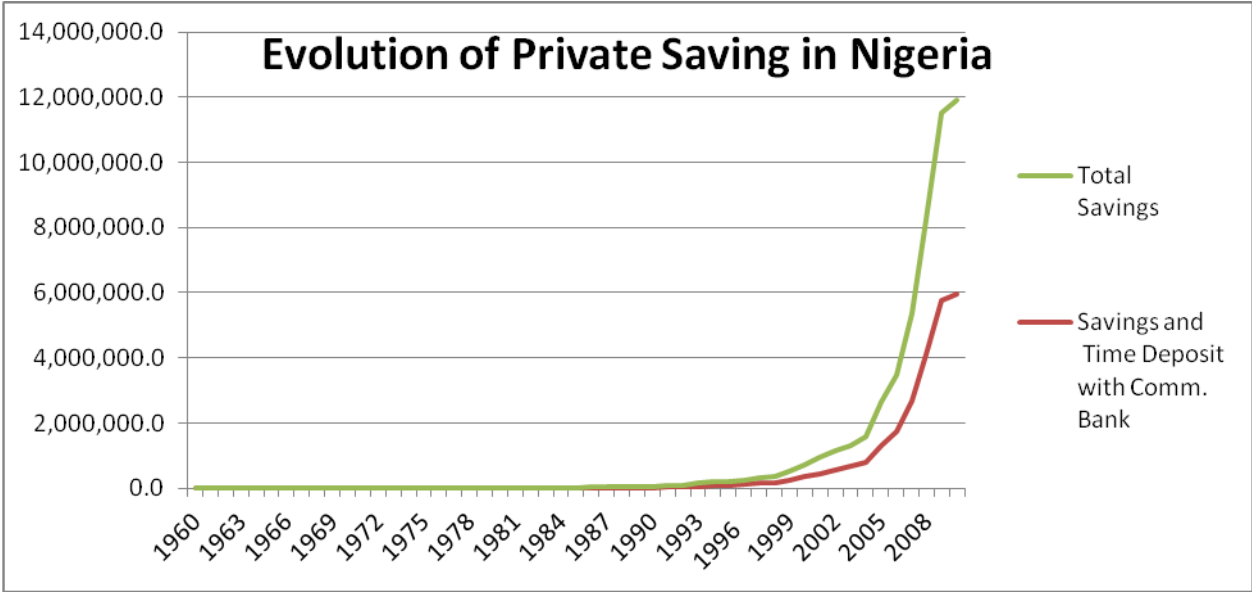
mobilization in the rural areas by encouraging households to save. According to Nwachukwu and Odigie (2009), these policies and reforms failed to meet the aspirations of the people. And they argue further that this failure can be traced to several factors including frequent revisions in projected expenditure, overemphasis on public investment, distortion in plan implementation, official corruption, poor coordination, inconsistencies and overdependence on oil. Unfortunately, most of these policies affected expected outcomes adversely as shown by available statistics published by the CBN. For example, the following figure shows the performance of rural deposits between 1982 and 2009.



Source: Author's compilation with data from CBN Statistical Bulletin, 2010

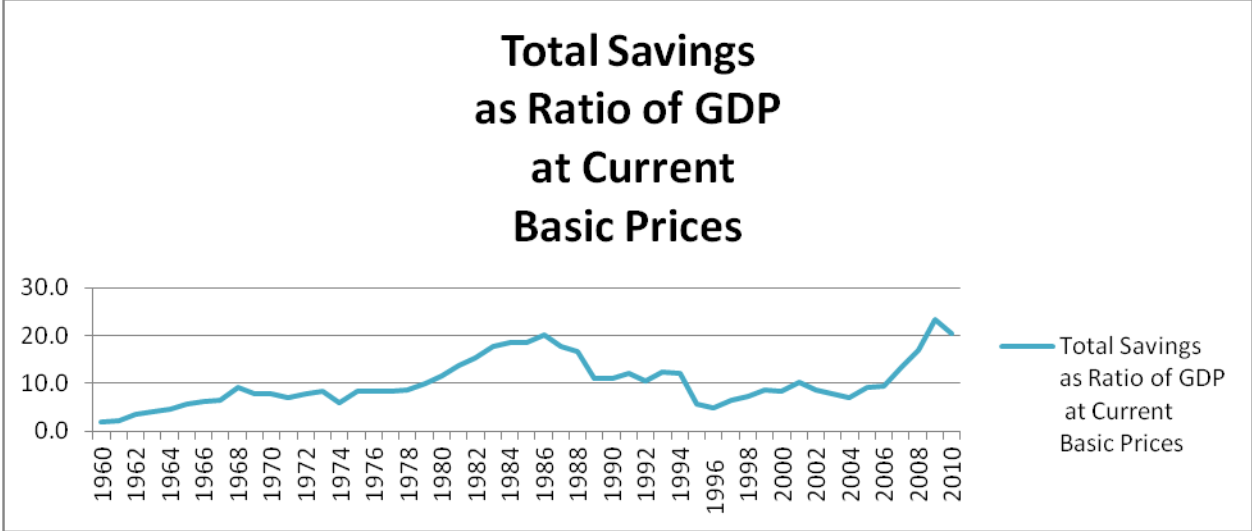
The figure shows that rural deposit increased steadily from the mid-1990s following the introduction of rural banking until it reached a peak of about N62 billion between 2003 and 2004, after which it declined sharply beginning from 2005 until it reached all-time low of about N3 billion in 2006 and 2007. This sharp decline may reflect loss of confidence in the financial reforms due to constant instability in the banking system which discouraged the rural population from going to banks to deposit their money.

Financial reforms may have profound effects on the behaviour of macroeconomic variables which are transmitted to the households' ability to save. Over the past few decades the Nigeria macroeconomic environment has been volatile with average inflation exceeding single digit mark for most of the period since the mid-1980s. Household poverty rate has persisted with no significant reduction, despite various poverty alleviation efforts introduced by different regimes. As a result, saving rate in Nigeria still remains low compared to other countries. The following figures show the evolution of total savings and saving ratio in Nigeria between 1960 and 2010.



Source: Author’s compilation with data from CBN Statistical Bulletin, 2010

The ratio of saving to GDP has remained below 20 percent on the average since 1960. This figure is below the average saving rate in most Asian fast growing economies that experienced growth miracles in the past three decades which stood at above 30 percent on the average. The fact remains that various macroeconomic and financial policies as well as developments in the financial sector in Nigeria have not attracted the much needed private saving for financing economic development in the country.



Source: Author’s compilation with data from CBN Statistical Bulletin, 2010

The macroeconomic determinants of aggregate private saving in Nigeria have been addressed by quite a number of studies. These studies are reviewed in the literature chapter.

Then the question that should be asked is whether household savings are determined by macroeconomic factors alone or whether there are microeconomic factors specific to households that influence households' savings and hence have impact on aggregate savings. Therefore, an investigation of microeconomic determinants of saving has become necessary to complement plethora of macroeconomic studies in order to design more effective policies for saving mobilisation in Nigeria. This is the area this study will make contribution to existing empirical literature in Nigeria.

1.3. Research Questions

- i. What are the determinants of household savings in Nigeria?
- ii. Are the same set of factors that determine household decision to save also determine how much to save?

1.4. Research Objectives

- i. To ascertain the factors that determines household savings level in Nigeria
- ii. To ascertain if the factors that determine how much to save also determine the decision to save

1.5. Research Hypothesis

- i. Household socioeconomic and demographic characteristics do not have significant effect on how much households save in Nigeria
- ii. Factors that determine how much to save are different from the factors that determine the desire to save.

1.6. Policy Relevance of the Study

This study is very useful to policies aimed at increasing the level of savings mobilization in the economy. Specifically, the output of the study complements the findings from macroeconomic studies and hence provides sufficient evidence for formulating effective resource mobilization policies in Nigeria. Financial institutions especially banks will also find the outcome of the study useful in their customer drive. They will be able to know the characteristics of customers that want to save especially at the household level and then target those customers for effective savings mobilization in form of bank deposits.

1.7. Scope of the Study

This study is limited to investigating the determinants of household savings. The issue of aggregate savings is outside the scope of this work. Also the study makes use of recent

Harmonised Nigerian Living Standards Survey 2010 in the analysis. In other words, the analysis is cross-sectional and static.

Chapter Two

Literature Review

2.1. Conceptual Issues

For the purpose of this study our definition of saving is the total amount that is left after the household has made all expenditures. However, there are also additions to saving or incremental saving which measures additions to the total household saving in the past 12 months. The dissaving shows how much the household withdraws from total saving in the past 12 months. These measurements are already provided in the Nigerian household survey data we used in this study.

2.2. Theoretical Literature

There are several theories which have been developed to explain the behaviour of saving. Few of these theories are; The life-cycle (LC) theory, The bequest model, The Myopia model, Precautionary motives, The Theory of Optimal Savings, and The Ricardian Equivalence Theory.

The life-cycle (LC) theory

This was developed by Modigliani and Brumberg (1950) and is based on the idea that people make consumption decisions based on the resources available to them over their lifetime and the stage of life at which the decisions are made. The theory predicts that the age composition of a country's population should have an influence on a country's observed savings behaviour. Moreover, according to the life-cycle hypothesis (LCH), the higher the proportion of a country's population that is not in the active labour force, the lower its savings rate would be, and vice versa. Individuals dissave when they are young and are at a very low income, save during their productive years, and once again dissave when they retire [Modigliani, 1965]. This model is based on the assumption that the primary motive for saving or for dissaving is to smoothen consumption over the lifetime, of which retirement savings is the major example for this. Further, the simple LC model is of the assumption that individuals' utility depends on only their own consumption and their time horizon is also assumed to be their own lifetime. Tobin (1967) and Leff (1969) gave an expansion of this theory by observing that life-cycle theory underlies the framework for analyzing savings behaviour for both the developing and developed economies.

The bequest model

Yaari (1965) is the propounder of this model as quoted by Masson and Pestieau (1997), and it posits that if individuals have positive bequest motives, they tend to save some wealth for their heirs. Further, this hypothesis is of the view that aggregate savings are influenced by the demographics of the population. The bequest model has the assumption that individuals have a multi-generational time horizon and that they maximise not only their own utility but those of parents and children, giving rise to bequest motives. It was later expanded by Davies (1980) and further by Bernheim, Summers and Shleifer (1985).

The myopia model

Stein (1989) developed this theory and it is a variant of the LC model. It is of the view that individuals maximise over time horizons shorter than their life time. This model has the same implications for displacing savings as the LC model. The only likely effect is on the change of the age-savings profile. The Myopia tends to reinforce the hump-shaped age savings profile induced by the age income profile. This is because individuals will be "aware" of their need to save as they approach retirement age. Mann and Ward (2004) later expanded this model.

Precautionary motives

The precautionary motive for saving has been historically recognized by economists since first propounded by Keynes (1936). The hypothesis argues that individuals save out of their current income to smoothen their expected consumption stream over time. The impact of the precautionary savings is realized through its impact on current consumption, as individuals defer their current consumption to be able to maintain the utility level of consumption in the future if income drops. Leland (1968) later expanded this model. Further, Precautionary motives for savings include saving in the face of uncertain death, extraordinary health expenditures or income disruptions, business risk, saving for retirement and child's education.

The Theory of Optimal Savings

Irving Fisher (1930) in his classic work, *The Theory of Interest*, posited that income risk (uncertainty about future non-capital income) reduces the rate of time preference and hence increases current savings. This model of optimal savings with income uncertainty and habit

formation posits that people should save early to create a buffer stock, cushion bad income draws and limit the negative internality from habit formation. In experiments in this setting, people save too little initially, but learn to save optimally within four repeated lifecycles, or 1-2 lifecycles with social learning. The relative overspending of immediate-consumption subjects is consistent with hyperbolic discounting and dual-self models. Later, Carmen and Gerald (1978) expanded this theory.

The Ricardian Equivalence hypothesis

The Ricardian Equivalence theory is based on fiscal policy and it was first used by David Ricardo (1817). The theory assumes that saving behaviour does not experience any uncertainty and that capital markets are seen to be perfect. However, the theory posits that government can finance its expenditure through taxes or borrowing and not by its savings. As a result, the only thing that affects the economy is the time path of government expenditure and not that of taxes that finance such expenditure. This was further developed by Bernheim (1987). However, the implication is that, given some assumptions, a permanent increase in public saving will be completely offset by a corresponding fall in private saving hence, making national saving unchanged.

2.3. Empirical Literature

Empirical studies on determinants of savings can be classified into two strands. The first strand is macroeconomic studies and the second is microeconomic studies. But the literature on macroeconomic studies is quite substantial especially at the global level. These among others include the works by: Adewuyi, Bankole, and Arawomo (2009), Osei (2011), and Edwards (1995).

Adewuyi, Bankole, and Arawomo (2009) investigated the determinants of gross domestic saving in the Economic Community of West African States (ECOWAS). The methodology adopted involves the estimation of a saving function derived from standard life-cycle theory modified to cover the peculiar features of the West African economies. The saving model was estimated for aggregate ECOWAS using panel data covering 1980-2006. Both fixed and random effects models were estimated and the significance of individual and period effects was observed. Empirical analysis revealed mixed results in which among the major findings is that

growth rate of gross domestic income has a positive but insignificant effect on the gross domestic saving in Economic Community of West African States (ECOWAS). However, the gross domestic income per capita has a significant negative impact on the gross domestic saving. The negative impact of gross domestic income per capita on savings may largely be due to dissaving or low level of income as a result of high level of poverty in most of the countries of ECOWAS. The Results indicated that saving deposit rate has a significant negative impact on the gross domestic saving, while the undesirable impact of the underdevelopment of the financial sector in West Africa was also noticed. The result also showed a significant negative impact of inflation, high budget deficit and terms of trade on gross domestic saving in ECOWAS. Thus, there is need to maintain price and macroeconomic stability to promote saving, investment and growth in West Africa.

Osei (2011) investigated the functional relationships between financial savings and macroeconomic variables in Ghana. Extensive literature on savings and its major determinants was surveyed. The trend analysis of the historical relationship between financial savings and selected macroeconomic variables suggested that movements in inflation, deposit rate, investment, gross domestic product impact significantly on the level of financial savings in the country. The study also applied the Error Correction Methodology to assess the quantitative relationships between financial savings and macroeconomic variables. The study has revealed that the level of investment has positive and significant impact on savings in Ghana. This reaffirms economic theory (Keynesian theory) and other empirical works that support the view that there exist a positive relationship between savings and investment. The paper further revealed that deposit rate has significant effect on savings mobilization in Ghana due to the impacts of the financial reforms which brought innovation and competition into the banking sector. More so, the study revealed that the level of income has significant impact on savings in Ghana. Finally, banks should be urged to raise the deposit rates a bit above the current prevailing rates in order to serve as an incentive to attract deposits since current deposit rates offered by the various commercial banks are not competitive enough in order to promote savings in the country.

Edwards (1995) analyzed the determinants of savings in the world economy. The study discussed why savings ratio has been so uneven across countries. Using panel data for 36 countries, from 1970 to 1992, the study distinguished private and government savings. The study

assumed that government savings are not completely exogenous and also, responds to both economic and political determinants. The study applied the instrumental variable methods and found that per capita growth is one of the most important determinants of both private and public savings. The results of the study indicate that government-run social security systems affect private savings negatively. More so, public savings tend to be lower in countries with higher political instability. Higher government savings crowd out private savings, but in a less than proportionate fashion. Higher levels of foreign savings are associated with lower domestic (both private and public) savings rates, although the degree of offset is also less than proportional. The degree of financial development turns out to be another important determinant of private savings. However, regarding the role of borrowing constraints, the results are mixed.

Apart from global literature, studies on determinants of savings also exist in Nigeria. Some of these are; Nwachukwu and Odigie (2009), Akpan, Udoh and Aya (2011), Fasoranti (2007), Nwachukwu (2012), Nwachukwu & Egwaikhide (2007), Soyibo and Adekanye (1992), Babatund, Fakayode, Olorunsanya, and Gentry (2007).

Nwachukwu and Odigie (2009) examined the trend in Nigerian saving behaviour and reviewed policy options that intend to increase domestic saving in Nigeria. The study examined the determinants of private saving in Nigeria during the period covering 1970 – 2007. It made an important contribution to the literature by evaluating the magnitude and direction of the effects of the policy and non-policy variables (Income growth, interest rate, fiscal policy, and financial development) on private saving. Their framework for analysis involved the estimation of a saving rate function derived from the Life Cycle Hypothesis while taking into account of the structural characteristics of a developing economy. The study employs the Error-Correction modelling procedure to minimize the possibility of estimating spurious relations, while at the same time retaining long-run information. The study found that the saving rate rises with both the growth rate of disposable income and the real interest rate on bank deposits. Public saving seemed not to have crowded out private saving thereby; suggesting that government policies aimed at improving the fiscal balance has the potential of bringing about a substantial increase in the national saving rate. Finally, the study also posits that the degree of financial depth has a negative but insignificant impact on saving behaviour in Nigeria.

Akpan, Udoh and Aya (2011) examined the factors that determine household saving of rural agro-based firm workers in the south-south region of Nigeria. Two-stage least squares method of simultaneous equation model was used in the analysis. Cross-sectional data were collected from 250 randomly selected workers of five agro-based firms in the study areas. The results of the analysis revealed that income, tax, job experience, education, family size and membership of a social group influence saving attitude of workers. To promote household savings among agro-based workers in Nigeria, policies aimed at periodic increase in worker's salary and reduction in tax rate in line with the changing pattern of macro-economic variables in the country were advocated by the authors. They also advocated that policies that will promote birth control, increase public awareness on the on-going family planning programme in the country, and encourage social group formation among workers as well as those aimed at reduction in agricultural production constraints should be encouraged.

Fasoranti (2007) evaluated influence of rural saving mobilization on economic development of rural dwellers. Primary data through questionnaire were collected of 100 respondents from 5 villages of Nigeria. Ordinary Least Square Method was used for estimation. Results showed that Income, Human Capital, Investment and Assets were positively contributing to total savings. It was also concluded that 98 percent variation in total savings was explained by Income, Human Capital, Investment and Assets. It was also suggested that rural dwellers should be properly mobilized to join co-operative societies.

Nwachukwu (2012) discussed the trend in Nigerian saving behaviour and reviewed policy options to increase domestic saving. The study also examined the determinants of private saving in Nigeria during the period covering 1970 – 2010. Making an important contribution to the literature, the study evaluated the magnitude and direction of the effects of the key policy and non-policy variables on private saving: Income growth, interest rate, fiscal policy, and financial development. The study estimated a saving rate function derived from the Life Cycle Hypothesis while taking into cognizance, the structural characteristics of a developing economy. The study employed an Error-Correction model to help minimize the possibility of estimating spurious regressions, while at the same time retaining long-run information. The results of the analysis indicate that the saving rate rises with both the growth rate of disposable income and the real interest rate on bank deposits. Public saving seems not to crowd out private saving thereby; suggesting that government policies aimed at improving the fiscal balance has the potential of

bringing about a substantial increase in the national saving rate. It was also revealed by the study that the degree of financial depth has a negative but insignificant impact on saving behaviour in Nigeria.

Nwachukwu & Egwaikhide (2007) also investigated the determinants of private saving in Nigeria by comparing the estimation results of the Error-Correction Model with those of three conventional models (Partial-Adjustment, Growth Rate and Static Models). The study concluded that the ECM performs much better than the other models. It was observed from the results of the model that the saving rate rises with the level of disposable income but falls with the rate of growth of disposable income. More so, the real interest rate on bank deposits has a significant negative impact while public saving seems not to crowd out private saving. In addition to this, external terms of trade, inflation rate and external debt service ratio have a positive impact on private saving.

Soyibo and Adekanye (1992) tried to examine financial system regulation, deregulation and savings mobilisation in Nigeria by adopting an ex post analysis of the Nigerian banking system. Using data between 1969 and 1989, the study revealed that ex post real interest rate is both a significant determinant of savings and real stock of money demand in Nigeria. It also showed that the adjusted ex ante real interest rates in the savings equation and money demand equations, though theoretically elegant, does not seem to make any difference empirically as they are, in most cases, not significant and often tend to have wrong signs.

Babatund, Fakayode, Olorunsanya, and Gentry (2007) in their study, Socio-Economics and savings patterns of cooperative farmers, and as a result, examined the determinant of saving among cooperative farmers in Ondo state, South-Western Nigeria. The study observed that Nigerian farmers are faced with numerous problems that hinder them from attaining their full potential in food production. They found that they operate small and fragmented farm land using crude implements and methods of production. Farmers within the study area had to contend with high input price, low mechanisation, high transportation cost, infertile land, pest and diseases, inadequate fund, unstable policies and general poverty. In order to help themselves, the farmers resorted to the formation of farmers' cooperative societies and one of their major economic obligations is savings. One-hundred and fifty cooperative farmers were selected from fifteen cooperatives across two local government area of the state in 2004. Data were collected using structured questionnaires and were analysed using descriptive statistics and multiple regression

technique. However, the results of the study indicated that cooperative farmers in the area are of average age of 48.6 years and have an average of 5 persons in the household. The average farm size was 1.04 ha and about 80% have less than 3 ha of farm land. The average monthly income was N11,684 while the average monthly savings was N736.2. Moreover, the average loan collected was N9,420 and 82.8% of the cooperative farmers received loan during the last one year. Household size, year of cooperative membership, interest rate on loan, gender and amount of money borrowed were significant variables that determined the amount of savings by the cooperative farmers. The study suggested that the saving level of the cooperative farmers can be increased by adequately making available loans and proper monitoring of funds for specific production purpose is put in place. More so, a flexible loan repayment policy should also be adopted to encourage farmers to save more.

However, there also exist foreign literatures on microeconomic determinants of savings. These among others include the works by: Abdelkhalek, Arestoff, Freitas and Mage (2009), Burney and Khan (1992), Lawrence (2002), Butelmann and Gallego (2000), Rehman, Faridi and Bashir (2010), Coleman (1998), Bastelaer (2000), Schultz (2004), Sturm (1983), Raut and Virmani (1990), Plessis (2008), Kibet, Mutai, Ouma, Ouma and Owuor (2009), Guan (2011), Ozcan, Gunay and Ertac (2006), Issahaku (2011), Venieris and Gupta (1986), Diop, Dorsner and Gross (2003), Obwona and Ssentamu (1995), Schmidt-Hebbel, Webb, and Corsetti (1992), Jappelli and Pagano (1998), Rijkeghem and Üçer (2009), Sinning (2007), Schrooten and Stephan (2004), and Berry and Williams (2009).

Abdelkhalek, Arestoff, Freitas and Mage (2009) analysed the microeconomic factors which explain the household savings behaviour in Morocco by using a new survey. Household saving functions are estimated in order to test households' responses to income, monetary or non-monetary wealth and socio-demographic variables in urban and rural areas. They confirmed that current income strongly affects the saving level whatever the home place. Surprisingly, the household's size is significant only in the urban case: an additional person reduces the household saving. For the life cycle hypothesis, the results are not significant. Finally, they found that Moroccan women save more than men when they took into account the interaction between gender and income. Nevertheless, for highest income levels, it was observed to have the opposite results. In the case of rural households, there is no statistically significant effect on saving behaviour from the ownership indicators of household's lands or other real estate. They also

found that self-financing of rural household activities may be due to the lack of access to formal financial intermediaries.

Burney and Khan (1992) examined the effects of various socio-economic and demographic factors on household savings in Pakistan. The authors used Primary data of total 16580 households out of which 7443 were urban and 9104 were rural households. Data was taken from Household Integrated Economic Survey (HIES) in 1984-85. Ordinary Least Square Method was employed as estimation technique. The study concluded that income, earning status of household head, occupation of household head and age square of household head were found to be positively related; and inverse of household income, dependency ratio, education levels of household head, employment status of household head, secondary earners in household and age of household were found to have negative relationship with households saving in urban as well as in rural Pakistan. It was also concluded that value of Marginal Propensity to save was 0.22 in urban Pakistan and 0.37 in rural Pakistan.

Lawrence (2002) argued that Household decisions about savings are largely governed by consumption smoothing objectives and therefore by the variability of income. Decisions about borrowing may also be governed by consumption smoothing considerations, but also by interest rates and interlinked contracts involving labour and traders. Income variability may be the result of weather variability so that the decision to save or borrow may be more to do with weather than any of the factors usually considered in economic theory. Decisions to lend or save may be governed by the nature of informal financial arrangements. Traditional ways of risk pooling may influence savings and borrowing decisions more than income variability, or the interest rate.

Butelmann and Gallego (2000) believed that saving behaviour at a micro level in Chile has not been analyzed in recent decades. Based on 1988 and 1996-7 Chilean microeconomic evidence (Household Budget Survey), they presented an analysis of household's saving behaviour. The analysis is extended to include broader definitions of saving such as investment in human capital and durable goods purchases. They observed that both income and more permanent characteristics such as education are important determinants of household saving rate. Furthermore, they also found an income/expenditure parallelism and positive saving rates for the elderly. At a first stage of analysis, these facts contradict the predictions of the life cycle hypothesis, but some corrections (using demographic characteristics and a different treatment of pensions) changed these preliminary conclusions. The differences in the credit constraints by

groups are explored in order to study its likely effects on consumption smoothing. Finally, elderly savings are analysed focusing on their contradictory effect in macro and micro studies.

Rehman, Faridi and Bashir (2010) presented a study that aimed at investigating the determinants of households' saving in Multan district of Pakistan. Data of 293 respondents were drawn through field survey in 2009-2010 by adopting stratified random sampling technique. Their questions were mainly obtained directly from head of household about their education level, family status, age, region of residence, assets, income and so on. The information about rural and urban households was also contained in the sample. The extended model of Life Cycle hypothesis postulated by Ando and Modigliani (1963) were also used while at the same time applying the Ordinary Least Square technique of estimation. Two stages were used in their analysis. At preliminary stage, descriptive statistics and correlation matrix are described. Multivariate analysis presented the determinants of households' saving in Multan district. They found that Spouse participation, total dependency rate, total income of household and size of landholdings significantly raise household savings. Education of household head, children's educational expenditures, family size, liabilities to be paid, marital status, and value of house significantly reduce saving level of households. The study however, concluded their findings also support existence of Life cycle hypothesis.

Coleman (1998) summarised some theoretical and empirical developments in the vast literature that has examined the microeconomic determinants of household saving. It is designed as a primer to provide a basic understanding of some of the developments in the literature in the last decade. A standard intertemporal optimising model was used as the basic organisational framework. The study also included a discussion of precautionary savings, liquidity constraints and bequests. The study examined the empirical data in light of the intertemporal optimising model. Three key issues related to superannuation provision were encountered in the study. First, the evidence suggested that in most countries households continue to save after retirement. Second, in several countries there is evidence that most people hold very few financial assets at any stage of their lives, and a large number of people hold very few assets, either financial or real. Third, intergenerational transfers appear to provide a motive for the lack of consumption for many of the elderly, particularly the wealthy.

Bastelaer (2000) examined the empirical evidence on the relationship between social capital and the performance of credit delivery programs in the developing world. The different

types of credit arrangements targeted at the poor were discussed in the study according to a roughly decreasing order of lender-borrower closeness and exogeneity of the lending methodology. These methodologies are respectively, the rotating savings and credit associations (ROSCAs), the local moneylenders, trade credit, and the group-based microfinance programs. The study however posits that an important determinant of the role of social ties that emerges from the literature is the existence and durability of credit systems characterised by the closeness of the borrowers to the source of funds (and, in a related fashion, the endogeneity of the lending methodology). When the credit provider is closely related to the borrower (and, presumably, the arrangement between them is of their own design), the role of interpersonal ties is a central element in ensuring repayment. When, on the other hand, there is no a priori relationship between the borrower(s) and the lender (and, as is often the case, the lending arrangements are extraneously proposed by the lender to the borrower), social factors are less likely to be central elements in explaining credit discipline, and their mobilization requires significantly more effort. This gradation helps explain why ROSCAs, which are based on indigenous structures and are internally funded, rely on social pressure among the lenders/borrowers to guarantee financial discipline to a much larger extent than group-based lending programs. The 19th Century German credit cooperatives represent a middle ground between these two situations; although they used joint liability mechanisms to ensure repayment, most of their operating funds were provided locally. Not surprisingly, their repayment records which were based at least on the available anecdotal evidence were very high. They finally conclude that though literatures suggest that the use of existing social ties improves the access of the poor to credit, they do so through various channels whose relative importance is subject to significant debate. This is true especially in view of the large variations in geographical, economic, social and political settings in which these lending programs operate.

Schultz (2004) while studying the demographic determinants of savings argued that Life cycle savings is proposed as one explanation for much of the increase in savings and economic growth in Asia. The association between the age composition of a nation's population and its savings rate, observed within 16 Asian countries from 1952 to 1992, was re-estimated by the study to be less than a quarter the size reported in a seminal study, which assumed that lagged savings is exogenous. Specification tests as well as common sense applied by the author indicated that lagged savings is likely to be endogenous, and when estimated accordingly, it

showed that there is no significant dependence of savings on the age composition, measured in several ways. The study suggested that research should consider lifetime savings as a substitute for children, and model the causes for the decline in fertility which changes the age compositions and hence, account for savings and growth in Asia.

Sturm (1983) while trying to interpret the theoretical and empirical literatures relevant for explaining the observed international differences in saving ratios, argued that comparative saving behaviour of individual countries are reflected in their national savings accounts statistics covering the period, since 1960 shows a very marked difference with respect to levels, trend developments and sectoral composition. For him, as far as individual households are concerned, saving for retirement, bequest, and as a hedge against uncertainty, are identified as the major determinants of long-term saving. The study therefore found that institutional characteristics may interact with household utility maximization and thereby affect aggregate saving. It also found that although mandatory public pension schemes might seem to affect savings behaviour, analysis suggests that the impact on savings ratio is uncertain on a priori grounds, both with respect to its size and direction. More so, the study found that inflation erodes the real value of financial assets (excluding equity) and this stimulates savings if household aims at a target ratio of financial wealth to income on the one hand and also raise the uncertainty about real income flows, hence inducing increased precautionary savings on the other hand.

Raut and Virmani (1990) argued that the determinants of savings generally and the specific effects of government policies on savings and consumption are pivotal forces in investment and economic growth. The Hall hypothesis states that consumption is a function of lifetime (“permanent”) income, rather than income in each period independently. Changes in interest and tax rates, money supply, or government expenditure will affect permanent income and hence consumption and savings only if they are unexpected and thus not already incorporated in the estimation of permanent income. The study agrees with the Hall hypothesis in tests for developing countries when the authors allow for varying interest rates. It is evidenced that there is a negative effect of inflation on consumption, and a positive relationship between the real interest rate and consumption. The evidence for the Hall hypothesis also suggests that Ricardian equivalence may be valid—this is Barro's hypothesis that the effect on savings is the same whether government deficits are financed through taxation or debt.

Plessis (2008) while trying to explore the determinants of South Africa's personal savings rate, agreed that the theoretical determinants of savings to specific economies has been the subject of debate and as such, the dynamic nature of savings behaviour and the interaction between theoretical savings determinants (and the anticipated savings determinants) is influenced by country-specific social, demographic and economic conditions. It was found that South African household savings are impacted negatively by the prevalence of an aspirational culture in which consumption is encouraged by access to credit facilitated by South Africa's sophisticated financial sector. More so, government policies with regard to wealth distribution and welfare payments contribute to the creation of a culture of dependence and a reduction in household savings. The study finally suggests that the government should be engaged to increase financial education of consumers and that fiscal tool such as tax incentives to encourage savings and compulsory savings schemes should be considered.

Kibet, Mutai, Ouma, Ouma and Owuor (2009) examined determinants of household saving in Kenya and observed that the adoption of liberalization measures in Kenya culminated in a rise and spread of interest rates in the financial sector. The saving rate in Kenya however, remained low. Believing that most studies have not been conclusive on factors influencing savings in developing countries the study adopted a microeconomic approach in investigating the factors that influence savings among households of teachers, entrepreneurs and farmers in rural parts of Nakuru District. The sample composed of 359 teachers, entrepreneurs and farmers were selected through multistage sampling technique from seven rural administrative divisions of the district. Through application of least squares method the main finding was that household saving is determined by: the type of occupation, household income, age and gender of household head, level of education, dependency ratio, service charge, transport costs and credit access.

Guan (2011) carried out a cross country analysis of the determinants of household savings and observed that household savings rates of countries and regions have conspicuously diverged. Over the last two decades, savings rates increased significantly in East Asia, fluctuated in Latin America and fell in sub-Saharan Africa. At the same time, household savings rates in many developed countries declined dramatically and have remained near record lows, particularly for the U.S., the U.K. and Canada. This disparity in savings rate performance according to the author raises a number of intriguing questions. Why are savings rates so different across countries and over time? What are the key drivers? Which policies have the

greatest impact on savings? The author started by answering these questions. However, the study found fiscal policy to be effective in elevating national savings. Second, it also found that financial liberalization generally encourages lending for consumers and lending, hinders or promotes private savings. Finally, comparing economic determinants, relating to macroeconomic indicators, with strategic determinants, relating to government policies, revealed are the most effective approach for boosting savings.

Ozcan, Gunay and Ertac (2006) investigated the effects on private saving rates of a number of policy and non-policy variables in Turkey. The analysis covered the period 1968-1994 based largely on the World Saving Database (WSD), which is the largest data set on aggregate saving measures. The empirical private saving model for Turkey was estimated. The study's findings support the hypothesis that the private saving rates have strong inertia. The evidences show that the government saving does not tend to crowd out private savings and the Ricardian equivalence does not hold strictly. Income level has a positive impact on the private saving rate and growth rate of income was not statistically significant. From a policy perspective, financial depth and development measure of Turkey suggests that countries with deeper financial systems tend to have higher private saving rates. Private credit and real interest rates tried to capture the severity of the borrowing constraints and the degree of financial repression for Turkey. However, negative impact of life expectancy rate lends support to the life-cycle hypothesis. The precautionary motive for saving is supported by the findings that inflation captures the degree of macroeconomic volatility and has a positive impact on private saving in Turkey.

Issahaku (2011) used a microeconomic approach to estimate the determinants of financial saving and investment in one of the most deprived district capitals in Ghana, the Nadowli in the Nadowli District of the Upper West Region. Two separate multiple linear regression models were fitted for saving and investment. The study found that there is the propensity to save and invest in Nadowli in spite of low income. Moreover, the levels of income, educational status, occupation, have positive influence on saving; the number of dependents exerts a negative influence on saving. It was also found by the study that age composition and assets do not have a significant effect on saving. The factors that drive household investment are occupation, expenditure, assets and saving. The study suggested that any decision or policy pertaining to finance and development by government, the private sector or financial institutions geared

towards improving saving and investment in Nadowli must incorporate all the factors mentioned above.

Venieris and Gupta (1986) examined income distribution and sociopolitical instability as determinants of savings using a cross-sectional model. The study observed income distribution and sociopolitical instability as arguments in the savings function. Second, it presented some empirical evidence in relation to their quantitative effects on savings. It was shown that sociopolitical instability has profound effects on the savings ratio. The study also found that the bulk of savings is produced by the middle income class consequently, redistribution of income at the expense of the upper income class yields a constant or an increased savings ratio developing on whether such a redistribution includes the lower income class or not.

Diop, Dorsner and Gross (2003) evaluated the determinants of savings mobilisation for Mutual Savings and Loans Institutions in some West African Economic and Monetary Union. The study shows that a survey of their structural and financial characteristics shows that there is much homogeneity in savings products despite different industry structures and macroeconomic environments. The study found that specific institutional features such as outreach and transaction costs matter for savings mobilisation but with various degrees across countries. The study therefore suggested that even though scale expansion is still possible in some cases, mutual institutions should turn to more innovative policies such as new product design for savings mobilisation.

Obwona and Ssentamu (1995) examined the nature and determinants of domestic savings in Uganda using a Multi-stage sampling scheme. It was observed that the Ugandan economy was still dominated by subsistence agricultural production and the informal sector. As result, most of the savings exist in the kind of land, crop produce, live stock, etc. However, the study suggested that the monetisation of the economy and financial deepening are crucial for savings mobilisation in financial assets hence, a mechanism for rural sector integration into the banking system must be developed.

Schmidt-Hebbel, Webb, and Corsetti (1992) analysed household saving in developing countries using household data available from the United Nations system of National Accounts for a sample of ten countries. The study employed and estimated a household saving functions using combined time-series and cross-country observations in order to test households' responses to income and growth, rates of return, monetary wealth, foreign saving, and demographic

variables. It was revealed that income and wealth variables affect saving strongly and in ways consistent with standard theories. More so, inflation and interest rate do not show clear effects on savings, which is also consistent with their theoretical ambiguity. Foreign saving and monetary assets were also revealed to have strong negative effects on household saving, which suggests the importance of liquidity constraints and money wealth in developing countries.

Jappelli and Pagano (1998) observed in their study that it is no longer true that Italy featured an abnormally high saving rate, compared to most other industrialized countries. Under any definition, in the last decade the Italian saving rate has fallen below the average of the developed economies. Questioning why the Italian saving ratio was comparatively high and its dramatic decline the study considered various potential answers. The study particularly focused on the recent slowdown in productivity growth, the development of credit and insurance markets, and the changes in the social security system. In the second part of the study, a series of repeated cross-sections from the Survey of Household Income and Wealth were used in order to check whether the macroeconomic explanations for the decline in saving are consistent with microeconomic data.

Rijckeghem and Üçer (2009) looked into the evolution and determinants of the saving rate in Turkey, with particular focus on private saving. After a brief literature review, it starts by putting the Turkish saving rate in an international context, by comparing Turkey to several country sub-groups of interest (e.g., advanced countries, emerging Asia, emerging Europe and Latin America). It was shown by the data of the study that Turkey's private saving rate is low compared to other emerging market countries, but this is a recent phenomenon (other than in comparison with Asia) that reflects recent declines in the Turkish savings rate. Using previous econometric studies on the determinants of the private saving rate in Turkey and emerging markets in general, the study explored possible reasons for this recent decline. Some micro evidence based on household surveys complements this macro national income accounts perspective. The balance of the evidence suggests that the recent decline in private saving can be explained by the recent rapid increase in credit along with sharp increases in housing prices. The report assesses the prospects by providing estimates of the positive impact of demographic trends on Turkey's future saving rate.

Sinning (2007) investigated the determinants of migrants' financial transfers to their home country using German data. A double-hurdle model is applied to analyze the determinants

of the propensity to send transfers abroad and the amount of transfers. The findings reveal that return intentions positively affect financial transfers of immigrants to their home country. Moreover, while the effect of the household size on migrants' transfers abroad turns out to be significantly negative, remittances are higher if close relatives live in the sending country. Finally, Vuong-tests indicate that the double-hurdle model is the correct specification for the analysis of migrants' savings and remittances rather than the conventional Tobit model usually applied in the literature.

Schrooten and Stephan (2004) while trying to investigate whether Macroeconomic Policy affects Private Savings in Europe argued that Private savings mirror consumption behaviour. They also argued that in Europe, the dynamic of consumption is very low, and at the same time, savings are increasing. Therefore, using evidence from a dynamic panel data, a Generalised Method of Moment (GMM) estimator was applied by the study to analyze the determinants of private saving in the EU's 15 member states. It was discovered by the study that savings rates inherit a certain degree of persistence and that income growth causes an increase in saving. While monetary policy is totally insignificant, fiscal policy has a major impact on private savings. Hence, the long-run effects of public deficits are greater than the effects of rising income.

Berry and Williams (2009) examined household decisions on whether to save or spend and observed that their decisions play a key role in the outlook for aggregate demand. They also discovered that a range of factors could help to explain the fall in the household saving ratio over the period 1995 to 2007. Hence, declines in long-term real interest rates, looser credit conditions, rising asset values, and greater macroeconomic stability were all found to have likely reduced the incentive or the need to save. More so, lower household saving was also offset to some extent by higher corporate saving. They suggested that since 2007, the financial crisis and subsequent recession have unwound some of these factors and may continue to lead to a rise in household saving.

2.4. Limitations of Previous Studies

One of the major gaps in the domestic literature is the focus of majority of studies on macroeconomic determinants of savings in Nigeria. These studies used macroeconomic variables to explain the dynamics and determinants of private saving in Nigeria. The findings of these studies much as they explain how macroeconomic dynamics explain aggregate savings

behaviour over time may be weak when applied to saving behaviour of individual households. This is because given the macroeconomic and financial environment, households suffer different kinds of idiosyncratic shock which may cause significant variations in household to household level of savings which macroeconomic studies would not capture. Also household characteristics such as occupation, education of the head, and asset ownership vary significantly across households and this may influence the household level of savings. This study will make contribution to empirical literature on determinants of saving in Nigeria by filling these gaps using recent household survey data.

Chapter Three Methodology

3.1. Methodology

This study is conducted within the framework of econometrics research methodology. The stages of econometric research have been highlighted by Gujarati (1995) among others. For the purpose of this paper we modify the approach by first discussing the conceptual issues, theoretical framework before model specification.

3.2. Theoretical Framework

The basic theory often used to explain saving behaviour is the life cycle theory. But the life cycle theory becomes very useful in explaining the dynamics of saving. Our study is static in nature in the sense that we are investigating the determinants of saving using a single survey data. In that case the only role the life cycle model plays in this regard is to help explain age effects on saving. But it is important to emphasize that theory argues that the factors influencing savings from microeconomic perspective are identified from the perceived household utility (Hensher, 1979; Shem, 2002). The perceived utility depends on the attitudes or behavioral intent of the decision takers,- which are a function of the institutions' and individuals' attributes respectively. According to Shem (2002), personal attributes include: individual level of monthly income; individual level of education; individual's age; gender; size of household, employment characteristics, occupation, and major source of income. Other attributes include land ownership, household dependency ratio, and household access to credit, among others. Therefore, Shem (2002) empirical model for determinants of savings is given in equation (1) as seen below:

$$\left[S_i = \alpha_0 + \alpha_1 Y_i + \alpha_2 DEP_i + \alpha_3 AGE_i + \alpha_4 GEND_i + \alpha_5 rs_i + \alpha_6 TR_i + \alpha_7 SERVC_i + \alpha_8 EDUC_i + \alpha_9 CA_i + \alpha_{10} DUMT_i + \alpha_{11} DUMB_i + \varepsilon_i \right] \dots\dots\dots(1)$$

Equation (1) posits that the savings (S) is influenced by; gross income (Y), dependency ratio (DEP), age of respondent (AGE), gender of respondent (GEND), rate of interest on savings (rs), transport cost to and from financial institution of saving (TRANS) and credit access (CA). Thus;

Where,

S_i = household savings defined broadly as sum of deposits and investment of two months and above.

Y_i = disposable income received by the breadwinner's from gainful employment and other economic activities.

DEP_i = dependency ratio which is the ratio of unemployed members of the household over the household size

AGE_i = age of household head in years

GEND_i = gender of household head (Male = 1, Female = 0)

rs = weighted average rate of interest on saving with savings as weight

TR_i = weighted average transport cost to and from financial institution of saving with number of trips made per month as weights

SERVC_i = weighted service charge by saving institution

EDUC_i = education level of respondent

CA_i = credit access is average monthly expenditure on loan repayment

DUMT_i = Dummy for teacher

DUMB_i = Dummy for businessperson

i = the coefficient of the ith explanatory variable in the savings function

In order to add value to the basic model, we slightly modified it to take into account the effects of the following variables: landowner, household size, occupation group, non food expenditures, expenditures, main source of fuel for cooking, type of toilet, materials of outside wall and occupancy status. This helped us to get the actual determinants of savings in Nigerian economy.

Therefore, it is based on the model of Shem (2002) that this research work draws its model specification as can be seen in the next section given below.

3.3. Model Specification

From the foregoing, we specify our empirical saving model to address objective 1 as:

$$\text{Saving} = \beta_0 + \beta_1 \text{landowner} + \beta_2 \text{ageyrs} + \beta_3 \text{sex} + \beta_4 \text{hhsz} + \beta_5 \text{occgrp} + \beta_6 \text{lognonfood} + \beta_7 \text{agesq} + \beta_8 \text{logexp} + \beta_9 \text{maincook} + \beta_{10} \text{tytoilet} + \beta_{11} \text{matewall} + \beta_{12} \text{occstatu} + \mu \dots \dots \dots 3.1$$

where saving=household saving

landowner=own land in the last 12 months

ageyrs=age years

sex=sex

hhsz=household size

occgrp=occupation group

lognonfood=log of total annual non food expenditures

agesq=square of age

logexp=log of expenditures

maincook=main source of fuel for cooking

tytoilet=type of toilet

matewall=material of outside wall

occstatu=occupancy status

In order to address objective 2, we specify a Tobit model with selection as:

$$\text{Saving} = \beta_0 + \beta_1 \text{landowner} + \beta_2 \text{ageyrs} + \beta_3 \text{sex} + \beta_4 \text{hhsz} + \beta_5 \text{occgroup} + \beta_6 \text{lognonfood} + \beta_7 \text{agesq} + \beta_8 \text{logexp} + \beta_9 \text{maincook} + \beta_{10} \text{tytoilet} + \beta_{11} \text{matewall} + \beta_{12} \text{occstatu} + \beta_{13} \text{lit} + \beta_{14} \text{fatheduc} + \beta_{15} \text{motheduc} + \mu \dots \dots \dots 3.2$$

where lit=literacy

fatheduc= father's education level

motheduc=mother's education level

saving =1 if the household saves and 0 otherwise

3.4. Apriori Expectations

The direction of the impact of each of the above individual attributes with respect to a priori expectations would vary. Individual level of education (EDUC) is measured in terms of the years an individual has spent in formal education and is expected to improve the understanding of the use of financial services by individuals and hence their decision to save. Moreover, individuals with higher levels of education would feel less intimidated by the institutional environment within financial institutions relative to others with lower level of education. Hence, saving increases with education (Bernheim and Garrett, 1996).

Individual's age (AGE) is expected to be negatively correlated with saving, such that, older people save less and the younger save more. This is consistent with the prediction of the life cycle theory. Incorporating the fact that younger people who earn little or no income save little or none (often net borrowers) implies that actual relationship between age and saving is non-linear (Attanasio, 1997).

Defining monthly income as the disposable income of the household from all sources of economic activity before deducting loan repayments, it is expected to be positively related to savings (Shem, 2002; Sameroykina, 2004; Schrooten and Stephan, 2005 among others).

The higher the dependency ratio in a family the lower will be the saving (Alessie et al. 2004). We would therefore expect a negative effect of dependency rate on household saving. Higher household size also will have similar effect on saving.

We cannot determine a priori the direction of effect of occupation group on saving since people earn different income in a particular industry of occupation. We may choose to alternative occupation and income in the regression.

3.5. Estimation Issues

In order to estimate equation (3.1), we are aware of potential endogeneity problem occasioned by the inclusion of income and education variables on the right hand side. We argue that income and saving are determined endogenously while individual education level is correlated with the level of income. One way to solve the potential endogeneity problem is to estimate a two stage least squares counterpart of (3.1) using mother, father education, father work and mother work, as well as occupation as instruments and compare the result with OLS counterpart. The higher the level of education of the mother or father the higher the level of one's income other things being equal. Again, father and mother industry of employment or type of work determines to a large extent the work and hence the potential income of the child.

Equation (3.2) is estimated with Heckman two-step model with selection. The Tobit model is relevant when the dependent variable of a linear regression is observed only over some interval of its support. So for variables such as household saving, a cross-section would almost certainly reveal a significant proportion of households with zero saving and the rest with positive level of saving. In other words the dependent variable is a mixture of observations with zero and positive values (Cameron and Trivedi, 2009). However, the Tobit regression makes a strong assumption that the same probability mechanism generates both the zeros and the positives. It is more flexible to allow for the possibility that the zero and positive values are generated by different mechanisms. Many applications have shown that the two-part model provides a better fit by relaxing the Tobit model assumptions. Hence, this determines our choice of Heckman two-step approach.

3.6. Data Sources

The data for the analysis is taken from the General Household Survey 2010 and Harmonised Household Survey 2009. The use of these two datasets to estimate the models separately provides consistency check and robustness to our results. These datasets are hosted by the National Bureau of Statistics (NBS).

Chapter Four

Presentation and Interpretation of Results

4.1. Interpretation of Results

4.1.1. Summary Statistics of the Variables

Table 1 shows the summary statistics of the variables. Table shows that the average value of saving is N46, 732 per annum with a minimum value of zero for households that did not saving and maximum value of over N1.5million for highest saving household in the dataset. The presence of zero savings justifies the use of Tobit model in order to account for households with zero savings to avoid selection bias problem. Again, the average additions to savings is N17,213 per annum with a minimum value of zero and a maximum value of N5,000,000 for the highest saving household in the sample. In order to be able to run the Tobit model accounting for zeros, we transformed the savings into logarithms (logy) so that censoring would occur at 0.6931471 instead of at 0. The mean of landownership is 0.067 implying that only 6.7% of the households in the sample own land.

Table 1: Summary Statistics of the Variables

Variable	Obs	Mean	Std. Dev.	Min	Max
Savings	24751	46731.75	1168783	0	1.50e+08
Addition	24267	17213.03	55168.5	0	5000000
logy	25195	8.639169	2.966351	.6931471	18.82615
landowner	11115	.0665767	.2492987	0	1
ageyrs	25195	47.41409	13.732	13	99
sex	25195	1.162056	.3685095	1	2
hhsz	25195	5.123993	3.190871	1	26
ocgrp	25195	5.156182	2.064477	0	9
lognonfood	25195	10.44688	.9640834	6.907755	16.98493
agesq	25195	2436.656	1404.346	169	9801
logexp	25195	10.02917	.8074542	6.675139	14.4809
maincook	25195	1.647311	1.304026	1	8
tytoilet	25195	5.632745	2.228482	1	9
matewall	25195	2.763286	1.974557	1	8
occstatu	25195	2.162532	1.744466	1	7

The average age of the household heads in the sample is 47 years. This implies that on the average, they fall within the active segment of the population. Surprisingly we saw a minimum age of 13 years for the head of a household in the data. Gender of the household head is on the

average 1.16 implying that there more male-headed households than female-headed households. The average household size in the data is 5, although there are households with one member and households with as many as 26 members. This may be due to polygamous families. The average occupational group is 5 implying that most of the households are in agriculture and forestry because of the way occupation is coded in the data. The average main cooking material is 1.64 suggesting that majority of the households use firewood and charcoal to cook which indicate poor living condition. The average type of toilet is 5.63 indicating that majority of the households use pit latrine, which again shows poor living condition. The average value of 2 for occupancy status indicates that most households live in their own houses either owned by the head or the spouse.

4.1.2. Determinants of household Savings

Table 2 shows the results of the estimated Tobit model of determinants of household Savings to address objective one. The results are interpreted by the corresponding marginal effects in column 3 of the table. The marginal effects multiplied by 100 shows the percentages by which savings increases or decreases with respect to each independent variable. The asterisks show that the variable is statistically significant at least at the 5 percent level of significance. Our results show that land ownership has positive effect on the amount of savings but the result is not statistically significant. The non significance of the landownership may be due to the fact that very few landowning households were captured in the sample as shown in the summary statistics in table 1. The marginal effect of age is negative and not significant. This suggests that as household head grows older the ability to save decreases. This is consistent with the life cycle hypothesis that argues that at old age when income earning capacity decreases households dissave in order to smoothen consumption. Gender of the household is not statistically significant in the regression. Household size has negative effect on savings and not statistically significant. In order words, the larger the household size the smaller the amount saved.

The marginal effect of the occupation of household head is negative and statistically significant. This is expected as majority of the household heads are in agriculture. Results have shown that poverty is more among households that are engaged in agriculture. As a result, we do not expect the positive effect of occupation as a group on household savings. However, when occupation enters the model as a dummy we did not see statistical significance of different categories of

occupation. Specifically, being a farmer is associated with about 7.42 percent decline in the amount of savings. The marginal effect of nonfood expenditure is positive and statistically significant. This is expected because household save more when they want to purchase durables. The marginal effects show that an increase in food expenditure by N1000 will increase the amount of savings by 11.6 percent (N116). However, an increase in household per capita expenditure leads to about 20.4 percent decrease in savings and this is statistically significant.

The results in table 2 further shows that living in poor environment, which is proxied by cooking by firewood or charcoal and non-sanitary toilet, are associated with 15 percent and 10.5 percent decrease in household savings respectively. This means that household poverty conditions cause the ability to save to decrease. The results show that if the household lives in own house, the ability to save increases by about 5 percent, other things being equal. This is expected as the amount that would have been spent on rent can now be saved by the household

Table 2: Tobit Model of Determinants of Household Savings

	Tobit	margeff
model		
landowner (d)	0.182 (0.147)	0.175 (0.148)
ageyrs	-0.0205 (0.149)	-0.0198 (0.149)
sex	0.0184 (0.845)	0.0177 (0.845)
hysize	-0.00323 (0.831)	-0.00312 (0.831)
occgrp	-0.0770*** (0.000)	-0.0742*** (0.000)
lognonfood	0.120* (0.024)	0.116* (0.024)
agesq	0.000253 (0.066)	0.000244 (0.066)
logexp	-0.212** (0.001)	-0.204** (0.001)
maincook	-0.156*** (0.000)	-0.150*** (0.000)
tytoilet	-0.109*** (0.000)	-0.105*** (0.000)
matewall	0.0819*** (0.000)	0.0789*** (0.000)
occstatu	0.0520** (0.007)	0.0501** (0.007)

<i>N</i>	11115	11115
<i>N_cens</i>		
<i>lambda</i>		
<i>selambda</i>		
<i>sigma</i>		
<i>rho</i>		

Marginal effects; *p*-values in parentheses (d) for discrete change of dummy variable from 0 to 1
* *p* < 0.05, ** *p* < 0.01, *** *p* < 0.001

4.1.3. Determinants of the Decision to Save

Table 3 shows the Heckman two-step selection model of determinants of savings as well as determinants of the decision to save in order to address objective two. The assumption here is that not the same set of factors determines the decision to save as well as the amount saved. Hence, we have the decision (or participation) equation identified with the variables literacy, father education and mother education to avoid selection bias especially if the decision to save is not random.

The results show that the variables that determine how much to save are different from the variables that determine the decision to save at least in terms of statistical significance and sign of the marginal effects. The selection equation is the second equation reported in table 3. The marginal effects of the selection model are reported in column 4 of table 3. The results are interpreted as follows:

Landownership increases the probability that the household will save by 8.11 percent and this is statistically significant but this does not significantly determine how much the household can save significantly as shown in the Tobit results. If the gender of the household head is female, the probability that the household will save decreases by 2.74 percent. This is may be due to the fact that women always engage in ostentatious spending when they are better-off. But gender does have positive effect on the amount saved implying that when women decide to save, they tend to save more than men of the same status. The one additional increase in the size of the household increases the probability that the household will save by about 9.76 percent. Being a farmer decreases the probability that the household will save by about 0.5 percent. This suggests that being a farmer has similar effect on both the decision to save and the amount of savings. The results also show that occupancy status of the household, especially if the household leaves in own house increases the probability that the household will save by 1 percent. Again, household

occupancy status has similar effect on the amount of savings and the probability that the household will save.

The identification variables literacy status of the head, the father education and mother education are statistically significant. Thus, if the household head is literate, the probability that the household will save increases by about 6.1 percent. This is reinforced by education level of the father. Household heads with educated fathers are more likely to save compared to household heads with uneducated father. Surprisingly the effect of mother education is negative. The significance of these variables indicates that factors that determine the decision to save are not always the same set of factors that determine how much to save.

Table 3: Heckman Two-step Selection Model for Household Savings

	Heckman	margeff1	margselection
logy (Amount saved)			
landowner (d)	0.117 (0.253)	0.792 (.)	0.0811*** (0.000)
ageyrs	0.0222* (0.033)	-0.0116 (.)	-0.00316 (0.107)
sex	0.0667 (0.337)	-0.190 (.)	-0.0274* (0.033)
hhsiz	0.0110 (0.378)	0.0927 (.)	0.00976*** (0.000)
occgrp	0.0323** (0.006)	-0.0221 (.)	-0.00520* (0.018)
lognonfood	0.0715 (0.065)	0.0762 (.)	0.00286 (0.697)
agesq	-0.000216* (0.033)	0.000143 (.)	0.0000342 (0.073)
logexp	-0.00361 (0.940)	-0.129 (.)	-0.0145 (0.105)
maincook	-0.115*** (0.000)	-0.121 (.)	-0.00450 (0.213)
tytoilet	-0.0720*** (0.000)	-0.121 (.)	-0.00795*** (0.000)
matewall	0.0238* (0.048)	0.0595 (.)	0.00488* (0.033)
occstatu	-0.0216 (0.166)	0.0714 (.)	0.00998*** (0.000)
save (decision to save)			
landowner (d)	0.257***	0.792	0.0811***

	(0.000)	(.)	(0.000)
ageyrs	-0.00934	-0.0116	-0.00316
	(0.107)	(.)	(0.107)
sex	-0.0808*	-0.190	-0.0274*
	(0.033)	(.)	(0.033)
hhsz	0.0288***	0.0927	0.00976***
	(0.000)	(.)	(0.000)
occgrp	-0.0153*	-0.0221	-0.00520*
	(0.018)	(.)	(0.018)
lognonfood	0.00845	0.0762	0.00286
	(0.697)	(.)	(0.697)
agesq	0.000101	0.000143	0.0000342
	(0.073)	(.)	(0.073)
logexp	-0.0429	-0.129	-0.0145
	(0.105)	(.)	(0.105)
maincook	-0.0133	-0.121	-0.00450
	(0.213)	(.)	(0.213)
tytoilet	-0.0235***	-0.121	-0.00795***
	(0.000)	(.)	(0.000)
matewall	0.0144*	0.0595	0.00488*
	(0.033)	(.)	(0.033)
occstatu	0.0295***	0.0714	0.00998***
	(0.000)	(.)	(0.000)
lit	0.179***	0.528	0.0607***
	(0.000)	(.)	(0.000)
fatheduc	0.0162***	0.0478	0.00549***
	(0.001)	(.)	(0.001)
motheduc	-0.0241***	-0.0708	-0.00814***
	(0.000)	(.)	(0.000)
<hr/>			
mills			
lambda	0.694		
	(0.147)		
<hr/>			
N	11115	11115	11115
N_cens	3192	3192	3192
lambda	0.694	0.694	0.694
selambda	0.479	0.479	0.479
sigma	1.992	1.992	1.992
rho	0.349	0.349	0.349

Marginal effects; p -values in parentheses

(d) for discrete change of dummy variable from 0 to 1

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

4.2. Test of Hypotheses

From the regression results we can evaluate our research hypotheses on the basis of the

significance and none-significance of the variables of the model. The first hypothesis can be rejected because household socioeconomic factors have significant effect on the amount and the decision to save. The second hypothesis can be rejected on the basis of the fact the variables that determine the desire to save are different from the variables that determine the amount saved in terms of coefficient signs and statistical significance. Again, additional set of variables that determine the desire to save which are in the selection equation.

Chapter Five

Summary of Findings, Policy Recommendations and Conclusion

5.1. Summary of Findings

This work has so far investigated the microeconomic determinants of household savings in Nigeria. The first part of the findings is the determinants of the amount saved. Our results show that land ownership has positive effect on the amount of savings but the result is not statistically significant. The marginal effect of age is negative and not significant. Gender of the household is not statistically significant in the regression. Household size has negative effect on savings and not statistically significant.

The marginal effect of the occupation of household head is negative and statistically significant. However, when occupation enters the model as a dummy we did not see statistical significance of different categories of occupation. Specifically, being a farmer is associated with about 7.42 percent decline in the amount of savings. The marginal effect of nonfood expenditure is positive and statistically significant. The marginal effects show that an increase in food expenditure by N1000 will increase the amount of savings by 11.6 percent (N116). However, an increase in household per capita expenditure leads to about 20.4 percent decrease in savings and this is statistically significant.

The results further show that living in poor environment, which is proxied by cooking by firewood or charcoal and non-sanitary toilet, are associated with 15 percent and 10.5 percent decrease in household savings respectively. This means that household poverty conditions cause the ability to save to decrease. The results show that if the household lives in own house, the ability to save increases by about 5 percent, other things being equal.

The second part of the findings is Heckman selection model of the determinant of the decision save and the amount saved. This was done to ascertain whether the same set of factors determine both saving decision and how much saved. Our findings show that the variables that determine how much to save are different from the variables that determine the decision to save at least in terms of statistical significance and sign of the marginal effects. More specifically, landownership increases the probability that the household will save by 8.11 percent and this is statistically significant but this does not significantly determine how much the household can

save significantly as shown in the Tobit results. If the gender of the household head is female, the probability that the household will save decreases by 2.74 percent. But gender does have positive effect on the amount saved implying that when women decide to save, they tend to save more than men of the same status. The one additional increase in the size of the household increases the probability that the household will save by about 9.76 percent. Being a farmer decreases the probability that the household will save by about 0.5 percent. The results also show that occupancy status of the household, especially if the household lives in own house increases the probability that the household will save by 1 percent. Again, household occupancy status has similar effect on the amount of savings and the probability that the household will save.

If the household head is literate, the probability that the household will save increases by about 6.1 percent. This is reinforced by education level of the father. Household heads with educated fathers are more likely to save compared to household heads with uneducated father. Surprisingly the effect of mother education is negative. Having an educated father increases the probability of saving by about 0.5 percent, other things being equal.

5.1. Policy Recommendations

Our findings have significant implications for policies that would promote not only household savings but aggregate savings since savings by households are components of the aggregate.

First, policies that would reduce poverty and improve household income would also increase household saving potentials and hence aggregate savings. One way poverty reflected in the analysis is that majority of the households captured in the sample live in poor environment and this exposes them probably to different kinds of health hazards and other forms of social violence. For example household's health expenditure may increase and this may reduce the ability to save. Households may spend more to have access to good drinking water under such squalor conditions and this may affect savings negatively. So if basic infrastructure such as water and sanitation are provided to these households might save more and aggregate savings will improve.

Second, is that education is important to empower members of the household and hence increase not only their income earning potential but also to increase their probability of saving. Therefore, policy makers should make efforts to make education accessible and affordable to the less

privileged and by so doing they would be empowered. This can be done by providing basic education infrastructure and if possible provide adult education for the uneducated household members to enlighten them. By so doing the literacy rate in the society would increase and consequently the probability of savings accumulation would increase.

Policies that will educate the households' especially female-headed households on the importance of savings are more likely to increase the saving potential of women. Therefore, policymakers through national orientation should design such interventions.

Finally, policies that could make it possible for households to afford their own houses either by direct interventions to provide low-cost housing or by indirect interventions through the reduction of the cost of building materials will go a long way to free household resources for more saving accumulation. This kind of intervention is needed in many cities and towns where the cost of rent has been skyrocketing.

5.3 Conclusion

The basic conclusion of this work is that household socioeconomic characteristics are important in saving accumulation in Nigeria and they should not be ignored by policy if the country wants to increase capital accumulation through saving. It is also the basic conclusion of this study that household socioeconomic characteristics have different effects on the amount saved the probability of saving and this should also influence policy interventions. Finally, this research work has created an avenue for further research in this area especially studies that will follow household savings over time, as panel data emerge in the future. Such research would increase what we know about microeconomic determinants of savings in dynamic frameworks.

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Appendix

Marginal effects after heckman

y = Pr(save) (predict, psel)
= .71647483

variable	dy/dx	Std. Err.	z	P> z	[95% C.I.]	X
landown~r*	.081143	.0158	5.14	0.000	.050174	.112112		.066577
ageyrs	-.0031647	.00196	-1.61	0.107	-.007016	.000687		47.4982
sex	-.0273673	.01285	-2.13	0.033	-.052558	-.002177		1.15825
hhszise	.0097585	.00216	4.51	0.000	.005515	.014002		5.22996
occgrp	-.0051965	.0022	-2.36	0.018	-.009517	-.000876		5.18543
lognon~d	.0028621	.00735	0.39	0.697	-.011553	.017277		10.4415
agesq	.0000342	.00002	1.79	0.073	-3.2e-06	.000072		2441.39
logexp	-.0145137	.00896	-1.62	0.105	-.032077	.003049		10.0179
maincook	-.0044964	.00361	-1.25	0.213	-.011566	.002573		1.64058
tytoilet	-.0079531	.00198	-4.01	0.000	-.011839	-.004068		5.65542
matewall	.0048809	.00229	2.14	0.033	.0004	.009361		2.77976
occstatu	.0099821	.00269	3.71	0.000	.004702	.015262		2.1812
lit	.0607193	.01254	4.84	0.000	.036142	.085297		1.15331
fatheduc	.0054922	.00159	3.45	0.001	.002371	.008613		2.95457
motheduc	-.0081449	.00141	-5.77	0.000	-.010911	-.005378		3.12389

(*) dy/dx is for discrete change of dummy variable from 0 to 1

Marginal effects after heckman

y = E(logy*|Pr(save)) (predict, yexpected)
= 6.7522179

variable	dy/dx	X
landowner*	.791588	.066577
ageyrs	-.0116466	47.4982
sex	-.1902698	1.15825
hhszise	.0927305	5.22996
occgrp	-.0220769	5.18543
lognonfood	.0761528	10.4415
agesq	.0001429	2441.39
logexp	-.1288361	10.0179
maincook	-.1212603	1.64058
tytoilet	-.1207455	5.65542
matewall	.0595413	2.77976
occstatu	.0713513	2.1812
lit	.5281628	1.15331
fatheduc	.0477738	2.95457
motheduc	-.0708477	3.12389

(*) dy/dx is for discrete change of dummy variable from 0 to 1

Heckman selection model -- two-step estimates		Number of obs		=		11115	
(regression model with sample selection)		Censored obs		=		3192	
		Uncensored obs		=		7923	
		Wald chi2(12)		=		130.44	
		Prob > chi2		=		0.0000	
	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]		
logy							
landowner	.1167945	.1020919	1.14	0.253	-.0833019	.3168909	
ageyrs	.0221661	.0104195	2.13	0.033	.0017443	.0425879	
sex	.0666909	.0694897	0.96	0.337	-.0695064	.2028882	
hhsz	.0109522	.0124279	0.88	0.378	-.0134061	.0353104	
occgrp	.0322756	.0118233	2.73	0.006	.0091023	.0554489	
lognonfood	.0715411	.0388151	1.84	0.065	-.004535	.1476173	
agesq	-.0002162	.0001012	-2.14	0.033	-.0004146	-.0000179	
logexp	-.0036139	.0481305	-0.08	0.940	-.0979479	.0907201	
maincook	-.1146563	.0188443	-6.08	0.000	-.1515904	-.0777222	
tytoilet	-.0719713	.0110197	-6.53	0.000	-.0935695	-.0503731	
matewall	.0238462	.0120739	1.98	0.048	.0001817	.0475107	
occstatu	-.0216017	.0156027	-1.38	0.166	-.0521824	.008979	
_cons	8.126503	.4146364	19.60	0.000	7.31383	8.939175	
save							
landowner	.2573701	.0544337	4.73	0.000	.150682	.3640582	
ageyrs	-.0093448	.0058024	-1.61	0.107	-.0207174	.0020278	
sex	-.0808105	.0379505	-2.13	0.033	-.1551921	-.006429	
hhsz	.028815	.0063966	4.50	0.000	.0162779	.0413521	
occgrp	-.0153444	.0065094	-2.36	0.018	-.0281025	-.0025862	
lognonfood	.0084511	.0217168	0.39	0.697	-.0341131	.0510154	
agesq	.0001011	.0000564	1.79	0.073	-9.38e-06	.0002116	
logexp	-.0428565	.0264598	-1.62	0.105	-.0947168	.0090039	
maincook	-.0132772	.0106502	-1.25	0.213	-.0341513	.0075969	
tytoilet	-.0234842	.0058551	-4.01	0.000	-.03496	-.0120084	
matewall	.0144124	.0067507	2.13	0.033	.0011812	.0276436	
occstatu	.0294753	.0079555	3.71	0.000	.0138828	.0450677	
lit	.1792931	.0370437	4.84	0.000	.1066888	.2518974	
fatheduc	.0162176	.0047021	3.45	0.001	.0070016	.0254335	
motheduc	-.0240503	.0041698	-5.77	0.000	-.0322231	-.0158776	
_cons	.9865376	.2346616	4.20	0.000	.5266093	1.446466	
mills							
lambda	.6944871	.4794084	1.45	0.147	-.2451361	1.63411	
rho	0.34870						
sigma	1.9916373						
lambda	.69448706	.4794084					

Tobit regression		Number of obs = 11115	
Log likelihood = -27658.338		LR chi2(17) = 256.30	Prob > chi2 = 0.0000
		Pseudo R2 = 0.0046	

logy	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
landowner	.176206	.1248582	1.41	0.158	-.0685383 .4209503
ageyrs	-.0222154	.014177	-1.57	0.117	-.0500049 .0055741
sex	.0295393	.0939399	0.31	0.753	-.1545996 .2136783
hhsz	.016347	.0152994	1.07	0.285	-.0136426 .0463365
occgrp	-.0763516	.0158775	-4.81	0.000	-.1074743 -.0452289
lognonfood	.0990141	.0533414	1.86	0.063	-.0055445 .2035727
agesq	.0002714	.0001375	1.97	0.048	1.85e-06 .0005409
logexp	-.1620574	.0649139	-2.50	0.013	-.2893001 -.0348147
maincook	-.1569612	.0266314	-5.89	0.000	-.2091635 -.1047589
tytoilet	-.1132289	.0140596	-8.05	0.000	-.1407883 -.0856694
matewall	.0862577	.0164721	5.24	0.000	.0539694 .1185459
_Ioccstatu_2	.3299719	.1650292	2.00	0.046	.0064853 .6534585
_Ioccstatu_3	-1.250603	.176618	-7.08	0.000	-1.596806 -.9044003
_Ioccstatu_4	.2060044	.0964143	2.14	0.033	.0170153 .3949935
_Ioccstatu_5	-.1158092	.151704	-0.76	0.445	-.4131761 .1815577
_Ioccstatu_6	.4503462	.1160868	3.88	0.000	.2227955 .677897
_Ioccstatu_7	-.1370409	.8166665	-0.17	0.867	-1.737852 1.463771
_cons	10.31522	.5654825	18.24	0.000	9.206769 11.42366
/sigma	3.250651	.0238882			3.203826 3.297476

Obs. summary:	1109	left-censored observations at logy<=.69314706
	10006	uncensored observations
	0	right-censored observations

Marginal effects after tobit							
y = E(logy logy>0) (predict, e(0, .))							
= 8.4874707							
variable	dy/dx	Std. Err.	z	P> z	[95% C.I.]	X	
landow~r*	.1702057	.12083	1.41	0.159	-.066615 .407026	.066577	
ageyrs	-.0214181	.01367	-1.57	0.117	-.048207 .005371	47.4982	
sex	.0284793	.09057	0.31	0.753	-.149032 .205991	1.15825	
hhsz	.0157603	.01475	1.07	0.285	-.01315 .04467	5.22996	
occgrp	-.0736116	.01531	-4.81	0.000	-.103613 -.04361	5.18543	
lognon~d	.0954608	.05143	1.86	0.063	-.005335 .196256	10.4415	
agesq	.0002616	.00013	1.97	0.048	1.8e-06 .000521	2441.39	
logexp	-.1562417	.06258	-2.50	0.013	-.278904 -.03358	10.0179	
maincook	-.1513283	.02567	-5.89	0.000	-.20165 -.101006	1.64058	
tytoilet	-.1091654	.01355	-8.05	0.000	-.135733 -.082598	5.65542	
matewall	.0831621	.01588	5.24	0.000	.052037 .114287	2.77976	
_Ioccs~2*	.3193061	.16025	1.99	0.046	.005226 .633386	.037697	
_Ioccs~3*	-1.183419	.16332	-7.25	0.000	-1.50352 -.863314	.034728	
_Ioccs~4*	.1989685	.09328	2.13	0.033	.016138 .381799	.148718	
_Ioccs~5*	-.1115001	.14586	-0.76	0.445	-.397373 .174372	.047863	
_Ioccs~6*	.4361136	.11288	3.86	0.000	.214882 .657345	.08556	
_Ioccs~7*	-.1318854	.78449	-0.17	0.866	-1.66946 1.40569	.001439	

(*) dy/dx is for discrete change of dummy variable from 0 to 1