THE DETERMINANTS OF HOUSEHOLD SAVINGS IN SOUTH AFRICA: A PANEL DATA APPROACH

Abstract

This study employs panel data estimation models to investigate the determinants of household savings in South Africa. The novelty of some panel data models is their power to overcome the problems of endogeneity bias, in addition to controlling for unobserved heterogeneity across households. The study used three waves of the new unique and rich first national representative longitudinal survey, the National Income Dynamics Study (NIDS), which tracks changes in individuals' livelihoods overtime. The distinctiveness of NIDS data is that it is available in a panel format and can be used to investigate the structure and impact of different aspects of socio-economic factors on household saving. The results of this study reveals that household savings in South Africa are strongly driven by income, age structure, education achievement and employment status. Yet the savings - households size nexus was found to be negative, a sign that larger families places an extra burden on their savings prospects. The results point to the fact that achieving increased savings through improving household income cannot be overemphasised in South Africa. Likewise, the study recommend that both the government and the financial sector should be in the forefront in instilling a savings culture to the South African population through financial literacy.

Keywords: Panel data, Household savings, Endogeneity bias, heterogeneity, South Africa, National Income Dynamics Study, Microeconomics

1. INTRODUCTION

National savings are often seen as instrumental in achieving high economic growth at a country level (Kudaisi, 2013; Amusa, 2013; Obayelu, 2012; Suppakitjarak and Krishnamra, 2015). The reasoning is simple enough - higher savings in a country breeds improved investments, and investments in turn give rise to industrial growth, employment opportunities, stable prices and economic development (Rehman et al., 2011; Ogbokor and Samahiya, 2014). In the context of South Africa, understanding savings and its determinants is often complicated by the legacy of colonial disenfranchisement through legislative instruments, which left the majority of people outside the mainstream economy, from a conventional savings and saving instruments (Carter and May, 2001; ANC, 1994). The apartheid policies negatively affected many people, especially blacks, by stripping them of their productive assets, particularly land (Carter and May, 2001; May and Norton, 1997), and distorting economic markets, all which were the cornerstone of the poor's livelihoods and their ability to save (ANC, 1994). The three most crucial socio-economic legacies of Apartheid in South Africa are poverty, income inequality, and unemployment, which together complicate the understanding of savings and its specific determinants.

Notwithstanding these complications, it is a common practice in economics to categorise savings at a national level into two sub-categories, namely: public savings and private savings (Kudaisi, 2013; Gedela, 2012; Rehman et al., 2011). According to Mankiw (2001), public savings are mainly associated with the general government, while private savings are linked to the private sector of the economy. The private sector of the economy can either be individual households or the corporate sector (Issahaku, 2011; Du Plessis, 2008). Of course, the government and the corporate sector are major role players in national savings, at least in terms of amount, but households remain not only as the largest contributors of savings at a national level, but also as significant beneficiaries from these saving (Mark and William, 1999; Issahaku, 2011). Some of the benefits embedded on savings include: hedging against unforeseen circumstances, building of assets, investments opportunities, provision for retirements, purchase or improve dwellings, debt settlements and acquisition of social services (Rehman et al., 2011; Choedup, 2013; Suppakitjarak and Krishnamra, 2015).

Despite these benefits, low household savings has been a leading indicator of the South African economy since 1990s (South African Reserve Bank, 2012; Chipote and Tsegaye, 2014). As noted by the South African Reserve Bank (2012); Chipote and Tsegaye (2014) and Simlet,

Keeton and Botha (2011), the net household savings as a percentage of GDP in South Africa averaged to 1.63% in the 1990s, before dwindling further to a mere 0.35% between 2000 and 2005. Between 2006 and 2008, these figures decreased to a negligible -0.63% and a slight improvement in net values to an average of -0.20% between 2009 and 2011. Simlet et al. (2011) argues that low savings act as a barrier on economic growth and development and further put pressure on the country's current account. As the low savings are resolute to the households sector, the main aim of this study is to explicitly investigate the determinants of household savings in South Africa in an attempt to establish the reasons behind the downwards trends.

While there is extensive empirical literature that have served as a vital ingredient in assessing the determinants of household savings in South Africa (see for example, Mogale et al., 2013; Simlet et al., 2011; Chipote and Tsegaye, 2014), almost all of these studies have implicitly or explicitly relied on time series data. In this study, we contribute to the literature on household saving in South Africa in two ways. First we use panel data which permits researchers to use earlier observations as instruments for the regressor variables that are not strictly exogenous (Baltagi, 2001; Schmidt-Hebbel and Serven, 1997). Thus, the study exploit three waves of the new unique and rich first national representative longitudinal survey, the National Income Dynamics Study (NIDS) that tracks changes in individual's livelihoods (SALDRU, 2009; Yu, 2012). The distinctiveness of NIDS data is that it is available in a panel format and can be used to investigate the structure and impact of the different aspects of socio-economic factors on household saving at a micro level.

Second, we complement previous studies by using recent and advanced econometric techniques – the panel data estimation procedure and estimate three panel data models - the fixed effects, random effects and the two stage least square (2SLS). The novelty of some of these models is their ability to overcome the problems of endogeneity bias, in addition to controlling for unobserved heterogeneity in cross-sectional unit, while presenting more accurate estimates of the coefficient related with various factors in question (Woolridge, 2002; Greene, 2005; Islam, 1995; Hsia, 2003; Liverpool and Winter-Nelson, 2010). To the best of our knowledge, there are no known studies this far that have used panel models to interrogate household savings since South Africa did not have any national representative micro data, with panel structure until recent when NIDS was commissioned in 2008. Apart from the introduction, the remaining sections of this study are structured as follows. Section 2 present an empirical literature, while section 3 provide our research methodology. In section 4, a

detailed econometric results are presented and section 5 provide the study's concluding remarks

2. EMPRICAL LITERATURE

The factors determining savings can be studied either at macro or at micro level. But most scholars have studies these factors at a macro level (see Ozcan et al., 2012; Simleit et al., 2011), with very few having shown their interest at a micro level. Notwithstanding the level in which these determinants are investigated, these studies have produced ambiguous results regarding the factors that are likely to influence household savings. Taking into account the driving objective of this study, this section review some of these studies.

Conversely, the majority of studies that have examined the determinants of savings have made use of the life cycle hypothesis propounded by Ando and Modigliani (1963). According to this hypothesis, an individual is a rational being whose attempt is to maximise utility subject to his/her budget constraints (Mbuthia, 2011; Obayelu, 2012; Attanasio, 1999). Thus, households can spread their lifetime consumption over their lives by building savings during their earning years and drawing from these savings to smooth consumption during retirement (Adewuyi et al., 2010). Accordingly, the life cycle hypothesis splits individuals' lifespan into two, thus the working phase and the retiring period (Modigliani, 1963; Crown, 2002; Adewuyi at al., 2010). This division reveals the importance of demographic variances such as age in explaining individual's saving behaviour. Consistent with this hypothesis, households can smooth their consumption over time, taking into account the anticipated changes in their resources based on age distribution (Modigliani and Brumberg, 1954; Romer, 2012). According to the life cycle hypothesis, household build assets during their working years with an aim of building a safety net when they retire (Abu et al., 2013). Precisely, young individuals are net savers in the early years of life, while the aged are predicted to be net borrowers (Modigliani, 1986).

Modigliani and Brumberg (1954) and Adewuyi et al. (2010) assert that individuals who are at their middle age are able to build more assets. Elbadawi and Mwega (2000); Adewuyi et al. (2010) and Abu et al. (2013) affirm that the middle age is usually the appropriate age in which an individual is able to pay off some debts that were accumulated during the earlier years, and saving for retirement is imminent. The final phase is when households reach retirement age

and their incomes fall to zero (Abu et al., 2013). Thus, individuals will fall back on their previous savings in order to smooth current consumption. As observed by Elbadawi and Mwega, (2000), Abu et al. (2013), Nwachukwun and Egwaikhide (2007), the life cycle insinuate that savings mainly depends on individual's life time income growth. Thus, an increase in households' income significantly raises savings (Abu et al., 2013; Nwachukwun and Egwaikhide, 2007).

Studies that have adopted the life cycle hypothesis as a standard model for can be divided into two sub-categories. The first sub-category being the those that have found support for the life cycle hypothesis, in terms of savings – income growth rate nexus. The main contributors include Wakabayashi and Mackellar (1999); Horioka and Wan (2007); Mahlo (2011), Mogale et al. (2013).

For example, Wakabayashi and Mackellar (1999) used the life cycle hypothesis as a standard model and used panel data for the Chinese province. The data used was for the period 1993 to 1998. Validating the life cycle hypothesis, the authors found that income was positively related to savings. The effect of dependency rate on savings was estimated to have an inverse relationship in both rural and urban areas of China. Arriving at similar conclusions, Horioka and Wan (2007) used Chinese provinces as a laboratory test ground and applied panel data estimation procedure utilising the 1995-2004 China's household survey. The authors found that lagged savings rate and income growth rate presented a positive and significant coefficients reinforcing the economic expectation. Yet the performance of age structure did not have a significant effect on household saving.

In South Africa the critical role played by income on saving was also highlighted by numerous studies. For instance, Mogale et al. (2013) used Cointegrating Vector Autoregressive framework (CVAR) and observed that household savings in South Africa were driven by income growth rate. These findings are in agreement with that of Mahlo (2011) who used ordinary least square method to examine household savings and income, consumption, interest rate and debt in South Africa. Using data from 1990 to 2009, he found a positive correlation between household savings and income, yet the nexus between savings, consumption and debt was negative. Implicitly, Mahlo (2011) concluded that household income is the key factor in household saving behaviour in South Africa.

In contrast, there are some studies that have disputed the conclusions of previous scholars who have found a positive correlation between savings and income (see Adewuyi et al., 2010; Chipote and Tsegaye, 2014; Simlet et al., 2011; Malumisa, 2013). For instance, Adewuyi et al. (2010) examined the factor influencing savings in ECOWAS countries during the period 1980-2006. Using panel data models comprising the pooled OLS, fixed effects and random effects, they found an inverse relationship between gross domestic income per capita, deposit rate, financial development, inflation, budget deficit and terms of trade. In their paper, Chipote and Tsegaye (2014) used time series annual data covering 1990-2011 and applied the Johansen Cointegration and the Error Correction Mechanism. These authors found that household income was negatively related to saving in South Africa. Simlet et al. (2011) has observed that an increase in South Africa's GDP leads to a simultaneous increase in consumption due to optimism resulting to a drop in savings rate. But these strange results dictates further investigation to establish the appropriate factors that have a significant impact on household savings in South Africa.

3. EMPIRICAL METHODOLOGY AND DATA SOURCE

The driving objective of this study is to investigate the determinants of household savings in South Africa using panel data. Taking into account the heterogeneity nature of the South African economy, this study develop a model that capture the peculiar features of South Africa. The analysis of empirical literature gave raise for the empirical model which embraces the standard life cycle hypothesis which we estimated as follows:

$$ZH_{it} = \alpha + \beta_1 Y_{it} + \beta_2 X_{it} + \varepsilon_{it} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (1)$$

Given that the life cycle hypothesis suggests that savings depends on the growth rate of income and age structure (Adewuyi et al., 2010; Horioka and Wan, 2007), the following factors apply: ZH_{it} is savings of household taken as the difference between income and expenditure. Yet Y_{it} denotes income level across households, while X_{it} is a set of socio-economic factors that reflect the characteristics of South Africa. The subscript β shows the estimated coefficients and ε_{it} denote the error term in the equation. Building from the above model, we estimate three panel data estimation techniques - the fixed effects, random effects and the 2SLS models. As mentioned in the introduction, the major attraction of some of these models are able to overcome the problems of endogeneity bias, in addition to accounting for unobserved heterogeneity in cross-sectional unit (Woolridge, 2002; Greene, 2003; Kudaisi, 2013).

Acknowledging the strength of panel data, we apply a balanced data set with equal observations for each household unit, and explicitly estimates the following multivariate specifications:

Fixed effects regression

$$LogHSAV_{it} = \beta_0 + \beta_1 LogINCO_{it} + \beta_2 X_{it} + \delta_i + y_{it} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \text{(2)}$$

Random effects regression

$$LogHSAV_{it} = \Phi_0 + \Phi_1 LogINCO_{it} + \Phi_1 X_{it} + y_{it} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \text{(3)}$$

In equation 4, we follow Balde (2011) and use the lagged value of income as a valid instrument and estimate a 2SLS to account for endogeneity bias as follows:

Two stage least square regression

$$LogHSAV_{it} = \alpha_0 + \alpha_1 LogINCO_{it-1} + \alpha_1 X_{it} + y_{it} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \text{(4)}$$

In all the above equations, the subscript *i* denotes each household at time *t*, and $LogHSAV_{it}$ is the log of households' savings. $LogINCO_{it}$ is the log of household income, while X_{it} signifies a set of control factors that reflect the peculiar characteristics of South Africa. Guided by the literature in selecting the pertinent factors, variables based on individual and regional characteristics were selected. Such variables include: employment status, family size, age and age square, education, gender, provincial characteristics and so forth. Taking into account that some of our variables are in log form, their coefficients should be interpreted as elasticities. The subscript β is as previous defined and y_{it} indicates the error term. Included in equation (2), δ_i captures each individual's specific time invariant unobservable to account for the heterogeneity bias. In equation (4), $LogINCO_{it-1}$ is the lagged value of household income used as an internal instrument to account for endogeneity bias (see for example, Abu et al., 2013; Balde, 2011).

3.1 Empirical procedure

The empirical strategy starts with the estimating the baseline model which account for heterogeneity bias in cross-sectional units, thus the fixed effect model. The distinctiveness of the fixed effects models resides on the fact that it allow arbitrary correlation between the unobserved heterogeneity and explanatory variables. The major drawback of the fixed effect model, apart from its ability to control heterogeneity in cross-sectional units, the model cannot

compute coefficient for time invariant variable. Given this issue, we then estimated the random effect model that embraces time-invariant variables (Kudaisi, 2013; Greene, 2000). Kudaisi (2013) affirms that the random effect model considers the individual effect as latent of the random factor and to formally integrate them into the residual term of a linear model (Albert, 2008). Likewise, the random effect model has some setbacks in the sense that it assumes that specific effects are unrelated with other explanatory variables (Kudaisi, 2013; Albert, 2008; Abu et al., 2013). We then use the Hausman test propounded by Hausaman in 1978 to choose between the fixed effects model and the random effects model. The Hausman test check a more efficient model over a less efficient, but consistent model to make sure that the more efficient model also gives consistent results (Hausman, 1978; Runsinarith, 2011). According to Akbar et al. (2011), the Hausman tests the null hypothesis that the coefficients estimated by the consistent fixed effect estimator are the same ($\beta_{WG} = \beta_{RE}$) as the ones estimated by the efficient random effect estimator. If these coefficients are insignificant (more than 0.05), then it is better to use the random effects. If we get a significant p-value (less than 0.05), however, we should use the fixed effects (Albert, 2008; Akbar et al., 2011).

Yet both the fixed effects and the random effects models have some weaknesses. As claimed by Horioka and Wan (2007) and Abu et al. (2013), these models assumes that the saving - income growth nexus is unidirectional and that there is no relationship between individual specific time invariant effects and the regressors. But in their studies, Balde (2011), Loayza et al. (2000), Abu et al. (2013), Sinha and Sinha (1998), Horioka and Wan (2007) found that income growth rate was endogenous related to savings. Though a rise in individual's income might increase savings, higher savings may also result in increased income growth (ibid). According to Abu et al. (2013), estimating such a causality would results to a potential endogeneity bias, rendering the estimates of both the fixed effect and the random effect biased. In the literature, it is a common practice to use 2SLS to account for endogeneity bias. This approach entails getting a factor that is highly correlated to an endogenous variable, but independent to the disturbance term (Abu et al., 2013). Balde (2011) assert that getting such variables is often difficult, but using a lagged value of explanatory factor as an internal instrument can be very helpful. We then used the lagged value of household income as an internal instrument to solve the endogeneity bias.

3.2 Data source

The data for this paper is generated mainly from three waves of a rich unique and first national representative longitudinal survey, the NIDS that tracks individual overtime to explore the determinants of household savings in South Africa (SALDRU, 2009; Yu, 2012). The NIDS was commissioned by the South African government, through The Presidency's Policy Coordination and Advisory Service in consultation with different state department, including the Statistics South Africa. The survey mainly focuses on individual's livelihood endeavours. The NIDS is administered by the University of Cape Town while South African Labour and Development Research Unit (SALDRU) being the implementing agency. The NIDS is a panel study of private individuals of all ages across South Africa and is designed as a biannual survey. The first survey was conducted in 2008 with a sample size of more than 28 000 individuals in 7 300 household across South Africa (SALDRU, 2009). Consequently, individuals who were interviewed in 2008 together are re-interviewed on biannual basis. The longitudinal survey continues to be repeated with the same individuals every two years, collecting both demographic and socio-economic information. According to SALDRU (2009), the project adopted a stratified two-stage sample design. The principal aim of NIDS is to get a deeper understanding of individuals who are getting ahead and those who are falling behind in South Africa (SALDRU, 2009; Yu, 2012). Moreover, it also investigate possible reasons why some individuals are making progress while others are not (Yu, 2012).

4. THE EMPIRICAL RESULTS

Before we presents the results of factors affecting household saving in South Africa, it would be important to provide the results of the Hausman test for the reasons stated in section 3.1 above. The test results reveals a significant Prob>chi2 of 0.016, rejecting the results of the random effect model. Based on the outcomes of the Hausman test, this study stresses the results of the preferred model, thus the fixed effect model. The multivariate regression results of the household savings models are depicted in Table 1. Column 2 contains the outcomes of baseline model using equation (2), thus, the fixed effect model. The empirical results contained in column 6, using equation (4) controls for a possible endogeneity using the 2SLS approach.

As reported in Table 1, the regression estimates of our baseline model shows that the log income has a positive and statistical impact on savings in South Africa. Looking first at the coefficient of $INCO$ (household income level), it is positive and statistically significant. The results shows that when income of household rises, the savings levels also increases to the same direction. Our results are consistent with the work of Horioka and Wan (2007), Akpan et al. (2011), Ayanwale and Bamire (2000), Rehnman et al., 2011; Kibet et al., 2009). These results satisfies the economic expectation of positive correlation between household savings and income as postulated by Ando and Modigliani (1963) life cycle hypothesis. Equally so, the results of other explanatory variables have the expected signs. For instance, employment status of the head of households exert a positive impact on savings. These results make economic sense since household can only save if they have employment that generate income (Issahaku, 2011).

A closer look at the savings – age nexus indicate an inverse relationship. Our findings are in agreement with the results of Teshome et al. (2013). The results of age validate the life cycle hypothesis. It suggest that as the age structure increases by one year, household saving also increase to the same direction (Rehman et al., 2010). In an attempt to capture the effect of the life cycle hypothesis, we have used the age squared. As explained earlier, the life cycle claims that an increase in the age of individuals would results in an increase in his/her savings prospects in the middle age (Rehman et al., 2011). But as an individual becomes older, his/her savings prospects would diminish. Equally so, the coefficient of age squared is negative and statistically significant, indicating that old aged individuals are net dis-saver (Ahmad and Asghar 2004).

Looking next at the coefficient of household size which is another important determinant of household savings, the results indicate that household size exert a negative and significant effect on savings in South Africa. The estimates suggest that larger households' size places an extra burden on consumption expenditure, thus, more budget is diverted to consumption expenditure resulting to low savings. These findings also concurs the research hypothesis and the results of Akpan et al., (2011) and Nigus (2015). However, a decrease in the dependency ratio relative to the working population would ease household budget constraints, thus improving household saving prospects (Nigus, 2015).

Another important factor influencing household saving is individual's education status. Results from the panel data reveals that education has a positive impact on household saving in South Africa. This positive impact is revealed in both categories of education, thus primary, secondary and tertiary. Apart from the positive results, the coefficient are also significant.

Table 1. Panel data estimates of household savings in South Africa based on fixed effects and two stage least square

	Control for heterogeneity				Correct for endogeneity	
	Fixed Effect Model		Random Effect Model		Two Stage-Least Square	
	coefficients	p-value	coefficients	p-value	Coefficients	p-value
H-inco	1.3376	0.00	0.02330	0.00	1.422163	0.00
H-size	-0.0556	0.00	-0.09360	0.00	-0.032117	0.00
H-age	0.0064	0.08	0.00760	0.22	0.004655	0.26
H-age-SQ	-0.0072	0.03	-0.00089	0.12	-0.00778	0.04
H-emplo	0.0112	0.00	0.54089	0.00	0.075356	0.02
H-gender	-0.0369	0.09	-0.20809	0.00	-0.028208	0.91
Eastern Cape	-0.1038	0.04	0.03593	0.97	-0.08632	0.18
Northern Cape	0.0236	0.03	0.34733	0.00	0.01258	0.01
Free State	-0.0793	0.31	-0.04473	0.64	0.05817	0.36
KwaZulu-Nat	-0.0453	0.41	-0.10159	0.30	-0.09856	0.32
North West	0.1034	0.42	0.05791	0.40	0.01059	0.81
Gauteng	0.13187	0.04	0.15975	0.07	0.13128	0.02
Mpumalanga	0.13485	0.13	0.12462	0.15	0.00420	0.92
Limpopo	-0.00645	0.94	0.12183	0.16	0.08166	0.16
Primary	0.12517	0.01	0.12664	0.01	0.0219	0.94
Secondary	0.32267	0.00	0.32766	0.00	0.0910	0.02
Matric	0. 12122	0.00	0.89557	0.00	0.0944	0.13
Tertiary	0. 88965	0.00	0.21418	0.00	0.0988	0.05

Source: Authors' own calculations based on 2008-2012 NIDS data

Having presented the findings based on the fixed effect model, we now turn to the results of the 2SLS. Recall that the assumption underpinning the fixed effect model is that income variable in the equation is not endogenously correlated with household savings. But if these variables are endogenously related, the estimates of the fixed effect model will be biased and inconsistent (Balde, 2011). In the literature, it is a common practice to use an instrumental variables approach which we also adopt for this study. But before applying the approach, we conducted an endogeneity test under the null hypothesis that the correlation between the error term of savings and income is zero. Hence, failure to reject the null hypothesis would actual mean we cannot reject that income is exogenous to household savings. If this is the case, then the results of the fixed effect model would be more effective than those of the 2SLS model. In

this study, the results of the test shows a chi-square statistic with a small *p*-value of 0.014, a sign of the presence of endogeneity bias.

In an attempt to control for the endogenity bias, we relied on the powerful 2SLS approach. We used the lagged value of income as an internal instrument, which is a standard procedure in the literature. The results of the lagged value of income shows a positive and significant coefficient. When compared to the results of the fixed effect model, the outcomes of the 2SLS have large magnitude. Moreover, the coefficients of other explanatory varies, such as house size, education, gender, age and age squared are still consistent with the results of the fixed effect model. We have also included provincial categories in our analysis due to migration. The results suggest that people in Gauteng, which is an economic hub of South Africa are likely to save when compared with provinces such as Limpopo and Eastern Cape.

5. CONCLUDING REMARKS AND RECOMMENDATIONS

5.1 Conclusion

We investigated the determinants of household savings in South Africa using panel data estimation procedure. We applied fixed effect, random effect and 2SLS regression. Panel data was preferred in this study due to its ability to overcome the problems of endogeneity bias, in addition to accounting for unobserved heterogeneity in cross-sectional units. The study applied three waves of the new unique and rich first national representative longitudinal survey, the NIDS, which tracks the individuals over time. The novelty of NIDS data is that it is available in a panel format and can be used to investigate the structure and impact of different aspects of socio-economic factors on household saving. The analysis found that household savings in South Africa was driven by income of the head of household, employment status and educational level. On the other hand, factors such as household size and age of the head of household was found to be negatively related to savings. It has been observed in the study that increased households size places an extra burden on households' savings. Therefore, we conclude that our findings that savings in South Africa are driven by household income is plausible.

5.2 Recommendations

National savings are often seen as instrumental in achieving high economic growth at a country level. It is not a secret that savings leads to investment which also give rise to industrial growth, employment opportunities, stable prices and economic development. Moreover, savings generated in a country can be used as a source of funds to achieve the above without having to seek external assistance outside the country even during period of economic downturn. So, questions should be asked as to what measures South Africa should take to improve savings. Grounded on the study empirical results, this study indorse the following three policy recommendations – (i) Since the panel data results have found household disposable income as a major determinants of savings in South Africa, we recommend that policy makers should design and implement policies that fosters job creation and reduce underemployment, (ii) As household level of education being considered as another important determinants of savings, the South African government and the financial sector should be in the forefront in instilling a savings culture to the through financial literacy. Financial literacy should begin at primary level in all government schools. Though the South African government has already provided free basic education, this initiative is limited in rural areas. Tertiary institutions should increase their efforts in reducing high drop-outs and support students to complete their education, (iii) The results of household size was found to have an inverse relationship with savings. We recommend the government to introduce and implement novel ways of family planning, especially in rural areas.

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