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EXAMINING LONG RUN RELATIONSHIP BETWEEN HOUSEHOLD DEBT AND HOUSEHOLD SAVINGS IN SOUTH AFRICA – AN ERROR CORRECTION MODEL AND GRANGER CAUSALITY

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ABSTRACT

Savings is vital to maintain and expand an economy's capital structure and economic growth. Saving is an important component of economic growth model in that investments are created from savings. Investment allows an opportunity to improve technology and thereby increasing levels of productivity. Increasing levels of productivity lead to increased real wages. The end result of increasing real wage is improvement of the welfare of the nation. Nevertheless, savings have been declining over the years, placing the South African economic development agenda in jeopardy. Since 1984, savings have deteriorated significantly, reaching a mere 15.3 percent of GDP in 2009 (SARB, 2010). The decline in savings at the beginning of the 1980s coincided with increased access to credit by households. Alongside these developments net wealth of the households increased relative to their disposable income (South African Reserve Bank (SARB), 2002). Mutyaba (2013) states that savings declined considerably during the last decade in South Africa. In 2006, for example, savings turned negative. In contrast, during the same year the debt increased to its highest level ever Mutyaba (2013). Clearly voluntary savings are becoming even more unaffordable by a number of households in South Africa, mainly amongst the low earners (Chiroro, 2010). This study uses Engle & Granger cointegration approach and granger causality to examine the link between debt and savings in South Africa.

Keywords: Household savings, Household debt, Cointegration, error correction, Granger causality, Causal relationship.

Contribution/ Originality

This paper makes a contribution towards the household savings discourse in South Africa. The use of Engle and Granger cointegration approach to examine the link between household savings and household debt in this paper is one of the very few studies in this area in South Africa.

1. INTRODUCTION

Saving is vital for maintaining and expanding the economy. The capital structure of the economy depends on the magnitude of savings in the country. It is through savings that the level of investments may be increased. One of the goals of economic policy in South Africa is to capital formation through which wealth may be generated. Capital formation helps to boost technological improvements, thereby improving the level of productivity. In any growth model, savings is an essential part. Accordingly the rate of savings in the economy determines the rate of investments which in turn leads to economic growth (Todaro and Smith, 2011).

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However, economic growth is not an end in itself, but a means to an end. In this regard growth leads to economic development through an equitable distribution of income. Savings therefore act as a catalyst for growth (Prinsloo, 2000; Davidson, 2007; Hess, 2010). Despite the importance of savings in the economy, South Africa has been witnessing a decline in savings over the years.

Since 1984, savings have deteriorated significantly, reaching 15.3 percent of GDP in 2009 (SARB, 2010). Whilst savings we deteriorating during the 1980s access to credit by households was increasing considerably. Also wealth of households relative to their disposable income was also increasing (SARB, 2002; Mutyaba, 2013). By 2006, household savings were negative whilst debt increased to its highest level (Mutyaba, 2013). Clearly there was an absence of savings behaviour in South Africa during this time (Chiroro, 2010) especially amongst the low income earners (Chiroro, 2010). In fact approximately 72% of adult South Africans were not saving at all (Chiroro, 2010). Dimant (2012) asserts a view that for the period 1990 to 2010, the savings rate in South Africa dropped from 2.4% to -0.3%.

2. CONTEXT

Debt refers to an obligation or liability to pay back borrowed money. Further, in some cases, borrowers are required to provide a collateral in order to secure the loan. The lender is entitled to take this collateral in cases of defaulting payments. One kind of secured debt is mortgage debt secured on houses, other buildings or land, (Prinsloo, 1995). Empirical data show, however, that consumer debt (private household debt) accounted on average for more than 93 percent of total debt. Clearly private consumption and consumer credit are subject to consumers' borrowing behaviour. This means that people are living way beyond their means.

There are two major components of debt namely, credit and mortgage advances (Prinsloo, 1995). Household or consumer credit is, in turn, subdivided into open accounts, personal loans at banks and access to credit card, instalments sale transactions and lease agreements. During the period 1978 to 1985 as a result of de Kock Commission reports, more attention was paid towards financial liberalization (Aron and Muellbauer, 2000).

It was in the 1980s that interest and credit controls were removed in South Africa. Aron and Muellbauer (2000) state that financial liberalization had a huge impact on the ratio of debt to income. South Africans gained more access to credit thus allowing them to finance their living through accumulation of debt. Obtaining a credit in South Africa is so easy that people can buy whatever they want on credit irrespective of its affordability (Le Roux, 2012). Most people live on monies they do not actually have.

Since 1970s debt increased significantly, reaching a high record of 50 percent by 1988. The lower level of savings rate during the 1980s through to 1990s was accompanies by higher ratio of consumer credit to disposable income of households. Debt, in relation to disposable income, fluctuated between the bounds of 47.5 percent and 57.8 over the period 1988–2004. Increases in mortgage advances since 1991 resulted in a sharp increase in debt. Between 1990 and 2006 household debt ratio to disposable income fluctuated between 50.6% and 71.8% respectively.

Mounting personal debt triggered insufficient savings among South Africans which eventually culminated to low savings ratio. This increase in debt was mainly propelled by low interest rate during this period. Debt reached 82.4 percent during the first quarter of 2008 just prior to the recession. However, household debt began to slow down to approximately 76.4 percent in 2011. However in 2012 debt to disposable income ratio began to rise again to approximately 76.75 percent. However, this was still below the figure of 2008 which was 82.4 percent.

3. ROLE OF SAVINGS IN THE NATIONAL ECONOMY

Savings provide an opportunity for investments in capital the economy. This in turn promotes economic development through a trickle-down effect. Investments are an essential ingredient for growth policies in South Africa. Capital formation presents an opportunity for increased productivity through technological progress. This consequently leads to increased real wages, and thereby allowing for the permanent improvement of the standards of living of the population. In a closed economy where there is absence of foreign trade investment would probably be equal to savings. However where there is international trade there may be some imbalance between domestic saving and domestic investment. This difference is reflected in the current account either as a deficit or a surplus. A deficit in the current account has to be financed by a surplus in the capital account. This imbalance will have a depressing effect on the exchange rate which has an inflationary effect. It therefore follows that a strong saving performance is a precondition for macroeconomic stability; needless to mention that an increase in the saving rate provides a means to accelerate economic growth in the economy (Prinsloo, 2000). Nevertheless the level of savings in the economy is determined by decisions of a number of institutions and individual households.

4. PROBLEM AND ITS SETTING

Savings in South Africa decreased to R-2 286 million in the first quarter of 2014 from R- 983 million in the fourth quarter of 2013 (SARB, 2014). Savings further decreased to −R-3102 million in the second quarter of 2014. Despite this decline in savings disposable incomes increased from R21121.78 million in the fourth quarter of 2013 to R21451.56 million in the first quarter of 2014. Disposable income averaged R415172.16 million from 1960 until 2014, reaching a peak of R21451.56 million in the first quarter of 2014.

Over the years, South African consumers have accumulated more debt through borrowing (Mutyaba, 2013). This has led to a culture of dissaving by households (Prinsloo, 2000). Prinsloo (2000) asserts that quarterly data on savings ratio provides evidence of a slowdown in savings since the beginning of 1997. Aron and Muellbauer (2000) postulate that corporate savings act as a cushion for overall savings in the country since household savings cease to exist. The level of savings in South Africa is ranked poor compared with other emerging economies.

Savings by households have remained low since the mid-2000s (Ojah and Mokoalel, 2010). Amongst others, explanation for low growth trap experienced by South Africa since the mid-1980s is due to the persistent decline in national savings. In order to reduce South Africa's dependence on external debt or foreign investment South Africa needs to take strong measures in order to reverse this trend.

5. OBJECTIVES OF THE STUDY

The objectives of this study are as follows:
- To assess the relationship between savings and debt.
- To test for cointegration and error correction between savings and debt.
- To test for granger causality between savings and debt.
- To provide some policy recommendations.

6. HYPOTHESIS

- H_0: Household debt does not have a long run causal relationship with household savings
- H_A: Household debt has a long run causal relationship with household savings in South Africa.

7. RESEARCH METHODOLOGY

This study uses Engle and Granger cointegration techniques to test the above hypothesis. Cointegration analysis provides an adequate framework for estimating long-run equilibrium. Specific steps in the research methodology are outlined in the following sub-sections.

7.1. The Engle-Granger Error Correction Model

The Engle-Granger Model provides a reliable test for the long-run equilibrium in the variables. In the first step, all dynamics are ignored and the cointegration regression is estimated using Ordinary Least Squares (OLS) as follows:

$$C_t = \beta Y_t + u_t \quad\text{...(1)}$$

In equation (1) above both Ct and Yt are assumed to be nonstationary variables.

In order for C_t and Y_t to be cointegrated, the estimated residuals from Eq. (1) should be stationary (i.e. $u_t \sim I(0)$ and integrated in the order of one. If the variables in Eq. (1) are nonstationary the regression will be inadequate and spurious and therefore cannot be relied on Engle and Yoo (1991); Park and Phillips (1988); Phillips and Hansen (1990) and West (1987).

The second step of Engle and Granger cointegration is to estimate short-run dynamics of the error correction (ECM). If a true cointegration exists then there will be an error correction (ECM). On finding cointegration between C_t and Y_t, we obtain the estimate of β from Eq.(1), and insert it in place of β in the error-correction term (Ct-βYt) as follows:

$$\Delta C_t = \alpha_1 \Delta Y_t + \alpha_2 (C - \beta Y)_{t-1} + \varepsilon_t \quad\text{...(2)}$$

Where Δ represents first-differences and εt is the error term.

7.2. Model Specification

In this paper we model household savings as a function of real disposable income (Y_d) as follows:

$$H_{SV} = f(H_d) \quad\text{.. (3)}$$

Where:

H_{SV}-   is   ratio of household savings to household disposable income

H_d -   is the ratio of household debt to disposable income.

The econometric form of equation (3) above is represented as:

$$H_{Svt} = \beta_0 + \beta_1 H_{dt} + \varepsilon_t \quad\text{...(4)}$$

Where:

β_0 =intercept of the relationship in the model or a constant.

β_1 = coefficients of each independent or explanatory variables to be estimated.

ε_t = Stochastic error term

The above equation is expressed in a *semilog* form as follows:

$$H_{Svt} = \beta_0 + \beta_1 ln H_{dt} + \varepsilon_t, \varepsilon_t \sim \text{I.I.D}(0, \S^2) \quad\text{..(5)}$$

Where *ln* represents natural logarithm.

7.3. Econometric Procedures

The econometric procedures followed in this paper are as follows:

- We test for unit root using the augmented Dickey- Fuller (ADF), Phillips-Perron unit root test and KPSS tests.

- In order to test for cointegration we use Engle and Granger cointegration test. We also run granger causality tests in order to establish the direction of causality between the two variables.

7.3.1. Unit Root Tests

Three Unit Root tests are used in this paper, namely, Augmented Dickey-Fuller, Phillips-Perron test and Kwiatkowski, Phillips, Schmidt and Shin. Phillips-Perron uses non-parametric statistical methods to take care of the serial correlation in the error terms without adding lagged difference terms. Phillips-Perron tests are similar to ADF tests, but they add an automatic correction to the Dickey Fuller procedure in order to permit for auto correlated residuals (Brooks, 2008). The Phillips-Perron and Augmented Dickey-Fuller tests have the similar asymptotic distribution. Phillips-Perron tests often give similar conclusions as the ADF test (Brooks, 2008).

KPSS null hypothesis is stationarity of a series. The alternative hypothesis assumes that a series is non-stationary due to presence of a unit root. The ADF test uses the lagged values of the dependent variable ΔY_t. The null hypothesis for an ADF test for unit root test is $\alpha_1 = 0$. The following regression is for ADF test purposes is presented:

$$\Delta Y_t = \beta_1 + \beta_{2t} + \delta Y_{t-1} + \alpha_i \sum_{i=1}^{m} \Delta Y_{t-1} + \varepsilon_t \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots..(6)$$

Where ε_t is a white noise error term and $\Delta Y_{t-1} = (Y_{t-1} - \Delta Y_{t-2})$ is the number of lagged difference terms (Gujarati, 1995).

Nevertheless, the ADF test is not without shortcomings. For example, the ADF test has good size but poor power properties (Paramaiah and Akway, 2008). The number of lagged difference terms to include is often determined empirically, the idea being to include enough terms so that the error term is serially uncorrelated (Gujarati, 2004). In ADF, the test is whether $\delta = 0$ and the ADF test follows asymptotic distribution. The value of ADF is then compared with the critical value. If the calculated value is greater than the critical, we reject the null hypothesis that the series has unit root, thus confirming that the series is stationary.

The Phillips–Perron test on the other hand is mainly concerned about the process generating data since Y_t might have a higher order of autocorrelation than is acceptable in the test equation; making Y_{t-1} endogenous and thus invalidating the Dickey–Fuller t-test. Whilst the Augmented Dickey–Fuller test addresses this issue by introducing lags of ∇Y_t as regressors in the test equation, the Phillips–Perron test makes a non-parametric correction to the t-test statistic. The test is robust with respect to unspecified autocorrelation and heteroscedasticity in the disturbance process of the test equation (Phillips and Perron, 1988).

As presented in table 1 above, Augmented Dickey Fuller, Phillips Perron and KPSS tests were conducted to test for stationarity for all variables. Both ADF and PP tests show that H_{sv} is stationary at levels whilst KPSS test indicate that H_{sv} has a unit root at levels and therefore was differenced. The ADF and PP tests show similar results on all variables tested. In both these tests (ADF and PP); H_d has unit root at levels and therefore had to be differenced. Similarly, KPSS test indicate that H_d is not stationary at levels and thus had to be differenced in order to make this variable stationary (Gujarati, 2004). All variables were differenced once and are all of the same order I(1).

7.4. Unit Root Test results

Table-1. Tests for stationarity

Augmented Dickey Fuller H₀: ρ = 1			Phillips Perron H₀: ρ = 1		KPSS H₀: ρ = 0	
Variable	Model	t-stat	Model	t-stat	Model	LM-stat
H_{sv}	τμ	-2.627334*	τμ	-4.458905***	τμ	1.219380***
	ττ	-5.562373***	Tτ	-7.891296***	ττ	0.271855***
	τ	-4.562373***	T	-3.771180***		
ΔH_{sv}					τμ	0.432237
					ττ	0.500000
H_d	τμ	-0.950536	τμ	-0.829711	τμ	0.994935***
	ττ	-2.932703	ττ	-2.168883	ττ	0.116934***
	τ	0.634039	τ	0.734284		
ΔH_d	τμ	-4.367060***	τμ	-10.93580***	τμ	0.101582
	ττ	-4.363666***	ττ	-10.91831***	ττ	0.081011
	τ	-4.298178***	τ	-10.90637***		

Significance level: ***(1%), **(5%), *(10%)

Source: Author's own computation

7.5. Test for Cointegration

Table-2. Engle-Granger cointegration Test

Dependent	tau-statistic	Prob.*	z-statistic	Prob.*
DH_s	-3.431216	0.0451	-24.14357	0.0174
DLH_d	-3.588433	0.0303	-28.30529	0.0063

Source: Authors own computation

Since P-value < 0.005, we reject the null and conclude that there is a long run equilibrium in the series.

7.6. OLS Regression Results

Table 3: Ordinary Least Squares Regression Model

Dependent variable: DH_s

DLH_d -0.367034

      (0.039888)

      [-11.70869]   *p-value = 0.0000****

$R^2 = 0.531177$ *Adj R^2 0.527303*

F-Statistic = 137.0934

Prob(F-statistic) = 0.000000   *DW = 2.2*

OLS results above show a negative relationship between household savings and debt. A percentage increase in debt decreases household savings rate by 36%. The relationship between debt and household savings is statistically significant at 1% level of significance. We thus reject the null hypothesis and conclude that there is a long run significant relationship between household savings and debt. Further analysis show that the model explains 53% of the variations in household savings ($R^2 =0.53$; *adj R^2 0.53*); the remainder, 47% is explained by other important variables but which are omitted in the, model. The overall model is also significant at 1% level of significance with the F-statistics (137.0934) greater than the critical F statistics. We also conclude that there is no

serial correlation in the model as shown by DW statistics = 2. These results clearly show that debt act as a deterrent to savings.

South Africa has liberalized its financial sector to a large extent over the past decade. Banks and building societies have considerably expanded their credit to households for housing finance and consumer credit. As noted above, financial liberalization seems to have played an important role in explaining the decline of household savings. Debt as a percentage of household income has increased dramatically, from under 55% in 2001 to approximately 80% in 2009. While still well below the level of debt of some highly indebted countries (such as the United States, where the debt-income ratio was 138% in 2007), the high level of debt incurred by households, coupled with low levels of saving, could have a negative impact on future consumption by households.

In terms of the National Credit Regulator (2012) consumer lending of unsecured loans and credit card advances has increased in recent years fuelling the growth of debt in South Africa. Furthermore, the substantial decline in interest rates since 2001 has reduced interest payments on mortgage loans which account for the bulk of the household debt-service payments in South Africa (Marcus, 2012). The aggregate household debt in South Africa has continued to increase over the past two decades especially among the middle class (Cronjé and Roux, 2010). This is affirmed by the governor of the Reserve Bank of South Africa (SARB), who expressed growing concern regarding the unwarranted levels of debt in relation to the disposable income ratio. As such, the process of credit provision has been under the spotlight for some time. Despite the desire to cut down debt through extension of credit, the accommodative monetary policy stance of the Reserve Bank results in opposite outcomes in that it encourages access to credit (Hoosain, 2012).

Households use credit to fund purchases of durable consumer goods and services, and they use it to bridge temporary drops in income, for instance over the business cycle. It can be concluded that the increase in debt in South Africa is partly a process of a structural nature. A combination of such factors as credit liberalization, higher disposable income, low net wealth and periods of low interest rates explain the rising levels of debt. A number of people in South Africa lack the necessary financial literacy skills to make competent and effective personal financial choices (Joo, 1998; Kim, 2000). This contributes towards deeper indebtedness of the majority of South African households. It can therefore be concluded that the increase in debt in South Africa is partly a process of a structural nature. At the same time, household wealth is negligibly low, indicating low savings and very little investment in assets. Low interest rates during the period (2004-2011) and a general increase in household income have supported household consumption expenditure in South Africa thereby sustaining high household indebtedness.

7.7. Household Savings and Household Debt Short-Run Dynamics

Given the evidence of long run equilibrium between debt and savings, it is important to understand the short run adjustment or the speed of adjustment in cases of short run disequilibrium. The short run adjustment procedure is expressed in terms of equation (5) abovebut including its lagged residuals as follows:

$$DH_{st} = \beta_0 + \beta_1 DLHdt + \varepsilon_t(-1) + \mu_t \qquad\qquad (7)$$

The results of equation (7) are presented in table 3 below:

Table-3. Short-run adjustment

Variable	Coefficient	Std Error	t-stat	Prob
C	0.000474	0.001034	0.458758	0.6472
DLHHdebt	−0.437040	0.038784	−11.26844	0.0000
$\varepsilon_t(-1)$	−0.176922	0.045967	−3.848913	0.0002

Source: Author's own computation

The results in table 3 above show evidence of short run adjustments. A requirement to fulfil this condition is that the speed of adjustment coefficient should be negative and that it should be statistically significant. Data in table 3 above show a negative coefficient of -0.176 and is statistically significant (p value = 0.0002). The results mean that the short run disequilibrium in the long run relationship between savings and debt is 0.18; meaning that only 18% of disequilibrium is corrected in a short run.

The above model was subjected to various diagnostic tests and these are reported in the following section.

7.8. Diagnostic Test

Diagnostic tests that are tested in this section are heteroscedasticity, misspecification test using recursive residuals and normality test.

Table-4. Diagnostic tests

Test	t-stat	Mean of squared residuals	DW-stat	P value	Decision
Heteroscedasticty: Breusch–Pagan–Godfrey				0.2024	Fail to reject H_0
Ramsey RESET Test	1.844290			0.0676	Fail to reject H_0 of no misspecification at 5% level of significance
Normality: mean of squared residuals		0.000134			Fail to reject H_0 of normality and conclude that $\varepsilon_t \sim I.I.D(0, \S^2)$
Serial Correlation			2.2		Fail to reject H_0 of no serial correction

Source: Author's own computation

The results in table 4 above prove that the model used in this paper is both adequate and robust and that the results may be used for inferential purposes. Having established that there is a cointegration between savings and debt, it is important to check if this relationship is a causal relationship. In order to achieve this we conduct a granger causality econometric procedures:

8. GRANGER CAUSALITY

Granger Causality, in the case of two time-series variables, X and Y: X Granger-causes Y if Y can be better predicted using the histories of both X and Y than it can by using the history of Y alone.

Granger causality is tested by estimating the following VAR model:

$$Y_t = a_0 + a_1 Y_{t-1} + ... + a_p Y_{t-p} + b_1 X_{t-1} + ... + b_p X_{t-p} + u_t \quad .... \quad (8)$$

$$X_t = c_0 + c_1 X_{t-1} + ... + c_p X_{t-p} + d_1 Y_{t-1} + ... + d_p Y_{t-p} + v_t \quad .... \quad (9)$$

Then, testing H_0: $b_1 = b_2 = ... = b_p = 0$, against H_A: 'Not H_0', is a test that X *does not* Granger-cause Y. Similarly, testing H_0: $d_1 = d_2 = ... = d_p = 0$, against H_A: 'Not H_0', is a test that Y *does not* Granger-cause X. In each case, a *rejection* of the null implies there is Granger causality.

Table-5. Pairwise Granger Causality Test

Null hypothesis: Lags 1	Obs	F-Statistics	Prob	Decision
DLHHDEBTS does not granger Cause DHHSAVINGS	122	2.07959	0.1519	Fail to reject H_0
DHHSAVINGS does not granger Cause DLHHDEBT	122	14.8037	0.0002	Reject H_0

Source: Author's own computation

The results in table 5 above show that debts do not granger cause household savings but rather savings granger causes debts. This means that household debts cannot be used to predict household savings but savings can be used to predict debts. Based on this finding it can be inferred that savings are a gateway for debt accumulation in that household may use debts as a collateral for loans and this further places household in debts.

9. IMPLICATIONS OF THE FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

The South African economy is characterised by income inequality. A large section of the population has very little income. Most people are concerned about how to survive in a short term. People have a greater desire to consume than to save (Cronjé and Roux, 2010). Lorgat (2003) states that South Africans lack a comprehensive savings culture. This is caused by manifested financial illiteracy on the part of the consumer. Workers are spending the majority of their income on consumption, leaving little money for savings or investments. South Africa is a consuming nation and this is validated by the fact that consumer spending outstrips disposable income. Mutezo (2014) postulates that unsecured borrowing in South Africa has risen faster than household disposable income, raising concerns among policy makers. As a result, household spending has outstripped domestic income. Whatever the shortfall is being funded by credit a bank credit. Nevertheless, increasing borrowing to finance consumption may also stimulate the economy through increased demand (Rajan and Zingales, 2003). However there is concern that high levels of debt may curtail spending in the future and hence, slow down economic growth in the long run. Therefore, low levels of disposable income whilst consumer spending increases makes it difficult if not impossible for households to save.

An article by Mnyande (2010) from the SARB states that sound saving decisions, like all resource allocation decisions, are best taken in an environment of price and financial stability. Therefore, the impact of monetary policy on savings depends on ensuring both price and financial stability in South Africa. This will help in ensuring a balanced and sustainable growth and development. Mnyande (2010) further postulates that domestic saving and capital inflows from abroad tend to thrive in economies that are characterised by price stability. The savings behaviour of economic agents is to a large extent subject to institutional and structural factors within an economy. Key to any environment which is conducive to positive savings behaviour is the absence of negative real interest rates, giving rise to consumption behaviour being financed by "cheap" money. An environment which is characterised by low and stable inflation gives rise to more sound savings decisions, and accordingly enables better resource allocation. Pertinent to the promotion of saving is the absence of punitive taxation on the returns to saving. This means that excessive reliance on short-term monetary policy measures to control savings should be avoided, due to possible perverse reaction to such measures.

Excessive reliance on short-term monetary policy measures to control savings seems to be inappropriate, given the importance of structural factors and likelihood of perverse reactions to such measures. To this end this paper recommends an establishment of a compulsory social security and retirement savings scheme for all citizens which would greatly enhance the accumulation of savings in the country. It is further submitted that the retirement fund reforms are supported by continued tighter control of household access to credit and credit extension.

Financial liberalization, which led to easy access to credit by the households, culminating at high level of household debt, has been recorded as a key reason for the low household savings levels in South Africa. It is in this context that we recommend that measures to increase public access to financial education, giving guidance and also equipping people with the tools and knowledge to manage their money more effectively be implemented. These measures should be designed in such a way that information is user-friendly. Not only should information be directed at an awareness of available financial instruments and the value of savings, it should warn against falling into excessive debt patterns. It is important therefore that aggressive campaigns to encourage and instil a culture of saving in South Africans be held country wide.

The avoidance of large budget deficits by government will be conducive to prudent savings behaviour. Furthermore, the establishment of investment-friendly savings tools such as the RSA Retail Bonds initiative should be encouraged and supported. It goes without saying that sound and trustworthy saving institutions form the backbone of any sustainable savings drive in a country. Therefore, from the policymakers' perspective, an optimal combination of monetary and fiscal policies would go a long way in establishing a dynamic long run relationship between household savings and its determinants

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