Self-employment, Broad Money, Interest Rates Spread and Their Impact on Savings: The Case for Kenya

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Abstract:
This study investigated the relationship between Self-employment, Monetary policy, and Interest rates spread and the Gross national savings in Kenya between 2004 and 2018 using Multiple regression model on IBM SPSS 26. The descriptive statistics showed a linear correlation between predictor and outcome variables using Auto Regressive Distributive Lag (ARDL) and Granger Causality method, further analysis revealed that of the three variables Broad Money Supply contributed most to the variance of the outcome at .762. The study therefore concludes there is a significant correlation between the three predictor variables and the outcome variable, and the model can be used for prediction purpose for forecasting. The paper recommends that the National Government eases the burden of the self-employed people in order that they may maximize their earnings in that sector especially as the owners of SMEs. Also, banks should be encouraged to have more innovative savings products. This will help the country have a locally developed savings culture that would support a nationally developed capital base. The paper recommends Government minimizes external borrowing so that more resources are directed to the private sector to help them grow the national wealth and create employment, while Banks be encouraged to pursue a modest interest rates spread.

Keywords: Self-Employment, money supply, interest rates, savings

1. Introduction

1.1. Background to the Study
With growing marginalization of the large part of our society due to a lack of safety nets normally financed by a national government, and lack of employment due to global and national macroeconomics challenges it is becoming imperative to encourage self-employment as a means of creating jobs and wealth. When properly nurtured this sector has played a significant role in wealth creation many developed and developing nations. Berggren &Olofsson (2021) say that European Policies, emphasise the importance of entrepreneurship and self-employment to maintain economic growth, a solution influenced by USA and research from schools of business. There is a strong argument to empower the young population where in Kenya this form 75% of the population below 30 years compared with European 33 years average (Wortham, 1993). This is supported by some comparative national advantage of this population being more technology driven. Duncombe & Boateng, (2009) have opined that growth of nations will be based on new technologies, and be information driven. However, an often-cited drawback to self-employment are the numerous licenses and regulatory requirements that often hinder the growth of the sector. Coupled with this, is the need to provide collateral that most banks demand of young people mainly out of University that often stagnates many businesses that would otherwise flourish by taking advantage of the digital transformation. On the other hand, Broad Money Supply when it is properly directed ensures the money that is in supply will be utilized for the purposes of business, and that the balance will be saved within the national economy.

A government policy that favours and expansionist broad money policy would be useful for national savings and intermediation in South East Asia economies (Chaitip, Chokethaworn, Chaiboonsri, and Khounkalax 2015). Other areas where they broad money policy would be beneficial to the national economy would be in the area of value addition. Horizontal and vertical integration, and greater compliance to tax laws and other fiscal obligations for many SME will happen if have ready access to capital, and this can only happen with better intermediation by banks, as was researched in Nigeria (Chukwuonu, 2021). The Washington consensus of the 1980s prevailed upon the developing nations to a free their financial sector the interest rates and as a result today interest-rates have not been low enough to spur growth and development especially among the SMEs. According to Meng, Sun, Zhao and Zhu, (2020) many banks in China who adopted innovation and transformation with new products and services were able to improve on efficiency and realise good results reducing the impact of narrowing spreads.

Hassan and Akhter (2012), on the other hand concluded there where there was a high government deficit financing, this was seen to have a negative impact on economic growth in Bangladesh. Checherita and Rother (2010) There observed that the average effect of government debt on GDP growth for twelve-euro area countries over 40 years 1970 - 2009 had a nonlinear negative correlation and mainly affected private savings, public investments and real interest rates
as well as total factor productivity. There is a well-established school of thought that where banks who are the key intermediators in the financial sector to come up with innovative and value adding savings products, enhanced savings prosper and may turn nations from net borrowers with a high consumption and expenditure to one of net savers that will develop a capital base for development and economic growth. They were also seen to enhance financial literacy and financial inclusion in Uganda (Bongomin, Munene, and Yorougou, 2019).

2. Statement of the Problem

Kenya is yet to achieve a 10% GDP growth annually as outlined in her Vision 2030. The impact of COVID 19 has further eroded the hope to attain this, and other macro-economic goals. There is need to harness all sectors of the economy in order to achieve such developmental goals. Studies have shown that of the key drivers of economic growth and innovation is SME Sector (Karadag 2015). At the same time one of the major challenges facing this sector is lack of capital (Yurttdurad and Kaya 2012). According to the authors developmental goals cannot be reached for SMEs, especially hiring top notch managers and modernising technology to aid in production and marketing without affordable capital. The tests of their study revealed that SMEs grow largely with strong capital structure depending on its own, not preferring heavy borrowing, strengthening its financial structure continuously, improving its capacity utilization and its revenue base, and retain profit to strengthen capital. Self-employment/entrepreneurship is relevant for growth and job creation and unemployment reduction (Bokhari, Alothmany, and Magbool, 2012). There was original contribution by Grigorescu, Parciog, and Lincary, (2020) to the study effect of macro econometric empirical analysis of the relation between entrepreneurship and unemployment with the background of the labour market segmentation which has been lauded for positive economic growth in Romania. It is important to note most of the self-employed Kenyans and many emerging economies are in the SME sector and this is the fastest in job creation. Unemployment drives entrepreneurship and entrepreneurship reduces unemployment and this according to above studies point to a segmented labour market based on age, gender and education.

For a country to leap-frog to a middle-income economy needs to carefully manage savings to GDP ratio. Fry (1978) did a regression model of gross domestic savings on income, lagging savings ratio for a sample of seven Asian countries for the period 1962-1972. Real interest rates were found positively related to domestic savings and economic growth. Also using the sample of 33 developing countries over the period 1965-1985, the World Development Report (1989) found that a rapid economic growth pattern was correlated with higher real interest rates.

This calls for a concerted effort by national government to cut down on a recurrent expenditure and to source more and more development capital from domestic sources to avoid huge capital pay-outs in foreign debts. The Washington consensus of 1980 prevailed upon developing nations to liberalize their interest rates regimes, which in many cases has made the banking sector to be one of the most profitable sectors in many parts of Africa, often built on an liberalized interest rates regime that has for long seen an expansionist rates spread (Oshikoya, 1992). Financial liberalization was meant to assure that positive real deposit rates raise the savings rate; enhance financial inclusion; raise investment, and consequently grow the economy, but according to the study little evidence supported this in the case of Kenya.

The government has found itself competing with the private sector by borrowing heavily domestically. Many banks have found this to be a safe avenue of customers deposit because it is a risk less, but this has been the expense of loanable funds for the private sector especially amongst the self-employed (Muriithi, 2017). Self-employment as a percentage of total labour force in Kenya has been rising at an average rate of 63% over the last 10 years. Where this is coupled with a national expansionist broad money supply this could be successful in encouraging national savings, creating employment, and broadening the tax base in several developing nations. In South Korea for example where a broad based monetary policy was closely followed with a business friendly regulatory mechanism for self-employment and SME development, and complemented by a moderate interest rates spread in the financial sector it was possible to introduce innovation in the banking sector that encouraged savings to increase to 23% which in turn enabled the economy to leapfrog into a middle income status.

3. Conceptual Literature

3.1. Broad Money Supply

Sare, Ibrahim and Musah, (2019) opined that hitherto the key policy incentive in many countries on monetary policy comprise the twin responsibility of price stability and economic growth in Ghana. This is a departure from previous studies which did little to bring out this conceptual analysis. In this study they examined the threshold effects of inflation noting that while inflation negatively affects overall economic growth, their evidence suggests that inflation significantly inhibits growth when the broad money supply exceeds 21.5% of GDP World Bank Report (1989). Adu and Marbuah (2010) argue that Ghana's inflation is accounted for by myriad of structural and monetary factors notably real output, nominal exchange rate, broad money supply, nominal interest rate and fiscal deficit. This is typical of many African economies who are in the developmental stages. Martin Friedman Monetarism theory argued for free trade, smaller government, steady increase in money supply in a growing economy. He emphasised monetary policy and quantity theory of money, this however is no longer widely discussed in policy debates even as its basic framework is still relevant, almost fifty years ago (Hetzel 2017). This nexus of broad money and their effect on the growth of SMEs who, as observed earlier are mainly hampered by shortage of capital is conceptually relevant to our study as we examine the relation of the Broad Money supply and employment on savings, a key driver for the growth of the economy.
Praise and Jacob (2018) went further to emphasise that governments of countries in Sub-Saharan countries should focus more on implementing programs that support productive investments; foster favourable trade; improve productivity of labour and make the political environment stable and aided by favourable monetary policies. Literature often cites growth of money supply as major determinant of GDP growth as it creates aggregate demand which is stable over time (Inam and Ime, 2017). There is often a conceptual bi-directional relationship between money supply and gross domestic product, and following gross domestic product to money supply as we are often in a closed economy where government monetary policy affects money supply, and demand for goods and services which goes on to create employment as firms move in to enhance capacity to meet demand and this in turn creates employment and growth of the economy (Kenneth and Cedric, 2014).

3.2. Interest Rates Intermediation

Jessica Goldberg (2014) opines that people in developing countries can benefit from savings to take advantage of profitable investments opportunities to smooth out consumption when revenue streams are on the decline. Despites the benefits of savings only 41% of the adults in developing nations have formal bank accounts, and seldom do they use their bank accounts. Opportunities are plenty therefore for banks to design interesting and innovative products to encourage savings and investments. The products would work more amongst the lower pyramid of self-employed who form the bulk of the income producing part of the national population (Dupas and Robinson 2013). Poor households and self-employed persons may not afford to save especially due to the poor economy and low wages which have to compete with the basic needs: housing, health, education, food, and transport which have all shot up in the last decade or so. However, with proper social protection which are well-implemented and targeted, this may be reversed and a consistently achieve minimum growth trajectory of average 5% GDP.

Kenya can enhance savings which in turn could unlock more growth potential and create more jobs (Kimenyi, Mwega and Ndungu, 2016). The lack of opportunities and unemployment has seen to it that financial inclusion is low in Kenya and other developing nations. High income inequalities and comparative higher costs of basic needs like health and housing even when innovative products to save are there does not encourage enhanced savings. This has been a major constraint in savings mobilization and employment creation (O’Connell et.al 2010). Since the interest rate liberalization policy in 1980s banks have not embraced the financial inclusion which could see more persons open bank accounts and start savings, and increased rate spreads over time has been at the cost of savings ratios which was not the intended policy and developmental aim of financial liberalization. According to Akinsola and Odhiambo (2017) there was a negative correlation in savings and economic growth for SSA economies when the liberalization dummy was introduced to their model. It is noted however that with more access to more digital transformation Kenya and other developing nations may overcome such barriers to creation of employment and growth through easier access to markets and technology to upscale their skills and products and services range and thereby enhance savings for growth. Aly (2020) strongly posits that females are gaining in employment opportunities during what has now come to be identified as the fourth industrial revolution fired by the digital transformation and for many developing economies this is having a significant impact on SMEs and reducing unemployment as many more opportunities are created for goods and services. The paper sought to establish the correlation of digital transformation and labour productivity, job employment and economic growth as the digital transformation changes lifestyles. Conceptually connected with this is the role that banks can play to bridge the gap of economic stagnation. Poor services and lack of trusts has slowed down building up of savings, and investments amongst SMEs and self-employed individuals. Giving depositors real interest rates so that there is competitive return on investments while utilizing digital platforms to sell new banking and investment products may build up more confidence in enhancing savings, and more so if this is complimented by more education on financial literacy and services (Cole, Sampson, and Zia, 2011). In China several studies noted that marketization of interest rates as part of ongoing banking reforms resulted in commercial banks net interest margins narrowing significantly. This is supported by Ho and Saunders (1981) whose earlier study on similar conceptual model arrived at the same conclusion as the ultimate model of growth and interest rates spread is continually being sought.

4. Theoretical Framework

4.1. Self-employment

According to Szaban and Lubasinska (2017) theoretical framework study on self-employment, they say this can be traced to Cantillon the economist who first introduced the term ‘entrepreneur’ and goes on to quote Adam Smith who quotes Cantillon in his inquiry into the nature and causes of the wealth of nations 1776. According to the analysis of Cantillon, the working class is divided into two classes: employees with a fixed income, insured against the risk and those whose income is uncertain and depend on the result of their own activities. Cantillon calls the later entrepreneurs and differentiates them from owners of capital. The key characteristic of entrepreneurship is risk-bearing, and search for market chances.

According to Twinoburyo and Odhiambo (2018) study on the theoretical evolution of the relationship and the respective recent empirical findings of the correlation between monetary policy, employment and economic growth and concludes that there is a nexus or positive correlation for developing economies with fairly independent central banks but that the correlation between monetary policy and economic growth is fairly weak and undeveloped financial markets who in many cases have structural weaknesses in their basic economic and institutional frameworks supporting the financial sector and industry, and employment at large. The paper recommends intensive financial development measures for
developing countries as well as structural reforms to address supply side deficiencies in order to create more opportunities for self-employment.

4.2. Interest Rates Spread

Drehmann, Sorensen and Stringa, (2008) developed a general and theoretical framework to measure the riskiness of a bank which is subject to correlated interest rate risk and credit risk. Their framework accounts for all sources of credit risk, interest rate risk and their combined effect. They then model the whole balance sheet of a bank’s economic value as well as its future economic value and capital adequacy. Under normal stressed conditions they highlights that it is fundamental to measure the effect of correlated interest rate and credit risk jointly as well as the whole portfolio of banks assets, liabilities and off-balance sheet items in evaluating the impact of interest rates regime on the bank performance and valuation which both would then inform banks and policy makers on the desired interest rates policy. Hebbel and Serven, (2012) in their survey to review the determinants of savings rates with emphasis on financial liberalization builds on the theoretical framework prior of positive effect of financial liberalization on growth confirmed in their findings that the effect of financial liberalization on growth, channeled through higher investment improved resource allocation, and may lead to an increase in productivity, with similar conclusions drawn on Chilean experience where financial liberalization was vital among the structural reforms that gave impetus to growth, investment and savings (Fischer 1993).

5. Methodology

The paper uses the Auto Regressive Distributive Lag (ARDL) and Granger Causality method, and builds on the work of classical economist theory of Friedman, as amplified by Koti et al. (2016) who base their arguments on the John Maynard Keynes Liquidity Preference theory stating that increase in money supply enhances investment due to fall in interest rates, as it also raises the velocity of money. High interest rates increase inflation as suggested by Fisher (1940) on the benefits of velocity of money theory, but which may in turn raise the cost of production (Samuel 2015). According to the later there is need to regulate interest rates for faster economic growth. The data pertaining to the three variables was obtained from the World Bank Macro Data Base for all nations for the years 2004-2018 (API_KEN_DS2_en_excl_v2_1219585.xls). Broad Money and Interest rates both play a key role in economic growth (Sultana 2018).

5.1. Variable Specification

The study uses the standard multi regression method whereby three independent predictor variables will be used to predict the outcome for a single dependent or numerical variable. The outcome variable in our example will be the Gross Adjusted National Savings as a percentage of Gross National Income and is reflected by the variable (GSAV). Gross savings are the difference between gross national income and public and private consumption, plus net current transfers. The predictor variables in our model will be: the Broad Money Supply, (BMONS), defined as the sum of currency outside banks; demand deposit other than those of the central government; the time, savings, and foreign currency deposits of resident sectors rather than the central government; bank and traveller’s checks and other securities such as certificates of deposit and commercial paper. The second predictor variable; Interest Rate of Spread, (INTRSP), defined as the interest rate charged by banks on loans to private sector customers minus their interest rate paid by commercial banks or similar banks for demands, time, or savings deposits. The third and last predictor variable is the Labour Force Participation Rate (LABPRYo) defined as the labor force participation rate for ages 15 to 24 or the population proportion that is economically active: all peoples who supply labor for the production of goods and services for a specified period.

5.2. Testing the Assumptions

Before testing this model there are four key assumptions of the standard multi regression model requires; the first is the sample size; The rule of thumb here is that we typically want enough variability in the predictor variables in order to estimate with some accuracy what we want to estimate in the population and so typically if we using no more distribution with our outcome variable we would use a minimum of 15 cases. Next assumption is multicollinearity which measures the extent which of the predictor variables are correlated to each other. We want this number to be small because the more the predictor variables are somehow linked to each other the more we stand a chance of having a redundant variable. Typically, a multicollinearity with R factor of .9 or higher would indicate a multicollinearity. A collinearity measures the extent to which of the predictor variables are or is correlated with the outcome variable. This measures each predictor variables unique contribution to the outcome of variable.

A coefficient or R factor exceeding .7, being the measure of correlation between the predictor variables and the outcome variable would give us a reliable measure. The next assumption is one of outliers and many of the standard multi regression models are very sensitive to outliers whether these are too high or too low and a selection of outliers in both outcome and predictor variables would be part of our data screening process in our model. The fourth assumption we want to measure is one of linearity between the predictor variables with themselves on one hand and with the outcome variables on the other hand. If we estimate that there’s going to be some skewness in the distribution of either the outcome variable or the predictor variables it may be necessary to increase the sample size. The model specifications and thresholds are shown here below, in model equation parameters.
5.3. Method of Data Analysis

IBM SPSS V 26 was used as this software offers advanced statistical analysis, vast library of machine learning algorithms, text analysis, open-source extensibility, integration with big data and seamless deployment into applications including excel. SPSS Statistics supports a bottom-up, hypothesis testing of data.

5.4. Model Equation and Parameters

- N= 15 Time series from panel data 2004-2018
- Variables; GSAV, LABORYo, BMONS, INRSP.
- Pearson coefficient; Strength and direction of a linear relationship of X and Y variables, measured on OLS scale, r=.7 and above is considered statistically significant
- Multicollinearity; predictors correlation to each other. Not exceeding .9 is not considered multicollinearity problem
- Collinearity Statistics; measured by Tolerance level and Variance Inflation Factor, VIF 5 and 10 indicates high correlation that may be problematic. Tolerance is associated with each predictor variable and ranges from 0-1. Allison (1999) notes that there is no strict cut off for tolerance but suggests that a tolerance of below .4 is cause for concern, anything below .2 suggests serious multicollinearity in a model
- Outliers; Mahalanobus and Cooks Distance will measure for our data set the outliers. Using Chi Square, with 15 Degrees of freedom, P=.05 and critical value is 14.339. The Cooks Distance for influential outliers is a set of predictor variables and generally a Cook's D of more than 3 times the µ is a possible outlier and then our case µ as shown in the Descriptive Statistics are: .34, 2.6, and 1.4 respectively
- ANOVA; Rejecting Null hypothesis that there is no link whatsoever between GSAV and LABORYo, INRSP, and BMONS
- Linearity; Normal P-P Plot of regression

6. Summary of Findings

The output of our model as generated from IBM SPSS Statistics 26 is summarized below. Summary of findings. Babalola, Nwanzu (2021) say that Social Sciences Research is an enterprise that is continuously evolving, but not without some glitches that impede full potential for which they recommend that continuous striving for new tools and processes to increase use and interpretation of findings of social research is now more urgent as human survival both in commerce, industry and even household is heavily dependent on research findings. Social science is a process that is characterized by two sets of activities each affecting the other, first seeking the truth and secondly seeking to connect that truth (Bhattacherjee 2012). Our findings are as follows:

From the Pearson Coefficient Table, The R square of .750 means that the model is quite strong for predicting what may be happening in the population. That any variability in Gross National savings is likely due to the variability of the predictor variables. The model is therefore statistically significant.

The correlation coefficient for each of the predictor variable to the outcome variable are all above .3 which makes them strong predictors (-.475, -.672 and +.360) and as compared to each other the are all below .9 which makes multicollinearity not a problem (.007, .135, -.464).

Further multicollinearity statistics measure the Tolerance where a score of below .4 and VIF of between 5 and 10 both would indicate multicollinearity problem. In our observes cases the output of our experiment is .78, .97 and .76, VIF is 1.28, 1.02, and 1.30 which agains confirms our assumption of no significant multicollinearity of our predictor models. The ANOVA Null Hypothesis that there is not correlation between GSAV, LABORYo, BMONS, and INRSP and that any relationship is purely accidental is not proved which means we accept the alternative Hypothesis there is a relationship between the predictor variable and the three predictor variables, this is ecuse the ANOVA Table below of our experiment reveals a scored of .001 and not .000.

The Residuals Table for the outliers does not reveal any values in all our four variables which exceed the predicated values for the Mahalanobus and Cooks Distances as shown in the above parameters where the maxiumum calcualted is 11.234 compared to F Values of 14.239 for the Mahalonobus and the lowest µ = 1.3 *3= 3.9 much higher than the calculated Cooks D in the table below which (.457), means we have no multicollinearity problem.

On the issue of linearity we look at the Normal P-P Regression Plot Graph below where for linearity we need to establish a pattern where majority of the distribution is along the OLS or the perfect line and with not major concentration of distributions on either side of the Line of Best Fit. Our model has satisfied all the four requirements for a robust regression model that can be used for predciting an outcome variable given the predictable variables; Sample size, Multicollinearity, Outliers and linearity. The following tables are generated by the IBM SPSS 26 Statistical Editor

| Variable | Mean  | Std. Deviation | N  |
|----------|-------|----------------|----|
| GSAV     | 13.0313 | 2.10659        | 15 |
| LABORYo  | 6.6280  | .34726         | 15 |
| BMONS    | 39.0167 | 2.66059        | 15 |
| INRSP    | 8.1233  | 1.39380        | 15 |

Table 1: Descriptive Statistics
7. Conclusions and Recommendations

The finding of this study is that there is a negative linear correlation between Broad money, labour engagement rate and Gross national savings and a positive linear relationship between Interest rate spread and Gross national savings. This study therefore recommends the following for the government to act in the next development plan if the country’s growth targets are to be realized: 1) there is need to increase government expenditure patterns but this needs to be targeted to place more projects in the hands of SMEs and other self-employed individuals and groups of people. Accumulation of local deposits lowers public debt as governments shifts from external debt to finance infrastructure.
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