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APPLICATION OF MONETARY POLICIES TO ECONOMIC MANAGEMENT IN SUB-SAHARAN AFRICA

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Abstract

Sub-Saharan Africa has witnessed a low growth trajectory compared to other western countries. This has been mainly attributed to the policy frameworks in the region, as countries often fail to structurally adjust macroeconomic policies for sustainable growth in the region. The objective of this paper is empirically examine the application of monetary policies for economic management in Sub-Saharan African countries. The study used time series data from two African countries, specifically Kenya and Rwanda to examine the effect of broad money on gross domestic product growth rate. The study relied on secondary data; obtained from the World Bank Development Indicators database. The study analysed the data using both descriptive and inferential statistical technique. The hypothesis was tested using the Ordinary Least Squares (OLS) technique. The data were checked for normality and subjected to Unit Root tests using the Dickey Fuller, Augumented Dickey Fuller and Phillips-Perron text prior to further analysis. The results confirmed the stationarity of the data. The descriptive statistics showed that all variables were normally distributed. The OLS result showed that broad money growth had a positive statistically significant effect on GDP growth rate of both countries. Based on this, the study recommends, among others that countries in Africa borrow from the policy frameworks of the two countries in order to boost growth and development. To implement monetary policies that can spur entrepreneurship growth in the region; such as a slated minimum capital funding for entrepreneurs.

Keywords: MONETARY POLICIES, SUB-SAHARAN AFRICA

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1.0 Introduction

Monetary policies are specific policy measures taken by various Central Banks in order to regulate the value and supply of money in lieu of achieving a specific broad macroeconomic objective (Central Bank of Nigeria, 2006). As stated by Njoroge and Murinde (2021), the idea of monetary policy has a historical link to the creation of Bank of England in 1694. The various national Central Banks either act directly or indirectly from their bestowed regulatory powers or use influence to regulate the money market operations, in a bid to regulate the supply and demand of money in the economy. The objectives of monetary policy includes achieving a minimal or stable inflation rate regime, interest rate regulation, achieve economic growth and reduce the unemployment level. According to Adegbite and Alabi (2013) monetary policy has remained a vital policy instrument in developed and developing countries to regulate the local currency and achieve exchange rate stability. This is achieved via altering the money supply and/or interest rates with the aim of managing the quantity of money (Ufoeze, Odimgbe, Ezeabalisi, & Alajekwu, 2018). The policy objectives varies from country to country. However, they revolve around three main areas: (1) the amount of money in circulation; (2) the level of interest rate; and (3) the functions of credit markets and the banking system (Ogunjimi, 1997). Central Banks may adopt an expansionary to lower unemployment or a contractionary policy to reduce the inflation rate.

Many countries in Sub-Saharan Africa are increasingly becoming similar in outlook, especially as regards monetary policy (Sayinzoga & Simson, 2006). Sub-Saharan African countries have at various stages implemented various forms of monetary policy designed with the economic policy plan of the national government to achieve economic stability and sustainable development. This was explicated in the study by Ubi-Abai and Daniel (2018) using empirical data from 47 Sub-Saharan African economies, and found that fiscal and monetary policies significantly affected economic growth in the region. However, Ubi-Abai and Daniel (2018) distinguish between monetary and fiscal policy, with the latter referring to use of tax, government expenditure, etc. to regulate the economy.

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Statista (2021) puts the GDP in Sub-Saharan Africa at $1,715.33 billion in 2019. The region witnessed a decline in GDP in 2020, primarily cause by the COVID-19 pandemic. Mainly countries in Sub-Saharan Africa show weak or negative economic growth (Maingi, 2017).
In lieu of this, Esperance and Fuling (2020a) argued that country-by-country growth and macroeconomic stability can only be achieved from adequate monetary policy measures. Authors have strongly suggested that the money supply is an important tool to drive economic growth in Sub-Saharan Africa. Proponents argue that it is the singular most vital tool to achieve sustained economic growth in the short-run and long-run time periods. Infact, monetarists argue in favour of monetary policy compared to fiscal policy (Kimani & Maingi, 2021). The majority of African countries adopt three forms of policies in order to achieve the objectives of income distribution and allocation of resources (Nwoko, Ihemeje, & Anumadu, 2016). These includes: monetary policy, fiscal policy and income policy tools. However, despite the perceived emphasis on monetary policies in Africa, most economies are still saddled with problems such as high inflation and unemployment rate, low investment, and unstable foreign exchange rate.

This phenomenon may be attributed to the structural monetary decomposition of such economies. For instance, Abeng (2006) explained that monetary policy is valid only for a highly monetized economy. If an economy is not monetized, the efficacy of monetary policy is restricted. Theoretically there exists several transmission channels of monetary policy, such as, interest rate, exchange rate, bank lending, etc. Therefore debate has raged on in Sub-Saharan Africa on the effectiveness of money supply as a monetary policy tool in achieving sustainable growth and development of the region. Against this backdrop, the study sought to evaluate the application of monetary policies to economic management in Sub-Saharan Africa.

2.0 Conceptual Review

2.1 Concept of Monetary Policy

Monetary policy are specific actions undertaken by Central Banks to regulate the value, supply and cost of money in lieu of achieving broad macroeconomic objectives of various

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Governments and in consonance with the target level of economic activity (Central Bank of Nigeria, 2006; Folawewo & Osinubi, 2006). Jhingan (2000) opined that monetary policy is the sum of credit measures adopted by the Central Bank of a country. It is one of the macroeconomic measures implemented by the central monetary authority of a country to the economic management of their economy in order to attain the desired objectives (Nwankwo, 1991).

According to Kamaan (2014) comparatively monetary policy measures are quicker than fiscal policies at resolving economic shocks, such as an economic recession. The objectives of monetary policy are inclined towards the economic management of multiple policy targets includes such as price stability, promotion of economic growth, optimal employment, smoothing the business cycle, preventing financial crises, stabilizing long-term interest rates and the real exchange rate (Kahn, 2010, cited in Kamaan, 2014). The objectives of monetary policies specifically includes:

a. to promote sustainable economic growth and development;
b. to achieve price stability;
c. to encourage employment; and,
d. overall macroeconomic stability.

2.2 Theoretical Framework

Arguments by monetarists following the monetarist theory developed by Milton Friedman (1970) is that the level of money supply plays a key role in growth and development. As stated in Kimani and Maingi (2021), the thrust of the theory is on explaining the alteration in a country's GDP and price level via the money supply mechanism. The proponents argue that 'money supply' is the primary tool to achieve economic productivity (Kimani & Maingi, 2021). They have argued that increasing money supply leads to a temporary increase in economic growth and employment but if sustained for into the long run may lead to inflation. Therefore Central Banks in a bid to regulate the overall economy may alter the level of money supply in circulation and adopt either an expansionary or contractionary policy measure.

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2.3 Monetary Policy in Sub-Saharan Africa

Sub-Saharan Africa is widely characterised by Low-Income Countries (LICs) and the pace of development has been slow compared to Asia. According to Berg and Portillo (2018), the region has also witnessed tremendous monetary policy adjustments by several governments via their Central Banks. The policy measures have either boosted or deterred growth in the country in question. Kasekende and Brownbridge (2011) observed that in early 2000's, the monetary policies implemented by various national governments significantly lead to GDP growth, declined inflation and a favourable balance of payments. However, this position was affected by the global financial crisis (GFC).

The International Monetary Fund (IMF) categorised monetary policy frameworks in Sub-Saharan Africa into three: Monetary, Exchange and Interest targeting. However, the central focus of the study is on two African countries, which have demonstrated comparable strong performance in the post-crisis period: Kenya and Rwanda.

2.3.1 Monetary Policy in Rwanda

The current president of Rwanda Paul Kagame was re-elected in 2018. The country has implemented two five-year economic revampment plans under the current regime aimed at boosting economic growth and poverty reduction (The World Bank, 2019). These growth plans spurred the economy to a robust economic growth while improving living standards (The World Bank, 2019). Monetary policies form part of the sole responsibility of the National Bank of Rwanda. As stated in Law no 55/2007 of 30/11/2007 which governs the National Bank of Rwanda (NBR), it assigns the Bank with the responsibility to formulate, develop and implement monetary policies in the country. According to Rusuhuzwa (2021a), since the creation of the bank in 1964 it has undertaken major monetary policy changes with the latest occurring in 2019. The goal of monetary policy as contained in the National Bank of Rwanda (NBR) Law "requires the BNR to conduct monetary policy in a way to deliver price stability and in low inflation environment" (NBR, 2019). Thus, price stability and lowering inflation has remained paramount in the policy framework of the NBR. Therefore the steady growth and development witnessed in the country may be attributed to monetary policies that the sovereign government has implemented via the NBR. To further safeguard

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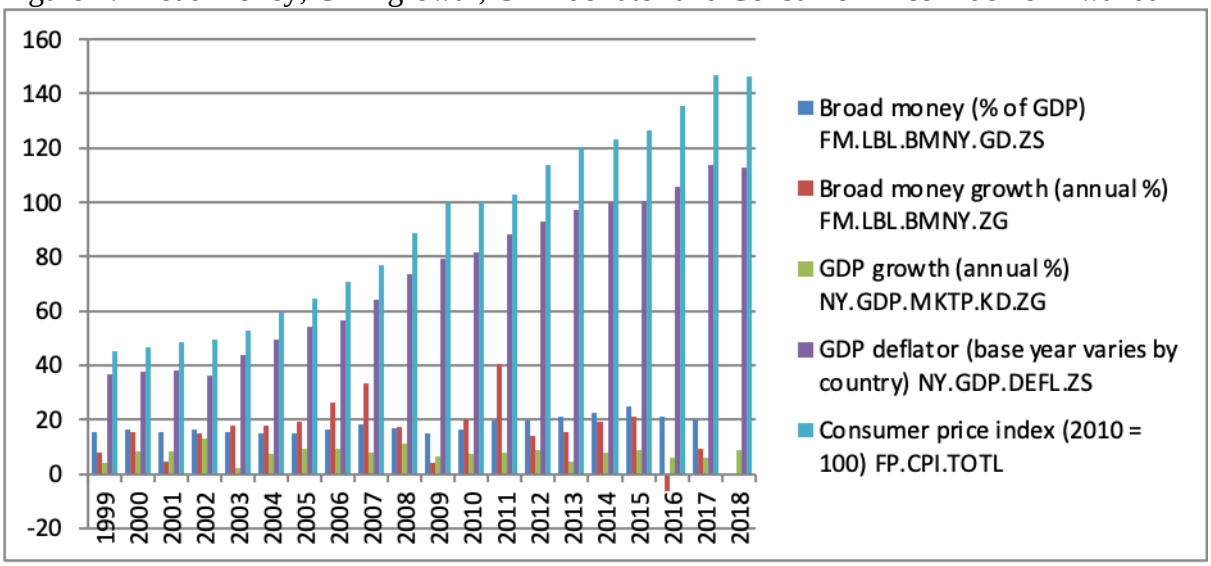
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the financial sector, the National Bank of Rwanda in 2019 transitioned to a "price-based monetary-policy framework" from the initial "monetary-targeting regime". This is in a bid to secure a sustainable the economic growth and secure financial sector developments in the country.

The NBR implemented the monetary targeting regime using the broad money (M3) as the intermediate target to achieve price stability regime (Irankunda, 2014). The chart below shows the performance of selected macroeconomic and monetary policy variables

Figure 1: Broad money, GDP growth, GDP deflator and Consumer Price Index of Rwanda



Source: World Development Indicators (2019)

The study conducted by Sayinzoga and Simson (2006) using empirical data from Rwanda, found evidence that the country achieved a stable money demand function coupled with the adoption of inflation targeting. The study further showed that the money market needs just over five quarters to eliminate half of any monetary disequilibrium. The Central Bank governor John Rwangombwa in a speech maintained that the former monetary-targeting regime, kept inflation low and stable, averaging 6.1 percent from 1997 to 2017, and 1.4 percent during the first 11 months of 2018 (Xinhua, 2018). The NBR sets M3 growth targets in line with targets on inflation and economic growth and the estimated money demand in the economy (Irankunda, 2014).

The country has implemented several monetary policy reforms from the 90's till data: *firstly*, the elimination of direct control of credit in 1992; and, *secondly* full liberalisation of interest

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rates in 1996. The NBR also adopts the use of indirect regulatory measures in monetary policy; such as, a required reserve ratio, the discount rate, open market operations and the NBR's policy rate introduced in august 2005 (Irankunda, 2014). In another study by Nkikabahizi (2013), the author found evidence that the broad money supply (M3) has been a significant monetary policy instrument by the NBR which has tremendously contributed to the economic growth of the country.

2.3.2 Monetary Policy in Kenya

Kenya has remained one of the fastest-growing economies in Sub-Saharan Africa (The World Bank, 2019). The President, Uhuru Kenyatta was sworn in for a second and final five-year term on November 28, 2017. The economic growth is primarily driven by a stable macroeconomic environment, low oil prices, steady growth in tourism, high remittance inflows, and a highly pioneered government infrastructural development (The World Bank, 2019). The Central Bank of Kenya (CBK) is charged with responsibility of developing and implementing monetary policy in the country (Kamaan, 2014). Since inception, the CBK adopts a fluid approach in monetary policy setting (Nyamongo, Maana, & Kamau, 2021). The primary goal of the monetary policies is to achieve and maintain price-level stability and the adequate functioning of the market based financial system.

The chart below shows the performance of selected macroeconomic and monetary policy variables,

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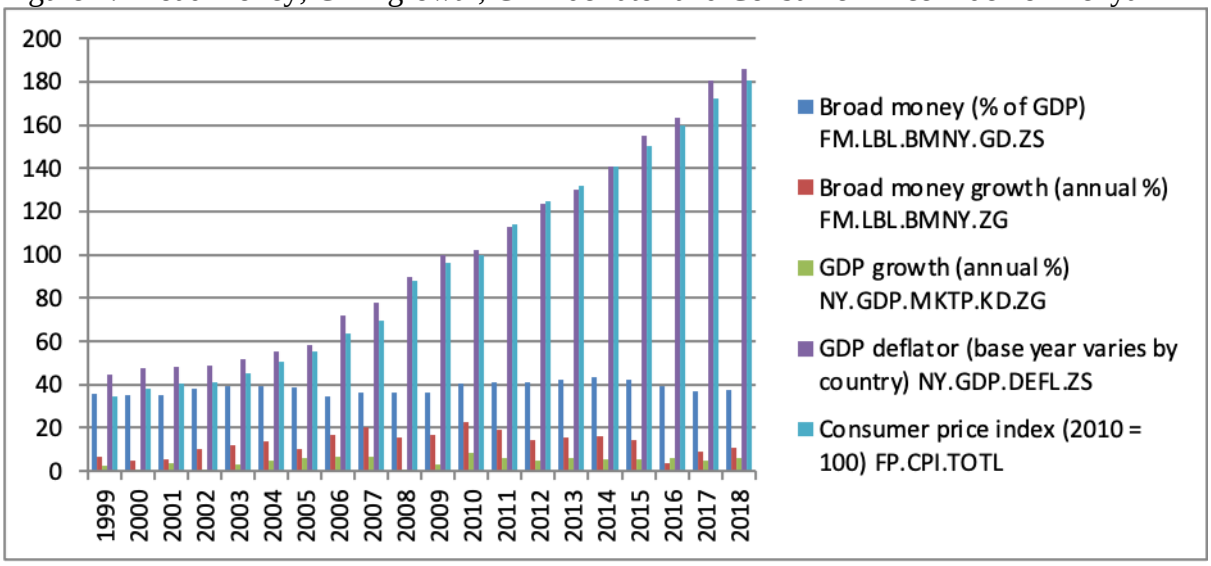
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Figure 2: Broad money, GDP growth, GDP deflator and Consumer Price Index of Kenya



Source: World Development Indicators (2019)

2.4 Empirical Studies

Empirically using data from the CEMAC (Communauté Économique et Monétaire de l'Afrique Centrale) region, the study by Ebenezer and Maredza (2021) evaluated the effect of monetary policy and oil price volatility on economic growth in the region. The authors focused on secondary data from the period 1980 to 2018. They analysed the data using several econometric procedures, such as the panel autoregressive distributed lag model and structural vector autoregressive (SVAR) model. The results showed that the growth rate of money supply had a positive significant effect on the monetary policy rate. Similar study was conducted by Fadiran (2021), who empirically examined monetary policy mechanism, oil price volatility and economic growth of Nigeria. He used quarterly data from 1980 to 201 which was analysed using an SVAR model. The results showed that oil price volatility affects monetary policy transmission mechanisms in varying ways prior to an economic effect.

Applying a vector autoregressive (VAR) approach, Nga (2021) studied the effect of monetary policy on economic growth of Vietnam using secondary time series data from 1985 to 2019. The results showed a positive effect of monetary policy on the economic growth measure.

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Using several econometric techniques, such as the Toda-Yamamoto and Impulse Response, the study by Sule (2021) analysed the impact of monetary policy on economic growth. He specifically used quarterly time-series data from 2008 to 2018. The study concludes that the effect of monetary policy on the economy is attenuated by the effects (increase/decrease) of monetary policy tools, such as treasury bill, cash reserve ratio, and the liquidity ratio etc.

In a study conducted by Nwankwo and Agbo (2021), the authors analysed the whether monetary policy had an effect on the economic growth of Nigeria. Using annual time series data from 1985-2015, the OLS estimations showed a positive effect of broad money supply on the GDP growth.

Nkikabahizi, Hategekimana, and Musabanganji (2020), the authors evaluated the impact of monetary policy on economic growth of Rwanda. The authors employed secondary time series data from 1999 to 2013. They analysed the data using econometric techniques and error correction model. The results support of a positive (long-run) relationship between money supply and nominal GDP.

Using empirical data from 47 Sub-Saharan African countries, Ubi-Abai and Daniel (2018) investigated the effect of fiscal and monetary policies on economic growth in the region. The authors utilised secondary data over the period 1996 to 2016. The employed the dynamic panel General Method of Moment and Dumitrescu-Hurlin causality techniques, as the analytical procedures. The results showed that both policies affected economic growth positively in the region. However, it was the fiscal policy that had a greater effect in the region.

Ufoeze, Odimgbe, Ezeabalisi, and Alajekwu (2018) used empirical data from Nigeria and investigated effect of monetary policy on economic growth. The study utilized secondary time series data from the period 1986 to 2016. The authors used the Ordinary Least Squares (OLS) technique after conducting preliminary tests using unit root and co-integration tests. The results showed that monetary policy rate, interest rate, and investment have an

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insignificant positive effect on economic growth. The variable money supply had a significant positive effect; while, exchange rate had a significant negative effect.

In Nigeria, the study by Nwoko, Ihemeje, and Anumadu (2016) examined the effect of monetary policy regime on economic growth. The study utilised secondary data from 1990 to 2011. The data were analysed using the OLS, and the results showed that the money supply index had a non-significant effect on the GDP.

Using empirical data from Nigeria, Akinjare, Babajide, and Okafor (2016) examined influence of monetary policy on the economy. The authors used annual time series data from the period 1970 to 2013. They employed OLS technique to analyse the data. The results showed that money supply was a significant factor in determining economic growth. And, Anowor and Okorie (2016) using an error-correction model while investigating monetary policy effect found a direct effect of cash reserve on economic growth.

Using annual time series data from 1980 to 2010, the empirical study conducted by Adigwe, Echekoba, and Onyeagba (2015) analysed the effect of monetary policy on Nigeria's economic growth. The authors employed the ordinary least square to analyse the data. The results showed a positive significant effect of money supply on the economic growth.

Okafor, Oshoke, and Akwaden (2015) analysed the monetary policy and output growth rate in Nigeria. The authors focused on secondary data for the period 1985 to 2012. They applied vector autoregressive (VAR) technique to analyse the data. The results showed that money supply had a significant consequential effect on output growth in Nigeria.

Using secondary data from Kenya, Kamaan (2014) investigated effect of monetary policy on economic growth. He focused his analysis on use of vector auto regressions (VARs) technique. The results showed an inverse relationship between monetary policy shock and economic growth. Specifically, one standard deviation monetary policy shock had a

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consequent negative insignificant effect on economic growth in the first two months but later reversed and becomes positive (insignificant) in the following four months.

Adegbite and Alabi (2013) investigated the impact of monetary policy on economic growth in Nigeria. They used secondary data from Central Bank of Nigeria statistical bulletin from 1970 to 2010. The authors employed multiple regression technique to analyse the data. The results found that money supply and interest rate had a significant effect on economic growth.

In a related study on the impact of monetary policy on economic growth in Nigeria. Fasanya, Onakoya, and Agboluaje (2013) used time-series data from 1975 to 2010 and an Error Correction Model (ECM). The results showed a long-run relationship among inflation rate, exchange rate and external reserve as predictors of economic growth.

Using empirical data from Rwanda, Nkikabahizi (2013) examined the effect of monetary policy on economic growth. He used secondary data from the period 1999 to 2013. The data was analysed using the multiple regression technique. The results showed that lending interest rate had a minor effect on the GDP; growth in money supply and nominal exchange rate significantly affected GDP.

The study by Onyeiwu (2012) evaluated the effect of monetary policy on economic growth surrogated by the GDP growth rate in Nigeria. The author used secondary time series data from 1981 to 2008 which subsequently analysed using Ordinary Least Squares. The result showed a positive effect of money supply on GDP growth.

3.0 Methodology

This is a quantitative study and the research design adopted utilised is the *ex post facto* design, as the authors utilise historical data from the WDI. The design is consistent with the study by Ebisine and Oki (2021). The focus of the study required the use of secondary sources of data. The relevant time series data were obtained from the World Development Indictors (WDI) of the World Bank. The time series duration of the data was from 1999 to

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2018, based on data availability at the time of the study. The authors subjected the data to Unit Root tests prior to further analysis. The results are omitted for brevity, as the variables showed stationarity. The descriptive statistics entailed the mean calculation, standard deviation, kurtosis and skewness, etc. The inferential statistical technique used in the study is the multiple linear regression. The multiple regression examined the effect of the independent variables (broad money, broad money growth and consumer price index) on the GDP growth rate. The statistical significance level was 5%.

Model Specification:

The empirical model of the study is given below as

$GDPg = \alpha_0 + \beta_1 BM_t + \beta_2 BMG_t + \beta_3 CPI_t + \mu$ ……. (1)

Where:

GDPg = is the GDP growth rate

BM = is the broad money

BMG = is the broad money growth rate

CPI = is the consumer price index

α_0 = Constant (Intercept)

μ = Error term

$\beta_1 ... \beta_3$ = Coefficients of the explanatory variables

Table 1: Description of Variables

Variables	Nature	Notation
GDP growth (annual %)	Dependent	GDPG
Broad money (% of GDP)	Independent	BM
Broad money growth (annual %)	Independent	BMG
Consumer price index	Independent	CPI

Source: Author's compilation

Explanations:

1. Broad money M_3 is defined as the aggregation of currency out of the banking system and monetary deposits. According to the World Bank it is the sum of currency outside banks; demand deposits other than those of the central government; the time, savings, and foreign currency deposits of resident sectors other than the central government; bank and traveller's checks; and other securities such as certificates of deposit and commercial paper.

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2. GDP is the monetary measure of the market value of all the final goods and services produced in a specific time period, often annually.
3. CPI is a measure of changes in the purchasing-power of a currency and the rate of inflation.

4.0 Analysis and Results

Table 1: Descriptive statistics for monetary policy and growth variables in Kenya

	Broad money (% of GDP)	Broad money growth (annual %)	Consumer price index	GDP growth (annual %)
Mean	38.43243	12.83235	94.84233	4.556525
Median	38.53281	13.80464	92.12386	5.230713
Maximum	43.24530	22.36167	180.5148	8.405699
Minimum	34.60157	3.667672	34.63163	0.232283
Std. Dev.	2.639377	5.259359	49.08377	2.262682
Skewness	0.265980	-0.094468	0.311410	-0.609093
Kurtosis	1.901524	2.141963	1.708405	2.486970
Jarque-Bera	1.241359	0.643270	1.713436	1.455982
Probability	0.537579	0.724963	0.424553	0.482878
Sum	768.6485	256.6469	1896.847	91.13049
Sum Sq. Dev.	132.3599	525.5563	45775.12	97.27485
Observations	20	20	20	20

Source: E views 9

Table 2: Descriptive statistics for monetary policy and growth variables in Rwanda

	GDP growth (annual %)	Broad money (% of GDP)	Broad money growth (annual %)	Consumer price index
Mean	7.624077	17.93277	16.37312	87.98179
Median	7.681565	16.55067	17.14746	88.79991
Maximum	13.19207	24.83433	40.47106	146.6293
Minimum	2.202376	15.03706	-6.134424	44.97964
Std. Dev.	2.469919	2.876823	10.45099	33.56207
Skewness	-0.005907	0.859237	0.201474	0.167532
Kurtosis	3.498735	2.725201	3.647456	1.657350
Jarque-Bera	0.197027	2.397695	0.460406	1.516023
Probability	0.906183	0.301542	0.794372	0.468597
Sum	144.8575	340.7226	311.0893	1671.654
Sum Sq. Dev.	109.8090	148.9700	1966.019	20275.43
Observations	19	19	19	19

Source: E views 9

The descriptive statistics shown in the Tables above presents very interesting findings. Firstly, our measure of economic growth the GDP growth rate showed that on average the annual growth rate of Rwanda was 7.62; while, that of Kenya was 4.56. This showed a 3.06% difference between GDP growth rate in both countries. Statista (2021), however showed that overall real GDP growth rate in Sub-Saharan Africa was around 3.18% in 2019 compared to 3.2% in 2018. Therefore, both countries were still ahead the average in the region, which

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accounts for their favourable economic performances. Another significant index worthy of discussion is the annual growth in broad money supply. This figure is shown as 16.37% for Rwanda and 12.83% for Kenya. This shows that both countries are highly reliant on monetary policy, specifically the broad money supply in achieving economic growth in both countries. Rwanda however exceeds Kenya with 3.54%. However, with regards to broad money (% of GDP) Kenya had a significantly larger value of 38.43%; when, compared to Rwanda of 17.93%. Thus, both countries differed with a wide margin of 20.5%. Esperance and Fuling (2020b), finds that if the rate of money supply outgrows the rate of economic growth this may cause inflation.

The inflation measure, the Consumer Price Index (CPI) showed that on average the average CPI of Kenya was 94.84; while, that of Rwanda was approximately 87.98. This shows that Rwanda was better at managing CPI compared to Kenya, while both countries faired comparably better than the majority of Sub-Saharan African countries with figures greater than 100.

Further to this, Tables 1 & 2 showed a positive mean value for all the variables and also shows the Skewness and Kurtosis values of the variables. The Kenyan data positively skewed were variables such as the broad money (% of GDP) and consumer price index; while, the broad money growth (annual %) and GDP growth (annual %) were negatively skewed. As regards to Rwanda, only the GDP growth (annual %) was negatively skewed; other variables like the broad money (% of GDP), broad money growth (annual %) and the consumer price index were positively skewed. With the exceptions of the Rwandan GDP growth and broad money growth; all other variables from Kenya and Rwanda had Kurtosis ≤ 3. The Jarque-Bera statistic evaluates the normality of the variables and consequently and does not rejects the null hypothesis at 1%, 5% or 10% respectively. This is based on the following decision criterion:

p-value > 0.05 = Accept H_0 (Normal); otherwise,

p-value < 0.05 = Reject H_0 (Non-Normal)

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4.1 Test of Hypotheses:

H_1: Broad money growth has a significant effect on economic management of Kenya and Rwanda

Table 3: OLS output for Kenya and Rwanda

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	6.953668	1.457276	4.771689	0.0000
Broad money (% of GDP)	-0.133724	0.036112	-3.703079	0.0007
Broad money growth (annual %)	0.092870	0.045443	2.043637	0.0486
Consumer price index	0.016931	0.009136	1.853247	0.0723
R-squared	0.385393	Mean dependent var		6.050973
Adjusted R-squared	0.332712	S.D. dependent var		2.803991
S.E. of regression	2.290515	Akaike info criterion		4.592345
Sum squared resid	183.6261	Schwarz criterion		4.762967
Log likelihood	-85.55073	Hannan-Quinn criter.		4.653563
F-statistic	7.315652	Durbin-Watson stat		2.185709
Prob(F-statistic)	0.000623			

Source: E views 9

The regression result is shown the Table above; the results showed presence of a linear relationship between the explanatory variables and the GDP growth rate. The R^2 statistic, i.e., the coefficient of determination shows R-squared value was 0.385 and the Adjusted R-squared (adjusted for sample size) value is 0.333. The conclusion drawn from this is that the explanatory variables account for approximately 33.3% variation in the dependent variable. Similar explanatory power has also been reported in prior studies in Kenya and Rwanda. The F-statistic (7.316), evaluates the statistical significance of the model; the value of the F-statistics is less than .05. Therefore it is justifiable to conclude that the hypothesis that *all regression coefficients are equal to zero* is rejected. The coefficient of interest is Broad money growth (annual %), the p-value is less than .05; therefore, we reject the null hypothesis and accept the alternate. Thus, M3 proxied as broad money growth (annual %) had a significant effect on economic management of Kenya and Rwanda.

4.1 Discussion

There is evidence that broad money growth has a significant effect on economic management of Kenya and Rwanda. Rusuhuzwa (2021b), using evidence from Rwanda supports that monetary policy is a necessary prerequisite for 'sustainable output growth' in the short and long run. This is supported by another using empirical data from Nigeria, the study Nwankwo

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and Agbo (2021) found a positive effect of broad money supply on the GDP growth. In Rwanda, Nkikabahizi, Hategekimana, and Musabanganji (2020), when the authors found evidence of a positive relationship between money supply and nominal GDP. The study by Azuh, Okorie, Gershon, Azuh, and Matthew (2021), established a long-run relationship between monetary policy and economic growth. And using empirical data from Sub-Saharan Africa, Ubi-Abai and Daniel (2018) showed evidence of the wide use of monetary and fiscal policies. And that, monetary policies had played a role in the economic growth of the region. Nkikabahizi (2013) using data from Rwanda also reported that growth in money supply had a significant effect on GDP. Studies in Nigeria have also shown similar findings. Adigwe, Echekoba, and Onyeagba (2015) using an OLS procedure reported a positive significant effect of money supply on the economic growth. Okafor, Oshoke, and Akwaden (2015), applied vector autoregressive (VAR) technique and showed that a significant effect of money supply on output growth. Adegbite and Alabi (2013) using time series data from Nigeria found that money supply had a significant effect on economic growth. Onyeiwu (2012) using data from 1981 to 2008 reported a positive effect of money supply on GDP growth.

However, this contrasts with studies by Ebisine and Oki (2021) on the impact of monetary policy on private investment found a negative effect of money supply on domestic private investments in Nigeria. Ufoeze, Odimgbe, Ezeabalisi, and Alajekwu (2018) in Nigeria that found an insignificant positive effect of monetary policy rate but a significant positive effect of money supply. This is consistent with Nwoko, Ihemeje, and Anumadu (2016) using same country data showed an insignificant effect of money supply index on the GDP. And Kamaan (2014) using the Vector Auto Regressions (VARs) technique reported an inverse relationship between monetary policy and economic growth.

5.0 Conclusion and Recommendations

The study examined the application of monetary policies in economic management of Sub-Saharan African countries; with a particular emphasis on Kenya and Rwanda. These two countries have recorded remarkable growth in Sub-Saharan Africa compared to other countries. The study evaluated the effect of broad money on the GDP growth rate of both countries. The Ordinary Least Squares result showed a positive significant effect of broad

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money (M3) on GDP growth rate. The maintenance of sound monetary policies is crucial in having sound and vibrant financial system; which, ultimately leads to sustainable economic development. Based on this, the study makes the following recommendations: Firstly, countries in Africa mainly are advised to borrow from the policy frameworks (and adjustments) of the two countries in order to boost growth and development; but, however make cyclical adjustments based on peculiar country characteristics. However, this should be implemented with recourse to the fiscal policy tools in place. Furthermore, as suggested by Azuh, Okorie, Gershon, Azuh, and Matthew (2021), therefore be a refocus in the region on productive activities which are linked to economic growth and further target policies towards such. Secondly, the rate of entrepreneurship growth in the African region has been slow when compared with western countries. It is therefore recommended that monetary policies be used to spur growth in the sector to curb the menace of employment. Another approach may be the re-visitation of reserve requirement ratio of Central Banks in the region to inject liquidity in the banking system or a slated minimum capital funding for entrepreneurs. Thirdly, apex monetary authorities in the region should promote policies aimed at stabilizing critical financial indicators, such as inflation reduction and foreign exchange rate stabilisation. The Central Banks should adopt a more 'forward-looking' approach to policy implementation. However, future studies may wish to perform a disaggregated analysis of both countries using longer time periods. This can enable an in-depth analysis of monetary policy factors which drive economic growth in either country.

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