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Influence of Exchange Rate on Economic Growth in Kenya

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Abstract: *Economic growth is determined by macroeconomic variables among which include exchange rate. Policy makers seek the of effect of various decisions made regarding macroeconomic variables. The objective of this publicationwas to explain the influence of exchange rate in the Kenyan economic growth. The empirical literature reviewed findings of other scholars on the influence of exchange rate on economic growth in Kenya.This study used descriptive research design which involved observing and describing facts about the impact of exchange rate on economic growth, as it is popularly done in business and social science research.Secondary data from publications of Kenya National Bureau of Statistics (KNBS) and the Central Bank of Kenya (CBK) was used for the time period between 2001 and 2017. The study focused on the ratio of Ksh to USD and Kenyan GDP for the period between 2001 and 2017 which constituted the target population. Data analysis was done using statistical package for social sciences 16.0which was used to conduct correlation analysis between GDP and exchange rate and to produce regression equation between the two variables. The findings in the publication will be used to inform policy-makers on the effect(and theextent)of exchange rate on economic growth in Kenya. This will help in predicting the growth that can be realized in manipulatingexchange rate. The study forms a basis for more research regarding macroeconomic situation in Kenya and adds to the existing macroeconomic literature.*

Keywords: *Exchange rate, economic growth, GDP*

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I. Introduction

Exchange rate refers to the rate at which a currency is exchanged for another. It is the nominal exchange rate adjusted for relative purchase power (Yang &Zeng, 2014) andit measures how much the currency can purchase in real terms, or the purchase power of the currency abroad relative to that at home.It's the price of a nation's currency in terms of another currency. It has two components, the domestic currency and a foreign currency, and can be quoted either directly or indirectly(investopedia).Floated exchange rate is the one that is determined by forces of demand and supply while pegged exchange rate is the set by the Central Bank. Kenya maintains a floating exchange rate. Exchange rate determines the level of trade between countries. This in turn affects economic growth as the volumes of trade vary.

On the other hand economic growth is an increase in the capacity of an economy to produce goods and services, compared from one period of time to another (Amadeo 2018). It is the increase of a country's per capita income (Bellu 2011). A country's productive capacity is identified by the rise in real national income over a period of time. Economic growth is closely related to economic development which refers to increase in the productive capacity of a country in addition to major structural change like shifting from agriculture to manufacturing.Economic growth has to do with the increase of the size of national economies especially GDP while economic development has to do with the impact that economic growth has on the society regarding raising of living standards (Haller 2012).

Kenya's GDP grew by 6.6% annually from 1963 to 1973. It averaged 7.2% in the 70s. The economy registered a decline from 1974 to 1990. The GDP growth declined from 4.2% in the 80s to 2.2% in the 90s. This decline was the least from 1991 to 1993. This resulted to a sustained growth of 4% between 1994 and 1996. The estimates by World Bank show that the Kenyan economic growth will be 5.8% in 2018 and 6.1%in 2019 (World Bank 2018). FocusEconomics estimates that Kenyan economy will grow by 5.5% and 5.8% in 2018 and 2019 respectively. Kenyan economy will grow by 4.8% and 5.5% in 2017 and 2018 respectively (Reuters 2018). The news agency states that Kenyan economy is influenced by drought, political climate, performance of the private sector, global economy and agricultural performance. Tradingeconomics placed Kenyan GDP at US Dollars 74.94 billion in 2017 representing 0.12% of world economy. Tradingeconomics also sets the average for the Kenyan GDP at 15.38 from 1961 to 2017, the highest GDP beingUS Dollars 74.94 billion in 2017 and the lowest being 0.79 USD Billion in 1961.This publication looks into how exchange rate influences economic growth in Kenya and it is organised in to four sections: introduction, literature review, research methodology, data analysis and discussion and conclusion and recommendations.

Statement of the Problem

It is generally acknowledged that economic growth of any country is directly influenced by macroeconomic variables including exchange rate. Scholars however differ on the influence of exchange rate and other macroeconomic variables on economic growth. Exchange rate and other Macroeconomic variables have significant influence on the Kenyan economic growth (Hussain, Hazoor, Sabir&Kashif,2016). Emmanuel (2016) contradicts this by stating that macroeconomic variables do not impact GDP significantly. Sufficient knowledge about the actual influence of exchange rate on the economy will help in formulating appropriate policies that suit the uniqueness of Kenyan economy. The study sought to explain the influence of exchange rate on economic growth in Kenya. Available research does not explain the extent to which exchange rate affects Kenyan productive capacity. This study sought to access the regression of these macroeconomic variables on economic growth in Kenya.

Objective of the Study

The objective of the study was to determine the influenceof exchange rate on economic growth in Kenya.

Research Question

The study sought to answer the following question:
How does exchange rate influence economic growth in Kenya?

II. Literature Review

Exchange rates can either be hard pegs or fixed regimes, soft pegs or intermediate regimes, floating regimes and residuals (IMF, 2017). When the local currency is pegged to another or a basket of other currencies, it is said to be fixed exchange rate. This tends to improve its stability, providing a predictable business climate, improving economic growth. Appropriate exchange rate policy is helpful in sustaining economic growth.Conversely volatile exchange rates disrupt investment and exports as investors are more confident in investing in country with stable currency. This improves output levels (Jakob, 2016).

Flexible exchange rate allows the currency to fluctuate depending on the demand and or supply of the currency in the exchange market. This creates an automatic adjustment of balance of payments. The currency depreciates or appreciates subject to its deficit or surplus (Ihnatov and Caparu2012).This system however is disadvantageous in that fluctuation of the currency disrupts trade therefore many countries opt for managed floating regime or combination of floating and fixed regimes (Jakob, 2016). Fixing the exchange rate to the USD led to improved long term growth in the 1990s, this was called the East Asian miracle (Jakob,2016).

Developing economies might not sufficiently absorb the shock from exchange rate fluctuations, therefore fixed regime is preferred (Jakob,2016). Levy-Yeyati and Sturzenegger (2002) found that there is correlation between exchange rate and output growth. Malhtora (2004) observed that the choice of exchange rate did not have much significance on growth though more flexible regimes resulted to higher growth. Developing Asian countries registered more growth by employing managed float regimes (Levy-Yeyati&Sturzenegger 2002). Therefore the regime adopted affects economic growth, though this is subject to the level of development in the economy. There is moderately weak connection between exchange rate regime and economic growth, though countries with pegged regimes attained higher investment and low productivity than those that adopted floating regimes (Jakob, 2016). He further states that fixed exchange rates spurred economic growth because of lower interest rates as there was certainty in the currency and elimination of exchange rate risk which improved international trade.

Fixed currency regimes record rise on per capita income (Mundell, 1995). Moreover (Moreno, 2001) predicted an increase in economic growth of 3% among the developing countries in the event that they adopted fixed exchange rates. (Ihnatov and Caparu2012) stated that flexible regimes cause economic growth in developed countries whilst it hardly has any influence indeveloping countries. Volatility in exchange rate affects long run productivity growth in sample countries, subject to financial sector development in the countries (Ihnatov and Caparu2012). He states that flexibility in financially less developed countries led to low economic development while the converse is true. A strong currency signifies good economic growth performance. There is a general agreement that the value of a country's currency has a direct effect on economic growth. Overvaluation makes export trade expensive and exposes local industries to fierce foreign competition. It may cause capital flight as investors anticipate devaluation or decline in foreign direct investment (FDI).

Inappropriate exchange rate policies could lead to an economic distress in most developing countries. Mileva,Habib andStracca, (2016) observed a positive relationship between undervaluation and growth. Mileva,Habib andStracca, (2016) argued that undervaluation leads to increase in domestic savings and investment and employment in less developed economies. Levy and Yeyati (2003) conducted a study on 183 countries for the post- Bretton wood period. The result indicated that fixed exchange rate impacts economic growth negatively. Another study by Huang and Molhorta (2004) led to the conclusion that the choice of

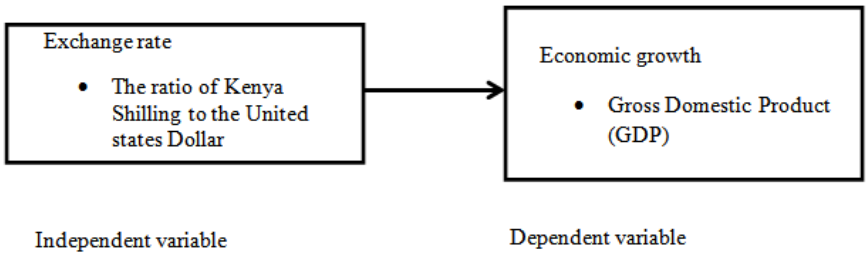
exchange rate depends on level of economic development, with big economies being not significantly affected by the exchange rate regime. Moreover MacDonald (2000) argues that flexible exchange rate can lead to unstable growth especially if it is highly volatile. Both nominal and real exchange rates in Malaysia were found to be having the same effect on growth (Kogid et al. 2012). According to Guellil, Marouf and Benbouziane (2017), fixed exchange rates led to increased economic growth in developing countries. Developing countries fear the effect of floating exchange rates (Guellil, Marouf&z Benbouziane 2017).

Huang and Malhotra (2004) argue that in advanced economies the regime choice doesn't matter, though more flexible regime is slightly associated with higher growth. They further state that the regime has a non-linear relationship with economic growth in emerging Asian economies. In these economies attention should be paid on choices of the regime adopted considering the level of economic development and capital market development. The discussion above is not conclusive on which regime would register highest economic growth and the influence of exchange rate on economic growth. This study seeks to find out how exchange rate affects economic growth in Kenya. It also seeks the most appropriate regime for the Kenyan economy considering its unique features.

Conceptual framework

The study included two variables. Exchange rate is the independent variable and economic growth is the dependent variable. Exchange rate is measured by the ratio of the Kenyan Shilling to the United States Dollar and economic growth is measured by Gross Domestic Product (GDP).

Figure 1Conceptual Framework



III. Research Methodology

This study used descriptive research design which involved observing and describing the influence of exchange rate on economic growth. It is used as a basis for more quantitative research since the study points to what variables are worthy testing quantitatively in subsequent studies. This was adopted because the research would form a basis for more studies regarding influence of exchange rate on economic growth in Kenya. The design is popularly used in business and social science research. The target population constituted the ratio of Kenya Shilling to the United States Dollar for the period between 2001 and 2017. The study did a form of a census by considering all data on Kenyan exchange rate and economic growth in the study period.

The study used secondary data exclusively which was sourced from the publications of Kenya National Bureau of Statistics (KNBS) and the Central Bank of Kenya (CBK).Both regression analysis and descriptive analysis were used for data analysis. Pearson Correlation coefficient was established between the variables. This helped establish the degree of relationship between them. The study used the model below to establish the regression equation of the variables.

$y = b_0 + b_1 x_1 + \varepsilon$

Where;

y Represented GDP as the depended variable

x_1 Represented exchange rate as the independent variable

εRepresented a stochastic error term. It was assumed to have a zero mean and unrelated to the independent variables.

IV. Data Analysis and Discussion

The table 1 below summarises descriptive statistics regarding exchange rate and economic growth. The mean, standard deviation, skewness, maximum and minimum values are given in the table for the time period between 2001 and 2017. GDP is measured in millions.

Table 1 Descriptive statistics

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error
GDP	17	1020111	4510391	2488530.18	1349163.848	.136	.550
GDPG	17	.50	8.40	4.8529	2.01312	-.655	.550
EXRATE	17	67.2141	103.3938	82.632888	10.6835995	.709	.550
Valid N (listwise)	17						

A correlation matrix showing the direction of relationship between the two variables is shown below in table 2. A strong positive correlation between two variables is implied by a positive decimal approaching 1 implying that an increase in one variable resulted to an increase in the other. A negative correlation implies there is a negative relationship between the two variables. Table 2 is symmetrical about the diagonal with the diagonal values being 1 allthrough. This is because there is a perfect correlation between a variable and itself. There is a strong correlation between exchange rate and GDP. When the predictors are nearly uncorrelated, the contribution of one predictor in the model doesn't depend much on the presence of other predictors present while conducting regression analysis.

Table 2 Correlation Matrix

Correlations

		GDP	EXRATE
GDP	Pearson Correlation	1	.855**
	Sig. (2-tailed)		.000
	N	17	17
EXRATE	Pearson Correlation	.855**	1
	Sig. (2-tailed)	.000	
	N	17	17

**. Correlation is significant at the 0.01 level (2-tailed).

Stationarity test was done using SPSS 16.0 sequence charts. The charts for the variables were repeated until a chart with a stationary sequence was obtained after the required differencing order. This is summarised in table 3 below.

Table 3 Differencing Order

Variable	Differencing Order
GDP	2
Exchange Rate	2

The regression after differencing had a R^2 of 0.130 which suggested that the data didn't fit the model well. This model was not considered because of the low R^2 value. The regression analysis therefore opted to use the data without differencing and therefore adopted the coefficients shown in table 4below. The R^2 was 0.732meaning that the data fits the model well. This implied that in the event that more data is added it will fit the model. The regression equation adopted was:

$$y = 108011.701x_1 - 6436788.657$$

V. Conclusions

There is a strong correlation between GDP and exchange rate of 0.855 as shown in table 2. This implies an increase in exchange rate results in an increase in GDP. Stationarity test showed that there is a general upward trend of both GDP and Exchange rate. This necessitated differencing for the variables to obtain stationarity. Both GDP and exchange rate required an integration of order 2. This was however not considered as the regression resulted to a low R^2 of 0.130. The model would not be appropriate for the data hence regression analysis considered the data without differencing. Regression analysis therefore showed that a unit increase in exchange rate would increase GDP by108011.701. R^2 for the regression analysis was 0.732 implying that the data obtained fitted the model well.

The strong correlation between GDP and exchange rate evidenced by the correlation matrix in table 2 implied an increase in the exchange rate results to an increase in GDP.The regression analysis also points to positive relationship between GDP and exchange rate.This means an increase in the exchange rate leads to a higher GDP hence increase in economic growth. A unit increase in exchange rate leads to an increase of GDP of 108011.701 units. There was an upward trend in the GDP and the in exchange rate.

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