

Inflationary Effects, Exchange Rate and Economic Growth Rate in Kenya



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ABSTRACT: Human civilization has always been centred on economic growth. Economic growth difficulties are the main focus of government policy and study in the modern, globalized world. Kenya's overarching goal is to become a middle-income nation that is both globally competitive and wealthy and provides its residents with a high quality of life. The Kenya Vision 2030 is the country's development strategy. Different perspectives on the relationship between inflation, exchange rate and economic growth have shown diverging results. This study's particular goals were to determine the effect of inflation and exchange rate on Kenya's economic growth using Keynesian theory. This study used explanatory research design and adopted positivism philosophy. Annual data from 1980 to 2019 giving 40 observations was used. Vector Error Correction (VECM) Model was customized in analyzing the long run and short-run contribution of macroeconomic variables and gross domestic product in Kenya. From the VECM model, R-square value was 58.62, Chi-square of 26.913 ($p > \text{Chi}^2 = 0.0494$) showing VECM was fit for parameter estimation. The coefficient of exchange rate was -0.828 with a p-value of 0.001 while the coefficient of inflation was 0.055, p value = 0.020. The findings of this study will provide good fiscal and monetary policy recommendations to the government as well as guidance on how to solve the issue of weak economic growth. Because economic growth is predicted to slow down when inflation exceeds a particular threshold, the nation must control inflation. The government should support macroeconomic policies that strengthen the stability of Kenya's exchange rate versus the major world trading currencies while aiming for an ideal level of inflation because foreign currency rates have a detrimental impact on economic growth in Kenya.

KEYWORDS: Economic growth, Exchange Rate and Inflation Rate.

INTRODUCTION

Background of the Study

Economic growth is the prime priority of macroeconomic policy in any country and Gross Domestic Product (GDP) is considered as a key indicator of this economic growth (Fioramonti, 2017). If GDP of a country increases sooner than the population, then it specifies that GDP per capita of that country is growing and the standard of living of people in that particular country is also improving (Chowdhury, Hamid & Akhi, 2019). GDP of a country is influenced by numbers of variables such as inflation, interest rate, exchange rate, domestic debt, foreign debt foreign direct investment, household consumption and so on. Macroeconomic variables are outside influence elements that are out of dominance or power of the management of any country.

Macroeconomic variables are estimates or primary measurements of present economic growth. As with all specialists, the state needs to research, evaluate and comprehend the main factors determining the present conduct of the macroeconomics to do a great job of economic macro management. Thus, the state has to know why and when there are recessions or inflation, and anticipate these developments, as well as the policy mix that will best curb any financial ills. According to Wepukhulu & Otieno, (2019), all countries around the globe face economic risks. According to the study, the likelihood of extreme events is ruled out: the prospect that interest rates in the United States may rise up beyond what is expected. The tenderness of the recuperation in the Eurozone may ignite concerns about the feasibility of the euro; possessions and assess prices failing in China to a point of causing financial distress and ultimately causing fall in growth; or emergence of geopolitical tensions which may cause increase in oil costs and a world slump (Wepukhulu & Otieno, 2019).

Growth proponents and development analysts believe that sustained economic growth at national, regional and global level is the key to eradicating social vices such as poverty. This is why multilateral organizations such as the World Bank and the United Nations have increasingly focused on economic growth-oriented interventions. According to the United Nations Global

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Economic Outlook for 2015, the world economy was expected to grow by 3.1 percent in the year 2015 and 3.3 percent in the year 2016. Achieving this kind of economic growth is not easy; particularly because world economic growth depends on national and regional growth on one hand and on international factors on the other hand. The world economy only registers positive economic growth when the positive growth in some regions or nations is greater than the negative growth experienced in other regions or nations. Due to the Global Financial and Economic Crisis of 2008 contracted and registered a growth rate of unprecedented explosive, world economic growth of 4.3 percent in 2010 followed by 3.0 percent in 2011, the world economy is still recovering from the economic crisis. This is indicated by lower growth rates of 2 percent in 2013 and 2.6 percent in 2014.

The importance of economic growth in Africa could not be underestimated with most countries experiencing low growth rates. Discussions around this area had taken centre stage in recent years among policy makers while focusing on developing countries. In South Africa, Kargbo (2017) studied on the effects of macroeconomic factors on South African agriculture. The study revealed that real exchange rates, interest rates, inflation and money supply (M3) shocks have significant and persistent impacts on agricultural output, prices received by farmers and farm input prices. M3 and interest rate shocks tend to put agriculture in a cost-price squeeze. Agricultural price movements were a source of macroeconomic instability in the country. Real exchange rate shocks shifted relative prices in favor of agriculture in the long run, thereby, boosting farm incomes and accelerating poverty reduction in the country. Munyeka (2015) did a study on the relationship between economic growth and inflation in the South African Economy. The findings indicated that white tests indicating non present of heteroscedasticity in the data.

Inflation and Economic Growth in Kenya

According to the World Bank (2007), inflation rate is the annual rise in the cost of an economy's consumer goods and services. Therefore, inflation rate determines how consumer prices for goods and services produced in the country have changed over time country

According to Ndung'u, (2018), the first ten years following Kenya's independence were characterized by economic stability. When inflation was 3% on average and the currency rate was fixed. With the first oil boom in the 1970s due to price shocks and issues with the balance of payments, inflation started to accelerate. This Devaluations and adjustments to the exchange rate peg went hand in hand with the increase. A notable turn of events in the 1990s included a slowdown in economic growth, a sharp increase in inflation, money growth, and interest rates, as well as a sharp decline in the value of the shilling. The time-period foreign aid embargo, rising fiscal deficits fueled by money printing, and the switch to a dual exchange rate regime with a parallel market were the main causes of the inflation's quick rise.

The economy's growth rate did not follow a consistent or predictable trend over the 15-year period from 1995 to 2010. The real GDP growth rate was 4.3 percent in 1995 and 4.0 percent in 1996, respectively. The growth rate did, however, drastically decline in 1997, falling to a pitiful 0.2%. The growth rate increased to 4.6 and 7.0 percent in 2004 and, respectively.

Due in large part to strict monetary policy, the government was able to keep headline inflation within the single digit range during 1995 and 1996. In 1997, however, general election expenses caused inflation to rise to 11.9 percent. Additionally, higher inflation was noted in 2000, 2004, 2009, and 2010, primarily as a result of rising commodity prices. Between 1995 and 2001, real GDP growth did not appear to follow a slowdown in inflation. However, between 2002 and 2004, a faster real GDP growth rate was correlated with a faster inflation rate. The relationship between inflation and economic growth appears to be negative from 2008 to 2010, when a decline in inflation from 15.1% in 2008 to 11.6% in 2009 and then to 4.1 percent was accompanied by an increase in economic growth from 1.5% to 2.6 percent and then to 5.6 percent over the same time period. While growth grew from 2.6 percent to 4.5 percent within the same period, inflation declined further from 10.6 percent in 2009 to 5.7 percent in 2013. The data indicates conflicting tendencies in Kenya's inflation and economic expansion.

Exchange Rate and Economic Growth in Kenya

Kenya's economy, according to Onyango (2014), is open and small, making it susceptible to both internal and foreign shocks that could lead to its demise. Kenya, a developing country, must come up with plans to encourage economic expansion while addressing challenges brought on by the adoption of both microeconomic and macroeconomic policies. These programs cover fiscal, monetary, and exchange rate policies. Exchange rate policy is very important since it affects global trade.

Over the previous few decades, Kenya's exchange rate has fluctuated; in the 1960s and 1970s, it was fixed since the country's currency was overvalued (Ndng'u 1999). Up until 1974, the value of the Kenyan shilling in relation to the US dollar was set. Between 1974 and 1981, the nominal exchange rate's movement in reference to the dollar fluctuated erratically. The currency rate regime was changed to a true crawling peg by the end of 1982. Up until 1990, when a dual exchange rate system was put into effect, this system was in place. This arrangement was in place until 1993, when additional devaluations led to the

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elimination of the official exchange rate. The shilling was allowed to float, and the market rate was added to the official exchange rate.

Since a floating exchange rate was instituted in October 1993, the market has determined the value of the shilling. Only when substantial exchange rate fluctuations are present does the CBK interfere in the foreign currency market.

Problem Statement

At the time of its independence, Kenya's economy was comparable in scale to that of modern Asian economic powerhouses like South Korea, Hong Kong, Taiwan, and other rapidly industrializing nations. Particularly, in 1965, Kenya's GDP, at 2859.4 US dollars, was equivalent to that of South Korea (World Bank, 2015). Years later, the GDP per capita of East Asian nations is three times that of Kenya, and the economy of Kenya is still characterized by significant inequality, unemployment, and poverty. The East Asian GDP per capita in 2019 was \$11,494, compared to \$1,909.30 in Kenya. Kenya needs to triple its current real GDP growth rate if it is to be able to sustain good standards of living for all of its population, as a growing population is likely to outpace economic growth due to the pressure it puts on the nation's resources.

To stabilize the economy and push it toward economic growth, the successive political regimes have adopted initiatives and developed a number of policy documents. Despite these initiatives, the nation's real GDP growth is still cyclically characterized by highs and lows.

Specific Objectives

The study was guided by the following specific objectives:

1. To determine the influence of inflation rate on economic growth in Kenya.
2. To investigate the influence of foreign exchange rate on economic growth in Kenya.

Research Hypotheses

The study sought to test the following research hypotheses

H₀₁: Inflation rate does not have significant influence on economic growth in Kenya.

H₀₂: Foreign exchange rate does not have significant influence on economic growth in Kenya.

Significance of the Study

An important foundation for policymaking, particularly in developing better macroeconomic policies for the nation, is the identification of the relationship between inflation, exchange rate, and economic growth in Kenya. These findings are especially helpful to the Treasury in developing stronger macroeconomic policy measures to promote national economic growth. This specifically helps the treasury or ministry of finance create policies that are appropriate to affect the intensity of economic activity.

The findings will serve as a foundation for more research in the same field. The study specifically broadens scientists' understanding of macroeconomic factors and how they affect Kenyan economic growth.

LITERATURE REVIEW

Keynesian Theory

Keynesian economists advocate government involvement by promoting public policies that aim to achieve full employment and price stability. To generate the appropriate amount of economic activity, the government uses fiscal and monetary policy. Therefore, the government uses an expansionary fiscal strategy during a recession. It can borrow both internally and abroad. Keynesians do believe that there is a nexus between the money supply and real GDP. They claim that a monetary policy that is more expansive lowers interest rates by expanding the pool of resources that banks may lend to customers. Price, exchange rates, and interest rates all typically fluctuate in the same manner. Keynes claimed that because resources are being underutilized in less developed nations, inflation won't rise when the money supply is expanded. Investment boosts output (economic growth) and lowers the unemployment rate (Keynes 1936).

Inflation Rate and Economic Growth

Mallik and Chowdhury discovered a significant correlation between inflation and economic growth (2001). The issue today is not just that there is a link between the two phenomena, but also that inflation can influence economic growth in either a favorable or negative way (Mamo, 2012). High inflation reduces expenditure, and this decrease has a detrimental impact on the economy, according to Barro (1995).

Mamo emphasizes the importance of anticipating inflation for economic progress (2012). Observational studies conducted to investigate the presence of a relationship between inflation and growth have proposed bidirectional causation, unidirectional

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causality, and no causality between inflation and economic growth. According to Umaru I Zubariu (2011), GDP is the root cause of inflation. According to empirical investigation, there are differences between this causation in the short- and long-term. Datta (2011) discovered that there is a causal relationship between inflation and economic growth in the short run, so inflation influences economic growth, while inflation affects inflation in the long term when researching growth and inflation in Malaysia. There is debate over whether there is a connection between inflation and economic growth. Four significant literature predictions regarding how inflation affects output and growth are categorized by Drukker et al. (2005). This research backs up important research done by Khan and Senhadji (2001). They not only look into the connection between high and low inflation and economic growth, but they also suggest that both developed and developing nations should have inflation levels below a certain point.

Chang-Shuai and Zi-Juan (2012) conducted a study on the relationship between the Chinese unemployment rate, economic growth, and inflation using the VAR and ECM between 1978 and 2010 and came to the conclusion that the variables unemployment, inflation, and economic growth have a long-term stable equilibrium relationship. However, in the short term, inflation and unemployment rate are negatively connected with inflation, although economic growth is positively correlated with both. Evidence found by Qin and Wang (2013) in a study on inflation rate and unemployment rate demonstrates that there is no direct association between the two in China.

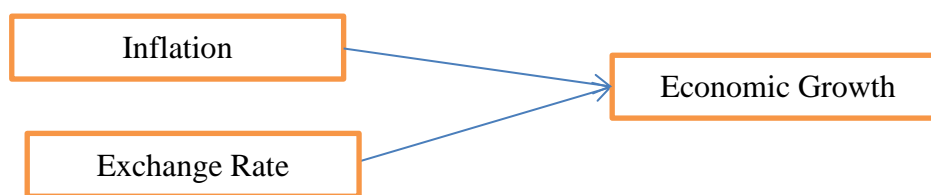
Exchange Rate and Economic Growth

In a study published in 2016, Kurtishi-Kastrati et al. looked at how exchange rates affected the economic development of Macedonia. With the help of the Granger causality test and VAR model, the degree to which the exchange rate affects growth was examined. Additionally, the OLS approach was used to obtain and present the regression model that was taken into consideration when analyzing the effect of the exchange rate on the expansion of the economy. The research's conclusions suggested that the growth of the Malaysian economy was significantly and directly influenced by exchange rates. The current government, which maintains Malaysia's macroeconomic stability, was defended in the argument.

A study that examined the impact of exchange rates on the growth of the economy was carried out in Malaysia. Annual time series data were employed in the study. It was discovered that the effects of real and nominal exchange rates on the progress indicator of economic growth were comparable. The results of the research work revealed that policies of unsystematic exchange rates may produce volatility in the economy and may ultimately develop a collection of interconnected challenges towards the economic growth of a nation. This discovery was reached through the application of ECM-based ARDL (Kogid,, et al.,2012).

Conceptual Framework

A conceptual framework is a concise description of the phenomenon under study accompanied by a graphical visual depiction of the major variables of the study (Cooper & Schingler, 2006).



Source: Author (2021)

RESEARCH METHODOLOGY

Research Design

A framework for conducting research is known as research design. The layout makes it easier for researchers to concentrate on successful study setup and procedures that are appropriate for the subject (Gliner, Morgan & Leech, 2011). This study used a time series-based explanatory research design.

Model

Vector Error Correction (VEC) Model was customized to analyze the relationship between selected macroeconomic variables and economic growth in Kenya.

The VECM model takes the following form;

$$\Delta X_t = \alpha\beta X_{t-1} + \Gamma_1\Delta X_{t-1} + \Gamma_2\Delta X_{t-2} + \Gamma_3\Delta X_{t-3} + \dots + \Gamma_p\Delta X_{t-p} + \varepsilon_t \dots \dots \dots 3.17$$

Whereby

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α = is coefficients of the adjustment's matrix,

β = is co-integrating equations matrix coefficients

Γ = is short run coefficients

X_t = model endogenous variables i.e. economic growth, inflation and exchange rate

Data Sources

This study used annual time series data from 1980 to 2019. Data on economic growth, inflation, and currency exchange rates were taken from the World Bank database. Additionally, the National Treasury and the Central Bank of Kenya's annual publications (Annual Public Debt Management Reports) were added to this.

Table 3. 1: Description and Source of Variables

Description	Description	Measurement	Source
Exchange rate	It is the price of one country currency in terms of another currency in this study, the Kenya shilling in relation to the US Dollar	Measured in percentage	International Debt Statistics of World Bank Database
Inflation	Inflation is consumer price index reflected by annual percentages change in the cost of the average consumer of acquiring a basket of goods and services.	Measured in percentage	International Debt Statistics of World Bank Database
Economic Growth	Economic growth is defined as the annual percentage change in gross domestic product (GDP)	Measured in percentage	International Debt Statistics of World Bank Database

Source: Author (2021)

Unit Root Tests

Time series data exhibit trending or non-stationarity at its mean and using such kind of data without removing unit root leads to spurious regression. The following technique was employed

Augmented Dickey Fuller Test

The ADF test statistic is based on the t -statistic of the coefficient φ from OLS estimation as per Dickey & Fuller (1979). It does not have an asymptotic standard normal distribution, but it has a nonstandard limiting distribution. ADF test estimates equation 3.2 on time series model to accommodate serial autocorrelation, auto covariance and covariance (Pfaff, 2008).

$$\Delta y_t = \alpha + \beta_t + \gamma_{t-1} + \delta \Delta y_{t-1} + \delta_{p-1} \Delta y_{t-p+1} + \varepsilon_t \dots \dots \dots 3.2$$

Model diagnostic Tests

The following normality test were done

Normality Test

The study investigated whether the variables followed the normal distribution. This study relied on the Jarque- Berra test where a null hypothesis of normality was tested against the alternative hypothesis of non-normal distribution. Lomnicki (1961) and Jarque and Bera (1987) formulated a test for non-normality based on the skewness and kurtosis of a distribution.

Johannsen's Test for Cointegration

Cointegration is an important phenomenon in economics. And therefore, Johannsens test for cointegration was used to determine cointegration among the variables in the study.

Diagnostic tests

Autocorrelation Test

This test confirms the presence or absence of serial correlation in the model. Endogeneity is among the causes of serial correlation.

Multicollinearity Test

Multicollinearity exists if a single independent variable highly correlates within a set of other independent variables. Common criteria to test for multicollinearity include correlation matrix and Variance Inflation Factor (VIF) values (Cohen, 2013). To examine VIF for the explanatory variables

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Model Stability Tests

The study employed CUSUM test

CUSUM Test

To maintain stability, it was crucial to check for structural flaws in the output model's residual. Turner (2010)'s proposed cumulative sum (CUSUM) formula was used to assess for stability throughout the course of the whole study period.

EMPIRICAL RESULTS AND DISCUSSION

Descriptive Statistics

Secondary data obtained was described by the following descriptive statistics;

Table 4. 1: Descriptive Statistics

Variable	Observations	Mean	Std. deviation	Minimum	Maximum
EGR	40	3.970454	2.284124	-0.799494	8.405699
INF	40	11.80326	8.526401	1.554328	45.97888
EXR	40	58.0077	31.43399	7.420187	103.4109

Source: Author (2021)

The main descriptive statistics used were measures of central tendency like mean and median. The study variables' maximum and minimum values were also calculated. In time series analysis, descriptive statistics are crucial because they enable meaningful presentation of raw data and simple data interpretation (Cohen, 2014). Over the research period, the average annual growth rate for the economy was 3.97 percent.

A low of 1.55 percent, an average of 8.53 percent, and a high of 45.98 percent were recorded for inflation (INF). The average exchange rate between Kenya and the US dollar was 58.01; the standard deviation was 31.43399; and the range was between 7.42 and 103.41. The variations from the mean for the exchange rates are very large. For the exchange rates, there are significant departures from the mean. The erratic nature of Kenya's macroeconomic instability elements, including inflation, external debt, and trade inflows, may be accountable for this (Irungu, 2017).

Unit Root Tests

If a variable exhibits a unit root, it is deemed non-stationary (Gujarati, 2022). Checking for unit roots in the macroeconomic variables is essential. The stationarity of a time series variable is a crucial phenomenon since it can influence the behaviour of the variable (Ansari *et al.*, 2011).

Augmented Dickey Fuller Unit Root Test

It is observed that on first difference all the variables Economic growth (EGR), inflation (INF), and exchange rate were stationary. This is indicated by its critical values which were less than 5 percent, this rejected the null hypothesis of unit root and hence, $I(1)$ and hence VECM model was applicable.

Table 4. 2: Augmented Dickey Fuller Unit Root Test

Variable	ADF test statistic	Prob	Critical values			Conclusion
			1%	5%	10%	
INF	-3.436	0.0098	-3.655	-2.961	-2.613	$I(0)$
EXR	-0.842	0.8064	-3.655	-2.961	-2.613	Non-stationary
First difference						
INF	-7.546	0.0000	-3.62	-2.94	-2.614	$I(1)$
EXR	-5.789	0.0000	-3.62	-2.94	-2.614	$I(1)$

Source: Author (2021)

Table 4. 3: Lag length Selection

AIC criterion it indicated an optimal lags as one with the lowest value of 56.5624 as suggested by AIC criterion. Gujarati (2003) asserted that there was no precise number of lags as more number of lags implies less degree of freedom, which makes statistical inferences less stable.

Sample: 1980 -2019

Number of observations = 40

Selection order criteria

Lag	LL	LR	Df	P	FPE	AIC	HQIC	SBIC
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0	-1159.46				8.6e+21	64.692	64.7687	64.9119
1	-977.111	364.69	25	0.000	1.4e+18e*	55.9506	56.4112*	57.2702*
2	-968.974	16.274	25	0.906	3.96e+18	56.8875	57.7319	59.3067
3	-938.123	61.704	25	0.000	3.5e+18	56.5624*	57.7906	60.0813

Source: Author (2021)

Post Estimation Diagnostic Tests

Jarque-Bera Test for Normality

Jarque Bera statistics for each of the equations and the combined hypothesis of all the equations are shown in Table 4.4 as mentioned below. The joint hypothesis states that the K disturbances come from a K-dimensional normal distribution, while the null hypothesis for each of the equations above indicates that the disturbance term has a normal distribution. Given that Table 4.8's Jarque Bera fails to disprove the null hypothesis, it was determined that the sample in question came from a normal distribution because, by the general rule, the p values were higher than 0.005.

Table 4. 4: Jarque-Bera Test for Normality

Normality test regression results is hereby shown by table 4.4

Equation	Chi ²	Df	prob > Chi ²
D-EGR	1.37	2	0.51493
D_LEXR	2.151	2	0.34107
D_INF	1.783	2	0.41002

Source: Author (2021)

Variance Inflation Factor Test for Multicollinearity

The findings of the VIF are shown in Table 4.5 because multicollinearity needs to be investigated in case there is a relationship between two or more independent variables. According to the general rule, multicollinearity is present when the VIF is more, and multicollinearity that is severe and in need of correction is evident when the VIF is greater than 10. The results in Table showed that multicollinearity was absent.

Table 4.5: Variance Inflation Factor

Variable	VIF	1/VIF
EXR	1.62	0.615804
INF	1.17	0.856545
Mean VIF	1.55	

Source: Author (2021)

Results for LM test for Serial Correlation

The table below shows the regression findings for serial correlation. Based on the p values, the null hypothesis that there is no serial association was accepted.

Table 4.6: Results for LM test for Serial Correlation

Lags(p)	Chi2	Df	Prob> Chi2
1	0.074	1	0.7863
H0: no serial correlation			

Source: Author (2021)

Short Run and Long Run VECM Models

Table 4. 7: Results for Short-Run Vector Error Correction Model

The short run effects of the study variable on economic growth and the rate of return to long run equilibrium regression results are reported here;

D_egr	Coef.	Std. Err	z	p> z
_Ce1				
L1.	-1.2294	0.4521	-2.72	0.0e07

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Egr				
LD	0.6056	0.3961	1.53	0.126
L2D	0.2364	0.3132	0.75	0.450
L3D	0.3508	0.2575	1.36	0.173
Exr				
LD	-5.7414	6.0724	-0.95	0.344
L2D	2.8139	4.0966	0.69	0.492
L3D	-5.2502	5.0259	-1.04	0.296
Inf				
LD	0.0142	0.0689	0.21	0.837
L2D	0.0344	0.0612	0.56	0.574
L3D	0.0420	0.0596	0.71	0.481

Source: Author (2021)

The results in table 4.7 above indicated that ce1 shows the rate of adjustment to long run equilibrium is significant with confident of -1.2294 and p value of (p = 0.007) at 5% level meaning that when overall economic growth has risen by a certain percentage point, then all other indicators or variables in question are gradually dropping down and because this value is statistically significant, the estimates suggest swift adjustment to equilibrium.

Table 4. 81: Long Term Co-integrating Equations

The table reports long run effects of the study variables on economic growth

	Beta	Coef.	Std. Err	Z	p> z
_ce1					
Egr		1	.	.	.
Exr		-0.8280	0.2569	-3.22	0.001
Inf		0.0551	0.0237	2.33	0.020
Constant		-5.9603	.	.	.

Source: Author (2021)

Effect of External Debt on Economic Growth

The findings indicated that the foreign exchange rate coefficient was significant and negative, at -0.8280. Therefore, at the 5% level of significance, the null hypothesis regarding the foreign exchange rate was rejected. This showed that over time, a one unit rise in Kenya's external debt will result in a 0.8280 unit decline in economic growth.

Contrary to widespread belief, there is no connection between economic growth and the foreign exchange rate according to this study. So much so that a rise in exchange rates increases net export volume and positively affects economic development since it increases total demand. This research, however, backs up structural economists' contention that the relationship between the exchange rate and economic growth is inverse. Particularly in emerging economies where the input structure of production depends on imported capital and intermediate products, an increase in exchange rates makes import manufacturing inputs more expensive and subsequently has a negative influence on economic growth (Karahana, 2020).

The study too differed with Erickson et al.,(2021) Macroeconomic Drivers of Economic Growth. The study opined that in order to promote economic growth, policymakers in CBK should implement measures that ensure currency rate stability and prevent swings. These measures include the introduction of high tariffs to deter importation and encouragement of programs like "buy Kenya, build Kenya." Diversifying exports should be the focus of efforts as well. To find the best exchange rate that, over time, strengthens the currency by devaluing it, exchange control rules should be implemented.

Effect of Inflation on Economic Growth

The regression analysis in table 4.6 above was positive, 0.0551 and significant, with reference to the inflation rate coefficient. As a result, the inflation rate null hypothesis was disproved at the 5% level of significance. This suggested that over time, an increase in the inflation rate of one unit would result in a 0.0551 unit increase in economic growth in Kenya. The most effective tool for economic development is a solid macroeconomic policy that depends on both private and public investment to create wealth and raise production, national income, and wages, minimize inflation, and fund the provision of public services.

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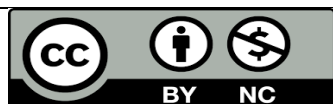
CONCLUSION AND RECOMMENDATIONS

Results indicated that inflation significantly and positively impacted economic growth. However, any shock will have a detrimental effect on economic growth, as the impulse function reveals. Controlling inflation volatility should be a top priority for Kenyan economic policy. The government must consider measures to boost supply. Structural changes should be implemented to boost domestic output by using investment in import-substituting items to control prices. Therefore, the analysis suggests that the government support an inflation rate that is sustainable.

According to the study, foreign currency rates have a negative impact on Kenya's economic growth. As a result, macroeconomic measures that increase Kenya's exchange rate stability relative to the major world trade currencies should be supported. Policymakers in CBK may adopt policies to protect and sustain exchange rate stability to prevent volatility, including the imposition of high tariffs to discourage product imports, in order to foster economic growth. Export diversification should be a top focus, and initiatives like EPZ that allow for the free exportation of taxes are appreciated.

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