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Effect of International Trade on Economic Growth In Kenya

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Abstract
The general objective of this study was to assess the impact of international trade on economic growth in Kenya with the years under consideration being 1960 to 2010. There are many components of international trade that effect economic growth, but this paper examined the effect of exchange rate, inflation and final government consumption on Kenyan economic growth. World Bank data for these variables were analyzed in order to achieve the desired objectives. A multiple linear regression model, Barro growth model, was used to estimate the existing the relationship between variables then ordinary least square method was applied. From the findings, Exchange rate has no effect on GDP growth rate, while inflations had negative and significant effect on GDP growth rate. Final government consumption had positive effect on GDP growth rate in Kenya. This study recommended the policy makers to emphasize on policies promoting exports, maintaining low and stable inflation rates and encourage government expenditure on development projects so as to encourage economic growth in Kenya.
Keywords: International Trade, Economic Growth, Exchange Rate, Gross Capital Formation, Inflation

Introduction

The relationship between international trade and economic growth has received significant attention in literature (Andersen 2008 and Ulasan 2012). International trade, as a major factor of openness, has made an increasingly significant contribution to economic growth (Sun and Heshmati, 2010). Schneider (2004) argues that imports bring additional competition and variety to domestic markets, benefiting consumers, and exports enlarge markets for domestic production, benefiting businesses. International trade exposes domestic firms to the best practices of foreign firms and to the demands of discerning customers, encouraging greater efficiency. Trade gives firms access to improved capital inputs such as machine tools, boosting productivity and providing new opportunities for growth for developing countries. It thus, difficult to understate economic growth and development. However, some models such as endogenous growth models (Schneider, 2004) have tried to link different channels of international trade with economic growth.

Compared with other selected African and Asian countries, Kenya's share in international trade is insignificant. According to Kenya Institution of Public Policy and research (KIPPRA, 2009) Kenyan share in world export only contribute 0.03 per cent in 2006 compared with Malaysia (1.33%), South Korea (2.69%), Singapore (2.25%) and Thailand (1.08%). World prices of agricultural raw materials and vegetable oils have either remained stagnant or have been declining over the years. Kenya's main exports are in this category and this means that to reap from the benefits of international trade the country needs to diversify into more value added manufactured exports (World Bank, 2008 as cited in KIPPRA, 2009). One of the most important objectives of structural adjustment policies has been to implement reforms on international trade policy due to its importance in economic development (Rono, 2002).

Problem formulation

The importance of international trade on economic growth has awakened interest over the years to both policy makers and economists alike. Although theoretical links between trade and economic growth have been extensively discussed for over two centuries, a lot of controversies still abound concerning their real effects (Obadan & Elizabeth 2007). The important ingredients and major components of international trade are Imports and exports. Import of capital goods is vital to economic growth. Imported capital goods affect investment directly. This consequently constitutes the engine of economic expansion. Exports on the other hand contribute greatly to GDP. Quite a number of countries have achieved growth through an export–led strategy. Most studies as regards this subject have been done in developed countries and few in the third world countries. International trade has always been a "catalyst of growth" for global economy. In contrast, some economists are against this idea in that they believe only developed

countries benefit from international trade at the expense of developing economies. This paper sought to fill in this gap by establishing the impact of impact of macroeconomic variables on Kenya's economic growth, which is still in a transitory phase. The following hypotheses were tested;

$H_{o1:}$ Exchange Rate has no significant effect on economic growth

$H_{o2:}$ final government consumptions has no significant effect on economic growth

$H_{o2:}$ inflation has no significant effect on economic growth

Previous empirical studies on international trade and economic growth

The OECD (2003) conducted a study on the impact that trade had on the average income per population. According to the result, the elasticity of international trade was 0.2, which was statistically significant

Jackson (2006) in his analysis of trade of trade agreements on economic growth in United States of America (USA) concludes that nations pursue trade liberalization to achieve a number of national objectives. In addition to the "static" gains from trade, he suggests that trade potentially plays a dynamic role in the economy

Singh (2011) supports the positive impact of international trade on economic growth theory as evidenced by earlier studies. He finds an affirmative and significant long-run effect of exports and investment on output in Australia. The evidence supporting the positive and significant long-run effects overwhelms the evidence providing mixed effects of trade (and investment) on output

It is widely accepted that the level of international trade in an economy may be one of the main sources of its growth (Gurgul & Lach 2010). In their study, they concluded that Exports positively affected economic growth in the Polish economy. In addition, the dynamic interactions between exports and imports influenced the GDP.

Sun and Heshmati (2010) concluded that China's outstanding performance in economic growth could be traced back to its increasing involvement in global trade and dynamic trade policy. This rapid economic growth has made the country target the world as its market. The increasing participation in the global market helps China reap the static and dynamic benefits from trade, facilitating the rapid national economic growth.

Data and Methodology.

This paper applied an explanatory design which was appropriate to aid this paper in providing an explanation on the relationship that existed between international trade and economic growth in Kenya. Data for the study was obtained from World Bank from year 1960 to year 2010. These years were preferred since they represent the periods in which Kenya underwent many transformations such as Structural Adjustment Programs, political liberalization etc, which may have impact on GDP.

Measurement of Variables

Table 1 Variable, Their Symbols and Their Measurements

Variables	Symbols	Measurement
Economic growth	GDP	Real GDP per capita
Government Expenditure	GXP	Government consumption
Inflation	INF	Consumer Price Index

Model

This paper examined the impact of international trade on economic growth in Kenya using a model consistent with Barro (1990, 1995). This model has been used in earlier studies by Edwards (1998) Obadan (2008) and Obadan and Elizabeth (2010) though with some modifications. Barro growth model is expressed as follows:

$$Growth_t = \alpha + \beta_t \{Finance\} + \gamma_t \{CV\} + \varepsilon_t \dots\dots\dots\dots (1)$$

Where;

$Growth$ – Growth rate of gross domestic product

$Finance$ – Denotes a set of independent variables

CV – Denotes conditional variables

ε_t – Error term

Obadan and Elizabeth (2010) adopted this model and presented it in the form:

$$GDPGR_t = \beta_0 + \beta_1 Open_t + \beta_2 EXRT_t + \beta_3 FDI_t + \beta_4 DINV_t + \beta_5 Post_t + \mu_t \dots\dots\dots\dots 2$$

Where:

$GDPGR$ – denotes Growth rate of gross domestic product

$Open$ – The degree of trade openness

$EXRT$ – Exchange rate

FDI – Foreign direct investment

$DINV$ – Domestic investment

$Post$ – Political Stability

μ – Error term

This study modified a Barro growth model and was thus expressed in the form:

$$GDPGR_t = \beta_0 + \beta_1 EXRT_t + \beta_2 INF_t + \beta_3 GC_t + \mu_t \dots\dots\dots\dots 3$$

Where:

$GDPGR$ – Denotes Growth rate of gross domestic product

$EXRT$ – Exchange rate

INF – Inflation

GC – Government Consumption

t denotes the time period that is t = 1, 2,…..T

ε_t denotes the white noise error, β_0 is the constant term while the other β's are the coefficients of the independent variables.

Empirical Analysis and Results

Table 2: Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
GDPGR	50	1.278	4.569	-10.598	17.929
EXCH	51	31.622	28.887	7.02	79.233
Inflation	50	10.625	8.786	-0.172	45.979
GC	49	1.29	1.07	8.67	4.62

Where GDPGR denotes GDP growth rate, EXCH denotes Exchange rate, GC denotes final government consumption and Obs is the number of observations.

Results in table 1, the GDP growth rate for Kenya averagely 1.3% for a period of 50 years. With the period ranging from 1960 to 2010, the highest GDP growth rate was17.9% and a lowest GDP growth rate was -10.6%. The official exchange rate was showed to be averagely 31.6% for a period of 5o years with the least exchange rate recorded to be 7.02%, while the highest was 79.233%. For the period under study inflation had a mean of 10.62545 with a standard deviation of 8.786389. It had 50 observations out of which the lowest value was -0.17 and the highest value was 46. Finally, final government consumption had a mean of 1.290 with a standard deviation of 1.070. Out of the 49 observations, the minimum value of the final government consumption was 8.670 and a maximum value of 4.620.

Table 3: Correlation Results

	Exchange Rate	Inflation	Final Government Consumption
Exchange Rate	1		
Inflation	-0.3937	1	
Final Government Consumption	0.8186	-0.2411	1

The test result for Multicollinearity using the Correlation Matrix as shown in table 3. The correlation matrix shows the implied relationships between the individual explanatory variables. From the correlation matrix results, it is evident that Exchange rate and inflation had correlation of less than 0.8 amongst themselves implying that there is no severe multicollinearity. However, the correlation between exchange rate and final government consumption was greater than 0.8 implying that severe multicollinearity exists.

Table 4: Regression Results

N= 32

Variable	Coefficient	Robust Std. Err.	t	P	95% Conf. Lower & Upper Interval	
Exchange rate	0.019	0.09	0.21	0.837	-0.168	0.205
Inflation	-0.085	0.043	-1.96	0.042	-0.175	0.005
final government consumption	4.12	1.79	2.3	0.03	4.23	7.82
Constant	1.091	0.856	1.27	0.215	-0.677	2.858
R-squared	0.4865					
Root MSE	1.9569					
ANOVA F (7, 24)	13.65					
Prob > F	0					

Table 5: above presents the OLS regression result where the F statistic is 13.65 with a P value of 0.0000 which is a measure of goodness of fit imply that exchange rate, inflation and final government consumption can significantly predicts GDP growth rate. The R squared is 0.4865 and a root mean standard error of 1.9569 imply that 48.65 percent of the variations in the GDP growth rate is explained by the joint contribution of exchange rate, foreign final government consumption and inflation.

Hypothesis Testing

Hypothesis 1 states that Exchange Rate has no significant effect on economic growth. Results from table 5 indicated that exchange rate recorded a coefficient of 0.019, with *p value* = 0.837>0.05, this implies that hypothesis was accepted. Exchange rate has no effect on GDP growth rate in Kenya.

Hypothesis 2 stipulates that inflation has no significant effect on economic growth. Table 5 reported that inflation had coefficient of -0.085 with *p value* of 0.042<0.05, suggesting that hypothesis 2 is rejected, this imply that, in Kenya inflations had negative and significant effect on GDP growth rate suggesting that increase of inflation with one unit leads to decrease of GDP with 0.085 units

Hypothesis 3 states that final government consumption has no significant effect on economic growth. From table 5, the coefficient of final government consumption was 4.12 with *p value* = 0.03<0.05. This showed that hypothesis 3 was rejected inferring that final government consumption had positive effect on GDP growth rate in Kenya. Thus, increasing final government consumption with one units yield 4.12 units to GDP.

Discussion of Findings

The general objective of this paper was to assess the impact of international trade on economic growth in Kenya with the years under consideration being 1960 to 2010. The specific objectives were to evaluate the impact of exchange rate, inflation and final government consumption integration on the growth of the Kenyan economy.

Exchange rate had no significant effect on GDP growth rate. This could be explained by the fact that the exchange rate for Kenya doesn't fulfill the Marshall-Leaner condition while the foreign direct investment could be explained by the negative impact of dumping activities of foreign

direct investors, coupled with their perhaps unpatriotic and exploitative modus operandi in Kenya. Both exchange rate and foreign direct investments have unexpected signs. Though the coefficient of the gross capital formation has the expected sign, it is statistically insignificant. This could be explained by the fact that capital formation requires an enabling business environment, for example, well developed infrastructure, low or no corruption, low interest rates, political stability among others. Unfortunately Kenya performs very poorly, for example, for the period ranging from 1996 to 2008 the political stability index averaged at -1.052 (African Development Indicators, 2011). These findings contradicts that of Obadan and Elizabeth in Nigeria where exchange rate had coefficient of 7.76, the study findings however, coincide with that of Gertz (2009) and Mohan et al (2007) who found exchange rates coefficients of 0.042 on their studies done in Kenya.

Empirical evidence indicated that inflation affect GDP growth rate negatively contradicting Boyd et al (2001) findings that increases in inflation will have no additional consequences for the financial sector performance or economic growth. The findings support Sarel (1996) findings that if the existence of the structural break is ignored, the estimated affect of higher rates of inflation on economic growth decreases by a factor of three. Baro (1999) in his study in Chile found that inflation negatively affected the economic growth

Finally, the findings revealed that final government consumption had positive effect on GDP growth rate.

Conclusion, Recommendation and Possible Future Research

This study studied the hypothesis that exchange rate, inflation, and final government consumption. High inflation levels lags behind the growth of an economy in that it leads to high interest rates hence discouraging borrowing which eventually discourages investment. Government consumption especially on development projects for example setting up infrastructure encourages growth by creating an enabling environment for trade purposes.

Maintenance of a stable macroeconomic environment should be ensured i.e. maintain stable and low inflation in the country to boost economic growth. Low inflation leads to lower interest rate hence encouraging borrowing and ultimately increasing investments. Investments are a major ingredient of growth in Gross Domestic Product (GDP).

Encouragement of government consumption especially on development projects as opposed to the recurrent expenditure should be emphasized. Allocation of more funds for development will increase efficiency and increase the ease of doing business resulting to increased economic growth rate. For instance, the development of transport network which will smoothen the movement of goods and services across borders.

Many other ways to evaluate the effect of international trade on economic growth exist such as the gravity model approach and causality model approach. For instance, the causality approach could give the direction of causality that exists between the variables. These models could be applied by researchers in further studies on the impact of Kenya's international trade on economic growth.

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