

EXCHANGE RATE AND ECONOMIC GROWTH OF AFRICAN COUNTRIES

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Abstract

It is a general knowledge that exchange rate determines the independence of a nation and often considered as a sign of economic strength cum a symbol of national pride. And many countries (developed and emerging) have opted to promote economic growth via exchange rate liberalization as a major macroeconomic goal. In the light of the foregoing, this study examines the effect of exchange rate on economic growth in Africa. Panel data were sourced from World Bank Development Indicator for four countries (Nigeria, Kenya, South Africa and Egypt) spanning 1980 to 2017. The panel Least Square (PLS) of random effect estimate as decided by Hausman test multiple regression techniques were adopted. Findings among other things indicate that: Real exchange rate has significant effect on economic growth in Africa. Nominal exchange rate has no significant effect on economic growth in Africa. Interest rate has significant effect on economic growth in Africa. Trade openness has significant effect on economic growth in Africa. Thus the study concluded that NEXR, INTR and TOPN contributed more significantly to economic growth in Africa during the period under review. Hence, they are significant determinant of economic growth in Africa.

Key Words: African countries, exchange rate, economic growth, Hausman test, Panel least square.

Introduction

One of the prominent determinants of a country's economic growth is exchange rate, and this indicator is germane in a country's foreign trade. Higher exchange rate in a country's currency result to expensive export. Thereby, making the country's export unattractive in the global market and encourage cheaper import and more consumer purchases from abroad. On the other hand, lower currency of a country makes export cheaper and attractive for foreign consumers, but also makes import expensive for domestic consumers (Selimi&Selimi, 2017).Exchange rate and other macroeconomic variables like interest rate, import, export etc have ripple effect on economic growth of a country. These facts underscore the importance of exchange rate to the economic well-being of every country that opens its doors to international trade in goods and services (Osiegbu&Onuorah, 2012).Exchange rate determines the level of trade

between countries. This in turn affects economic growth as the volumes of trade vary (Ola, 2018).

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). Developing economies like Nigeria might not sufficiently absorb the shock from exchange rate fluctuations, therefore fixed regime is preferred (Jakob, 2016). Obviously one of the most challenging issues in developing countries Nigeria, Kenya among others after the World War II has been the issue of economic growth. It is traditional knowledge that when countries produce locally for exportation in larger quantities than they import, the value of their currency will appreciate against all odds. Pumping money to the foreign exchange market is the laziest solution any economy should adopt to cure progressive drop in currency value (Nwafor, 2018). Through exchange rate effect on exports and imports volume, it exert influence on a country`s balance of trade position and this promote economic growth in the long run.

Statement of the Research Problem

In finance and economic literature there is a general consensus that many macroeconomic factors like interest rate, money supply, trade openness including exchange rate among others determine economic growth in both developed and emerging economics like Nigeria and it counterparts. Many researchers have examined the effect of exchange rate and plethora of these factors on economic growth both in developed and developing countries. Popular and recent among these studies are Ehigiamusoe and Lean (2019), Conrad and Jagessar (2018), Ola (2018), Nwafor (2018), Selimi and Selimi (2017), Guellil, Marouf and Benbouziane (2017), Korkmaz (2016), Jakob (2016), Afolabi, Abuh, Yemisi and Ehinomen (2016), Mileva, Habib and Stracca (2016), Tang (2015), Onuorah and Osuji (2014). These studies offer mixed findings on exchange rate with respect to economic growth.

Only the study of Ehigiamusoe and Lean (2019) and Korkmaz (2016) focused on cross country effect in West Africa and Europe respectively, while other studies were country specific studies. It becomes very clear in the literature that studies that examined the influence of exchange rate and auxiliary variables of interest rate, trade openness, money supply on economic growth is scarce in the literature and even worse in the case of Africa to the best of my knowledge. Hence, sufficient knowledge about the actual influence of exchange rate on the growth of the economy will help in formulating appropriate policies that suit the uniqueness of African countries economy. Hence, this study examines the effect of exchange rate on economic growth of selected Africa countries.

Objectives of the Study

The comprehensive objective of this study is to ascertain the influence of exchange rate on the economic growth of selected Africa countries. The specific objectives are to;

1. Examine the effect of real exchange rate on economic growth in selected Africa Countries
2. Ascertain the effect of nominal exchange rate on economic growth in selected Africa Countries
3. Investigate how interest rate affects economic growth of selected Africa countries
4. Determine the effect of trade openness on economic growth of selected Africa countries.

Scope of the Study

The scope of this study is restricted to exchange rate effect on economic growth in Africa countries from 1980 to 2019. The choice of this period is informed because it captures all the various significant economic reforms in the African countries and the period is long enough to cater for degree of freedom.

Importance of the Study

This study is the only or among the few studies that have used recent and longest data set of exchange rate, interest rate and trade openness to ascertain economic growth in selected Africa countries to the best of my knowledge, thereby keeping extant literature up to date. The study will also be of immense benefit to government and policy makers, regulatory bodies, investors, researchers, finance students and other related discipline.

Government and Policy Makers: It will guide them in formulating the appropriate investment policies that will regulate exchange rate and promote economic growth.

Regulatory Bodies and Institutions: The study will help of selected countries to formulate effective and efficient monetary and fiscal policies favourable to economic growth.

Investors: The study will enable investors to have a clear understanding of how exchange rate and other macroeconomic variables considered affect economic growth of the host country.

Researchers / Students: Finally, the study will also benefit researchers and students who wish to undertake further studies aimed at determining the effect of exchange rate on economic growth in Africa.

Literature Review

This section focused on related literature review of exchange rate with regards to economic growth. It is arranged in order of conceptual literature, theoretical literature and empirical literature.

Conceptual Literature

Amadeo (2018) defined economic growth as the value movement in total amount of goods and services produce in a country over a period of time usually one year. That is

an increase in the capacity of an economy to produce goods and services, compared from one period of time to another. Bellu (2011) perceived it is the increase of a country's per capita income. Haller (2012) opined that 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. Korkmaz (2016) defines foreign exchange rate as the value of the money of a country in the currency of another country. It is an important factor in determining the real value of the money of a country. Foreign exchange rate can deeply influence the economy of a country. 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) and it 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 (Ola, 2018). Selima and Selima (2017) defines exchange rate as the rate at which one currency is converted into another currency. Currencies can be converted in the foreign exchange market. Without function of foreign exchange market today's international trade is impossible. 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. 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. 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 & Caparu, 2012). Exchange rate determines the level of trade between countries. This in turn affects economic growth as the volumes of trade vary (Ola, 2018).

Theoretical Literature

Some relevant theories related to exchange rate with respect to economic growth are reviewed as follows;

Endogenous Growth Theory

Endogenous growth model of Schumpeter emphasize the high correlation between economic growth and innovation. In financial markets in an economy, innovations happens when new tools are introduced for financial development and in the real sectors of the economy with the introduction of new products and policies such as exchange rate policy. In fact, with the arrival of the financial intermediaries to growth models, introducing new tools of finance and financial development, helps to achieve goals such as minimizing risks, increasing capital efficiency through optimal resource allocation and mobility of savings are taken into consideration that eventually follow the objective of achieving long-term growth of the economy (Hosseini, Ashrafi & Ciyami, 2011).

The Mint Parity Theory

This theory is associated with the working of the international gold standard. Under this system, the currency in use is made of gold or is convertible into gold at a fixed rate (Jhingan 2004). Here, the value of the currency unit was defined in terms of certain weight of gold and the Central Bank of the country concerned was always ready to buy and sell gold at the specified price. The rate at which the local currency could be converted into gold is called the mint price of gold.

The Balance of Payment Theory

This theory stipulates that under free exchange rate, the exchange rate of the currency of a country depends upon its balance of payment. According to Jhingan (2004), a favourable balance of payments raises the exchange rate, while an unfavorable balance of payments reduces the exchange rate. Thus the theory implies that the exchange rate is determined by the demand for and supply of foreign exchange.

The Purchasing Power Parity Theory

This Theory states that spot exchange rate between currencies will change to the differential in inflation rate between countries. The theory states that the equilibrium exchange rate between two inconvertible paper currencies is determined by the equality of their purchasing power. That is, the exchange rate between two countries is determined by their relative price levels (Obadan, 2006).

Empirical Review

Tarawalie (2010),Kogid(2012) and Aman (2013) investigated the nexus between exchange rate and economic growth in Sierra Leone, Malaysia and Pakistan respectively. The study used quarterly time series data and Bivariate granger causality, Ordinary Least Square (OLS),Error Correction Model (ECM), simultaneous equation modeling of two and three stage least square (2SLS and 3SLS) estimation techniques. Findings revealed that both nominal and real exchange rate significantly and positively influenced economic growth. Chen (2012), Asher (2012), Fetai (2013), Obansa, Okoroafor, Aluko and Millicent (2013), Afolabi, Abuh, Yemisi and Ehinomen (2016)explored the nexus between exchange and economic growth in China and Nigeria respectively. Dynamic panel least square and Ordinary Least Square (OLS) regression approach were employed. Findings show that exchange rate has a strong impact on economic growth during the various period considered.

Korkmaz (2016), Selimi and Selimi (2017), Nwanfor (2018) and Ola (2018) x-rayed the nexus between exchange rate and economic growth in selected Europe countries, *Macedonia, Nigeria and Kenya individually*. The panel regression technique, OLS and Granger causality test methodology were applied and they discovered a significant direct (positive) association and causality relationship between exchange rate and economic growth in the sample period.

Statement Research Gap

From the literatures reviewed, majority of the studies were country specific studies with mixed findings. Cross country studies that used real exchange rate, nominal exchange rate, interest rate and trade openness to ascertain the level of economic growth to be achieved when these variables are manipulated is scarce in the literature thereby leaving gap to be filled. Thus, this study examines the cross country influence of exchange rate on economic growth in Africa.

Methodology

This study applied the longitudinal research design within a panel data framework, given that the macroeconomic variables and economic growth variable has been observed over time and cannot be manipulated by the researcher. The population of this study is made up of all the countries in African continent. However, this study purposively selected four (4) countries (Nigeria, Kenya, South Africa and Egypt) as the sample of this study. The choice of this sample is informed by the reality of these countries being the largest economy with most developed capital market in the four (West, East, South and North) region of Africa respectively. Nigeria had nominal GDP of 444.916, South Africa (371.298), Egypt (299.589) and Kenya (109.246) reported by (International Monetary Fund, [IMF], 2018).The time frame of the study is from 1980 to 2019.The choice of this period is based on the fact that it includes the period of global financial crisis of 2008 to 2010 as well as the introduction of and implementation of different exchange rate policy in these countries. The annual secondary data of individual countries used in this study were collected from World Bank Development Indicator (WBDI) as at December, 2017.

Theoretical Framework and Model Specification

This study is based on endogenous growth model as propounded by Schumpeter. The theory is used because it clearly shows the link between innovation and economic growth. And innovation could be in terms of new securities in the market or macroeconomic policies which in turn affect economic growth, given as;

$$Y_t = \alpha_0 + \alpha_1 Z_t + \alpha_2 X_t + \alpha_3 \dots \dots \dots (1)$$

- Where:
- Y = Economic growth
- α = Constant
- Z = Vector of new securities
- X = Vector of macroeconomics policies
- t = respective variables at time t
- α₃ = Perturb term

In order to empirically investigate the influence of exchange rate on economic growth in Africa, the economic growth model is developed from equation (3) and carefully follows Nwanfor (2018) in this study, which is functionally specified as;

$$EGT = f(REXR, NEXR, INTR, TOPN) \dots \dots \dots (2)$$

Equation (2) is decomposed and re-specified in its econometric form with standard assumption of homogenous mean and variance given as;

$$EGT = \alpha_0 + \beta_1 REXR_{it} + \beta_2 NEXR_{it} + \beta_3 INTR_{it} + \beta_4 TOPN_{it} + \varepsilon_{it} \dots \dots \dots (3)$$

Where EGT is economic growth and is the dependent variable. The regressors include REXR (Real Exchange Rate), NEXR (Nominal Exchange Rate), INTR (Interest Rate) while TOPN (Trade Openness). α_0 represent the individual countries and α_1 captures the time trend, α_0 is the mean or autonomous term, $\alpha_1 - 4$ are the coefficients of the regressors to be estimated. ε_{it} The perturb terms, which captures variations in countries economic growth (EGT) not explained by the variations in the independent (explanatory) variables. A priori expectations of the coefficient of the independent variables are given by empirical literature are given as; $\alpha_1 > 0$; $\alpha_2 > 0$; $\alpha_3 > 0$; $\alpha_4 > 0$;

Operationalization of Variables

Table 1: Variables Description

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EGT Real GDP growth rate have been used as a proxy for economic growth.

$$EGT = \frac{RGDP_t - RGDP_{t-1}}{RGDP_t} * \frac{100}{1}$$

REXR It is the price of a domestic currency to a unit of foreign currency adjusted for inflation. It was proxy by annual real exchange rate.

NEXR It is the price of a domestic currency to a unit of foreign currency not adjusted for inflation. It was proxy by annual nominal exchange rate.

INTR It is the constant amount of payment on loan given by deposit money banks.

TOPN It is the ratio of total trade to GDP. $TOPN = \frac{Import + Export}{GDP} * \frac{100}{1}$

Source: Author's Articulation

Method of Data Analysis

The Panel Least Square (PLS) regression technique is used in the empirical analysis of this study. Before the PLS is carried out, some preliminary test of descriptive statistics, correlation analysis and Panel unit root test were carried out to avoid non-significant coefficient estimate. The descriptive statistics and correlation analysis were employed to examine the background characteristics of the data and their normality distribution, strength and direction of association between the variables used. The panel unit root test is used to ascertain stationarity of the variables to avoid spurious regression outcome. The panel least square analysis which is the main method of the analysis is employed to analyse the influence of the explanatory variables on the explained variable in the model. In conducting the panel least square, the Hausman test specification was conducted on the random effect in order to effectively choose the best performing effects between the random effects and the fixed effects. The Eview 8.0 econometric software was used for the empirical analysis.

Data Presentation and Analyses

Descriptive Statistic

Table 2: Summary Statistics

	Mean	Median	Max	Min	Std. Dev.	Skewness	Kurtosis	J-Bera	Prob
EGT	3.598158	4.185000	15.33000	-13.13	3.477286	-1.06279	8.054674	190.4294	0.00
REXR	80.33572	76.73000	546.4000	0.700000	85.89624	2.566293	12.27240	711.3654	0.00
NEXR	4.37E+09	6.00E+08	2.98E+10	0.550000	7.13E+09	1.976316	6.031689	157.1581	0.00
INTR	10.06526	12.52000	36.24000	-65.86	11.21192	-2.43465	16.65406	1330.909	0.00
TOPN	47.75316	50.03000	74.46000	9.140000	13.55162	-0.70197	3.608152	14.82555	0.00

Source: Researcher's Computation Using Eviews (2019).

The descriptive statistic in table 2 showed that the variables considered in the model are not normally distributed as shown by the Jarque-Bera statistic values and their corresponding probability values that are significant at 1% level respectively. The proportion of mean to median is approximately one, and there is a significant variation between minimum and maximum values. Only NEXR variable have a long tail to the right as indicated by the positive value of Skewness. Other variables have long tail to the left as shown by their corresponding negative Skewness value. Finally, the entire variables possess a peaked distribution properties as shown by their corresponding Kurtosis values that is greater than 3.0. The need for unit root test to ascertain the stationarity of the variables became imperative since the variables are not normally distributed.

Correlation Estimation

Table 3: Correlation Matrix

	EGT	REXR	NEXR	INTR	TOPN
EGT	1.000000	-0.413415	0.167851	0.268622	0.287303
REXR	-0.413415	1.000000	-0.360787	-0.296376	-0.521177
NEXR	0.167851	-0.360787	1.000000	0.064512	0.141229
INTR	0.268622	-0.296376	0.064512	1.000000	0.327255
TOPN	0.287303	-0.521177	0.141229	0.327255	1.000000

Source: Researcher's Computation Using E-views (2019).

Table 3 shows the strength and direction of relationship between all the variables considered in the model. NEXR, INTR and TOPN variables considered have a very weak positive relationship with economic growth (EGT) as evidence in their corresponding correlation coefficient of $r = 0.17, 0.27$ and 0.29 respectively. This means that an increase in these variables increases economic growth during the period under review. Only REXR has a weak negative relationship with economic growth as shown by the $r = -0.41$. This Means that an increase in real exchange rate increases economic growth during under review. However, the low positive relationship among the variables suggests absence of multi-collinearity problem in the model.

Panel Group Unit Root Test

Table 4: Stationarity Test

Methods	Statistics	Cross Sections	Order of Integration	Prob. Values
Levin, Lin & Chu t^*	-2.78999*	4	I(0)	0.0026
Breitung t -stat	-3.19218*	4	I(0)	0.0007
Im, Pesaran and Shin W -stat	-2.53386*	4	I(0)	0.0056
ADF - Fisher Chi-square	21.6728*	4	I(0)	0.0056
PP - Fisher Chi-square	36.3537*	4	I(0)	0.0000

** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.
 Source: Researcher's Computation Using E-views (2019).
 The group panel unit root test in table 4 unanimously agree that all the variables are stationary at level I(0). Thus, suggesting that the variables are fit to be used for further analysis.

Panel Regression Estimation

Table 5: Fixed and Random Effect Estimate

Fixed Effect Result			Random Effect Result		
Variables	Coefficient	Prob	Variables	Coefficient	Prob
C	-1.095976 [-0.774467]	0.4399	C	-0.144212 [-0.087772]	0.9302
REXR	-0.011975 [-3.039428]	0.0028	REXR	-0.0124* [-3.250552]	0.0014
NEXR	4.11E-11 [0.937578]	0.3500	NEXR	2.64E-11 [0.603867]	0.5469
INTR	0.129573* [4.814649]	0.0000	INTR	0.1271* [4.855350]	0.0000
TOPN	0.087374* [3.536413]	0.0005	TOPN	0.0701* [2.851793]	0.0050
R ²	0.362315			0.704975	
Adjusted R ²	0.331316			0.686063	
F-Stat	11.68811			16.12583	
Prob	0.000000			0.0000	
D.W Stat	1.376833			1.627834	

Hausman Test

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f	Prob.
Cross-section random	0.000000	4	1.0000

[] = t-statistic and * = 1% level of Significance

Source: Researcher's Computation Using E-views (2019).

The Hausman test in table 5 shows that the Chi-square statistic of 0.000 at degree of freedom 4 is not significant at 5% level, indicating that the cross sectional random differences among countries are not significant to undermine the prediction power of the random effect estimate. Hence, the random effect is preferred to the fixed effect estimate. The coefficient of determination R-square in the random effect estimate shows that 71% systematic changes in GDP growth have been explained by all the explanatory variables taken together. The model still explained 69% of total systematic change in GDP growth as indicated by the adjusted R-square of 0.69 approximately. The error term cater for 29% changes in economic growth that the model could not account for but captured by the error term. This shows that the model has a good fit of the regression line.

There is a significant relationship between all the explanatory variables taken

together as indicated the F-statistic value of 16.13 that is significant at 1% level. Only NEXR did not pass the significant test as shown by its corresponding probability value that is greater than 0.05. The Durbin-Watson statistic value of approximately 2.0 shows the absence of serial correlation in the model. Hence, the model cannot mislead in policy formulation.

Discussion of Findings

All the explanatory variables have different degrees of relationship with economic growth proxy by real GDP growth as shown by their corresponding coefficient values in table 5. Real exchange rate (REXR) is not correctly signed but other independent variables are correctly signed and conform to *A priori* expectation. First, real exchange rate (NEXR) has a significant negative effect on economic growth in Africa. This calls for a serious policy concern, that government policy towards real exchange rate variable in Africa has not achieved its desired objective in promoting economic growth significantly in Africa, as such more effective exchange rate policies still need to be done in this respect. This finding is in line with that of Afolabi, Abuh, Yemisi and Ehinomen (2016), Korkmaz (2016), Ola (2018) and contrary to the findings of Chen (2012) and Kogid (2012) in the literature. Second, interest rate and trade openness (INTR) and (TOPN) has a significant positive effect on economic growth in Africa during the period under consideration. This shows that government policies towards this aspect of the economy have achieved the desired objective of promoting economic growth in Africa significantly.

Only nominal exchange rate (NEXR) is not significant but has a negative effect on economic growth in Africa. This finding is in line with the work of Kogid (2012), Aman (2013) and Nwanfor (2018) in the literature. From the above analysis, it is glaring that only REXR, INTR and TOPN contributed more significantly to economic growth in Africa during the period under review. Hence, they are significant determinants of economic growth in Africa.

Conclusion and Recommendations

This study focused on the effect of exchange rate on economic growth in Africa. Panel least square is applied to analyze the panel data sourced from World Bank Development Indicator of four countries (Nigeria, Kenya, South Africa and Egypt) spanning 1980 to 2019. The random effect estimate as decided by Hausman test multiple regression techniques found real exchange rate, trade openness and interest rate are significant determinants of economic growth during the sample period. Hence, this study concludes that exchange rate has significant effect on Africa economic growth during the period under review. And real exchange rate is a better measure when ascertaining the effect of exchange rate on economic growth in Africa. These findings informed the following recommendations;

1. More macroeconomic policy mix must be tailored to maintain exchange rate within a reasonable threshold to enable both real and nominal exchange rate contribute positively and significantly to economic growth in Africa.

2. All hand must be on deck by the regulatory authority like CBN to focus more on monetary policy for it effect to remain positive and significant.
3. Trade embargo like export duties, import duties and cross border policies must be balance by concern authorities for trade openness impact to remain positive and significant to economic growth.
4. More export promotion strategy and policies must be encouraged by policy makers to promote industrialization and export base that will spur Nigeria economic growth in the region in the long run.
5. Moderate interest rate should be encourage and extended to real sector of the economy by deposit money banks in Africa for interest rate to have desired and significant effect on Africa economic growth.

Limitations of Study and Guides for Future Study

This study covers exchange rate and economic growth in selected African countries, as such the findings and policy implication is limited to African only. Future studies should expand the scope of this study in terms of number of countries and variables considered and used more robust estimation techniques like the Vector Error Correction Model (VECM) and the system Generalized Method of Moment (GMM) to reveal the short and long run influence of exchange rate on economic growth.

References

- Afolabi, B., Abuh, U.B., Yemisi, E.K. &Ehinomen, C. (2016). Exchange rate and economic growth: the Nigerian experience. *International Research Journal of Finance and Economics*, 153(7), 86-94.
- Alao, J. (2010). Do devaluations improve or worsen the terms of trade? *Journal of Economics Studies*, 22(2), 8-18.
- Amadeo, K. (2018). Economic growth, its measurements, causes, and effects. Retrieved from <https://www.thebalance.com/what-is-economic-growth-3306014>
- Aman, Q., Ullah, I., Khan, M.I., Khan, S., (2013). Linkages between exchange rate and economic growth in Pakistan (An Econometric Approach). *European Journal of Law and Economics*, 2(4), 1-8.
- Bellu, L. G., (2011). Development and Development Paradigms A (Reasoned) Review of Prevailing Visions. Food and agriculture organization of the united nations. Easypol module 102
- Conrad, D. & Jagessar, J. (2018). Real exchange rate misalignment and economic growth: The case of Trinidad and Tobago. *Economies*, 6(52), 8-18.
- Emeka, A (2016). [http://www.vanguardngr.com/2016/07/forex-cbn-throws-naira-into-open-market/305\(5\)](http://www.vanguardngr.com/2016/07/forex-cbn-throws-naira-into-open-market/305(5)).
- Ehigiamusoe, K.U. & Lean, H.H. (2019). Influence of real exchange rate on the finance-growth nexus in the West African Region. *Economies*, 7(23), 1-21.

- Fetai, B. (2013). Exchange rate pass-through in transition economies: The case of Republic of Macedonia. *Transition Studies Review*, 20(3), 309-324.
- Guellil. Z., Marouf.F.Z., Benbouziane. M. (2017) Exchange Rate Regimes and Economic Growth in Developing Countries: An Empirical Study Using Panel Data from 1980 to 2013. Italy:
- Haller, A.P. (2012). Concepts of economic growth and development. challenges of crisis and of knowledge. Retrieved from <http://www.ugb.ro/etc/etc2012no1/09fa.pdf>
- Hosseini, S., Y. Ashrafi & Ciyami, A.E. (2011). Investigation of the relationship between financial development and economic growth in Iran by introducing new variables. *Journal of Economic Policy*, 19(60), 19-34.
- Ihnatov, I., Caparu. B. (2012). Exchange rate regimes and economic growth in central and eastern European Countries. *Ihnatova Romania: University of Lasi*.
- IMF, (2018). Annual report on exchange arrangements and exchange restrictions 2017. Washington DC: IMF.
- IMF, (2018). World economic outlook (weo), April 2018.
- Jakob, B.I. (2016). Impact of exchange rate regimes on economic growth. Illinois Wesleyan University: The Ames Library, the Andrew W. Mellon Center for Curricular and Faculty Development, the Office of the Provost and the Office of the President.
- Jhingan, M.L. (2004). Money, banking, international trade and public finance, New Delhi: Vrinda Publications Ltd.
- Kogid, M., Asid, R., Lily, J., Mulok, M., Loganathan, N., (2012). The effect of exchange rates on economic growth: empirical testing on nominal versus real. *The IUP Journal of Financial Economics*, 10(1), 1-17.
- Korkmaz, S. (2016). The effect of exchange rate on economic growth. Conference Paper at Balikesir University, 2-13.
- Mileva, E., Habib, M.M. & Stracca, L., (2016). The real exchange rate and economic growth: revisiting the case using external instruments. European Central Bank.
- Nwafor, M.C. (2018). Effect of naira rate on economic growth in Nigeria. *International Journal of Banking and Finance Research*, 4(1), 58-66.
- Obadan, M. (2006). Overview of exchange rate management in Nigeria from 1986 to 2006. *Bullion Publication of CBN, July – September*, 30(3), 1-9.
- Ola, E.N.K (2018). Influence of exchange rate on economic growth in Kenya. *Journal of Economics and Finance*, 9(6), 34-38.
- Omojimate, O (2010). Exchange rate and trade balance in East Asia: Is there a J-curve, *Economic Bulletin*, 5(18), 21-42.

- Onuorah, A.C & Osuji, C.C. (2014). Exchange rate and the economic growth in Nigeria, *International Journal of Management Sciences*, 2(2), 78-87.
- Sanusi, L.S. (2004). Nigeria's trade balance: the role of income and exchange rates, *Journal of Policy Modelling*, 24(4), 437-452.
- Selimi, N. & Selimi, V. (2017). The effects of exchange rate on economic growth in the republic of Macedonia. *Ecoforum*, 6(13), 51-55.
- Tang, B. (2015). Real exchange rate and economic growth in China: A co-integrated VAR Approach. *China Economic Review*, 34, 293–310.
- Tarawalie, A.B.(2010). Real exchange rate behaviour and economic growth: Evidence from Sierra Leone. *South African Journal of Economic and Management Sciences*, 13(1), 8-25.