

# THE EFFECTS OF EXCHANGE RATE FLUCTUATION ON THE PERFORMANCE OF MANUFACTURING FIRMS IN GHANA. A CASE STUDY OF NESTLE GHANA

Bismark Owusu-Sekyere Adu, Pentecost University

## ABSTRACT

*The effects of exchange rate variations on the Ghanaian manufacturing sector is examined in this research using Nestle Ghana Limited as a case study. The idea is that fluctuations in the exchange rate have a negative impact on the industrial sector's production. This is due to Ghana's manufacturing industry's reliance on imported inputs and capital goods. The empirical research method was applied in this study. In this study, the regression econometric technique was used. The study focused on the Nestle Ghana population. This study's data came from a secondary source. The data for this study came from library research, the Nestle Ghana website's financial statements, and information from the Bank of Ghana, Ghana Statistical Service, and the Ministry of Finance. According to the findings, the exchange rate has a substantial impact on the economic growth of Ghanaian manufacturing enterprises, as well as the impact of exchange rate fluctuations on the manufacturing sector. Based on the findings, policy recommendations were offered. Among other things, there is a need to strengthen the link between agricultural and manufacturing by procuring raw materials locally and lowering the sector's dependency on imported inputs to a manageable level.*

**Keywords:** Exchange Rate, Interest Rate, Purchasing Power Parity.

## INTRODUCTION

Ghana participates in almost all forms of international trade, including service imports and the import and export of goods and services. Ghana is a member of many global communities, which makes its involvement in international trade automatic. The researcher wanted to know how exchange rate fluctuations affected Ghana's listed manufacturing firms in this study (Akila, 2004).

For manufacturing companies, exchange rate fluctuations are crucial when it comes to importing and exporting items. The exchange rate is critical to determining how production and spending in the domestic economy are allocated between foreign and domestic goods. This concept is a very common determinant of trade between countries regarding earnings from imports and exports (Churchill et al., 2014). In the context of global market imbalances, exchange rate fluctuations have gotten a lot of attention (Clark, 1973). Despite the literature's focus, it piques the interest of some professionals such as economists, accountants, and financial analysts, particularly in developing countries. It's because, in any case, the exchange rate is

significant not only because of price differences in domestic and international markets for goods and assets, but it also indicates the competitiveness of a country's exchange rate power over other countries in the world market. As a result, determining the effect of the fluctuation is difficult (Alemayehu, 2001).

In the financial world, exchange rate volatility is a significant contributor to risk. Foreign trade and investment may be negatively impacted during periods of extreme exchange rate volatility (Anderton & Skudelny, 2001).

The collapse of the Bretton Woods system in 1973, which resulted in the floating of exchange rates, had a significant impact on the depreciation of a country's currency on commerce in most countries (De Grauwe, 1988).

The 1970s and 1980s were difficult years for many developed and developing economies alike. Some developed and developing economies experienced worsening terms of trade, a drop in foreign financing, and a serious macroeconomic management challenge during those periods (Nazar & Saleem, 2009). To keep their economies running, Kiptui (2008). most countries had to rely on fiscal and economic policy adjustments (Arize et al., 2000).

According to the International Monetary Fund (IMF), when a country's exchange rate policies are inactive, it affects its primary product exporters (Fugazza, 2004).

In the 1980s, the Structural Adjustment Policy was a vital component of the IMF's requirements for managing exchange rate fluctuations. According to Musila Network 2003, its adoption resulted in currency depreciation due to significant imports. Ghana's external trade mainly comprises import demand for goods and services and export demand for goods, resulting in a trade balance (McPherson & Rakovski, 1998). The amount of money a country earns through exporting minus the cost of importing into the country is known as the balance of trade. Other factors that influence trade balance include:

- Domestic prices of manufactured goods
- Exchange rate fluctuations
- Trade agreement or trade barrier
- Other tariffs, taxes, and trade measures

## Problem Statement

The cedi's rapid devaluation against the world's major currencies has ramifications for businesses. Exporters often gain from exchange rate depreciation, but Ghanaian exports are small. Because imports vastly outnumber exports, the rapid depreciation of the currency has resulted in high costs of doing business, jeopardizing the very existence of certain businesses. Problems with their balance of payments have plagued many developing countries around the world. This occurs due to high debt, decreased trade terms, monetary policy expansion, and price distortion. Many countries have approached foreign sources such as the International Monetary Fund (IMF) and the World Bank to solve their challenges. The adjustment of the exchange rate is fundamentally an element of this adjustment (Branson, 1981).

The dilemma of implementing an adequate exchange rate policy that will be acceptable for Ghana's economic and social growth has been one of the numerous challenges the country has faced since independence (Hooper & Kohlhaugen, 1978). As a result, the government has

gone through several exchange rate regimes supported by macroeconomic policies and exchange rate and trade system reforms. Since 1967, the nation has taken numerous currency rate correction actions. The goal is to boost export while discouraging imports of goods and services that have a detrimental impact on the country's terms of trade. The use of exchange rate policy, on the other hand, has not been very effective in resolving the country's trade imbalances. This indicates that the government has not met its primary goal of using exchange rate management to reduce the balance of trade deficit, necessitating the research (Chit et al., 2010). This has posed a more significant burden on Ghanaian authorities. For example, in 2015, the Governor of the Bank of Ghana was pressured to leave because many believed he was mismanaging the Ghanaian cedi's exchange rate versus critical international currencies (Dollar, Pound sterling, Euro and the Yen) (Hezron, 2003). Is lowering Ghana's external debt through the use of foreign exchange rates a viable option? What effect does the volatility in the exchange rate have on Ghana's listed manufacturing firms? The manufacturing sector was picked because it accounts for about 25% of the country's GDP as at 2015.

### **OBJECTIVE OF THE STUDY**

**The following are the objectives underlying the study:**

- To find out if the continuous fluctuation of the exchange rate has impact on the quality and quantity of output of listed manufacturing firms in Ghana.
- To determine the effect of exchange rate fluctuation on the cost of Nestle Ghana Limited.

### **Research Questions**

- To what extent does exchange rate fluctuation affect the cost of importation of input and capital goods?
- Does exchange rate fluctuation have effect on the quality and quantity of goods manufactured by Nestle Ghana Limited Ghana Limited?

### **LITERATURE REVIEW**

#### **Theories of Exchange Rate**

Under this topic, some major theories explaining foreign exchange rates fluctuations were critically examined. The theories are Purchasing Power Parity Theorem, Interest Rate Parity Theorem, the International Fisher Effect (Basu et al., 2000).

#### **Purchasing Power Parity Theorem (PPPT)**

Cassel proposed the Purchasing Power Parity Theorem (PPPT) in 1918. According to this idea, the rate of exchange between two currencies is determined by the relative inflation rates of the two countries (Edwards, 1988).

The law of one price argues that in a free market with no trade barriers and no transportation or transaction expenses, the competitive process will ensure that any given good will have just one price (Ozturk, 2006).

After taking into account the exchange rate, the Purchasing Power Parity hypothesis ensures that the purchasing power of one national currency is equal to that of the other. Wilson 2013 believes that under this theory, the rate of exchange between two currencies is determined by the equality of the purchasing capabilities of the two currencies. The difference in inflation rates between two countries may cause the currency of one of the countries to shift to match the relative buying power of the currencies (Aron et al., 1997).

The exchange rate should link the price levels of the two countries, leading to the assumption that exchange rate fluctuations are linked to inflation rate discrepancies. If the theory fails, it is concluded that purchasing parity between the two currencies does not exist (Madura, 2007). The following is how the purchasing power parity theorem is expressed:

Percentage change =  $\frac{(\text{Inflation rate in home market}) - (\text{Inflation rate in foreign market})}{(\text{Inflation rate in the foreign market}) + 1}$  \*100 in the direct quote

The purchasing Power Parity theory could also be expressed as  $(1+hc)$

$S_1 = S_0 \times (1+hb)$

$S_0$  indicates the current spot.

$S_1$  = Probable future spot

$hb$  = The inflation rate in the country where the spot is traded (base currency)

$hc$  = The other country's inflation rate. (This is a counter currency.)

Although PPPT can be used as our best forecast of future spot rates, it has the following key drawbacks: (Choudhri & Khan, 2005).

\* Inflation rates in the future are simply estimates (Williamson, 1994).

Government intervention: governments have the ability to manipulate exchange rates, defying the market.

### Interest Rate Parity Theorem (IRPT)

According to Anyawu 1997, interest rates in different financial instruments might fluctuate depending on the maturity and liquidity characteristics. The nominal interest rate and the real interest rate are the two types of interest rates (Bhattarai & Armah, 2005).

According to Pandey, the real interest rate is calculated by subtracting the period's inflation rate.

Interest rate theories have been proposed by four people. He outlined them in the following manner:

- a) Interest rate theories that have been around for a long time
- b) Interest rate theories based on loanable funds
- c) The Keynesian interest rate theory
- d) Interest rate contemporary ideas, often known as the Hicks Hanson theory.

### The Loanable Funds Theory

This theory is based on the notion that interest rates are determined by the combination of demand and supply, as well as the interest rate on loanable funds or credit. Through the demand for savings, dishoarding, and bank money on the supply of corporate entities or private persons, the loanable fund theory links interest rate with the sources of the loan, which might be the government, businessmen and consumers (Baldwin et al., 2005).

### **The Keynesian Theory of Interest Rate**

The Interest Rate Parity Theory states that the difference between spot and forward exchange rates is equal to the interest rate differential between the two currencies. The forward rate is an agreed-upon future exchange rate for purchasing or selling a specific amount of currency at a specific future date. The interest rate parity model indicates that by referring to disparities in nominal interest rates, it may be possible to predict exchange rate changes.

According to IRPT, the country with the higher interest rate will see its currency's forward rate depreciate.

The IRPT is expressed as follows:

$$\frac{1 + ic}{F_0 = S_0 \times 1 + ib}$$

$$F_0 = S_0 \times 1 + ib$$

Where:

F<sub>0</sub> = Forward rate

ib = Interest rate for base currency

ic = interest rate for counter currency

### **International Fisher Effect**

This theory is based on a model of exchange rates proposed by a scholar named Fisher in 1930. Rather than pure inflation, the idea focuses on current and future risk-free nominal interest rates. The theory clearly states that interest rate differentials between markets might result in a migration of resources from low-interest markets to high-interest markets (Madura, 2007).

This theory states that interest rate differentials will only occur as a result of exchange rate fluctuations, as the exchange rate is likely to fluctuate in such a way that the higher interest rate benefit will be offset by the loss of foreign exchange rate transactions. According to the international Fisher effect (IFE), countries with high interest rates are more likely to have more inflation, which means their currencies will need to be valued. As a result, those who are interested in investing or who are already investing in their home countries should avoid investing in interest-bearing securities in foreign nations because the exchange rate effect may cancel out the interest rate advantage. The following is how the International Fisher Effect is expressed: In the direct quote (Interest rate in the foreign market + 1), percentage change = ((Interest rate in the home market) - Interest rate in the foreign market) \*100.

## Determinants of Exchange Rate

Exchange rate is normally between two or more countries. It is the ratio of two currencies which is relative in terms of money stocks, inflation rates, gross domestic products and interest rates (Mandal, 2013).

Mandal (2013) quoted in his article from Branson (1981) that *"Since 1973, the theory of the drivers of exchange rate fluctuation has undergone significant changes. We started with various models in which rates changed to clear the current account balance (the elasticity method) or in response to changes in relative money stocks (the money stock approach) (the monetary approach). These have been included into a broader paradigm in which exchange rates are determined in the short run by asset-market equilibrium conditions, similar to asset prices or interest rates, and in the long run by real current account conditions. Monetary shocks in the current account, in our view, do."*

According to the literature exchange rate may consist of dual roles. These roles are asset prices that control the relative prices of two monies, but are also very relevant in determining the relative prices of goods in international markets in the short run Mandal (2013).

## METHODOLOGY

The study was conducted using exploratory and explanatory approach from the findings of the research. Saunders et al. (2003) has given explanation to the meaning of explanatory studies as variables that cause a difference in a relationship. It is being justified that this kind of methodology generates answers to questions. It tries to give answers to questions like why, what and how is the fluctuation of exchange rate affecting the performance of manufacturing firms. (Saunders et al., 2003).

Saunders et al. (2003), further goes to explain that descriptive research helps present data in a meaningful form and it thus helps the researcher to understand characteristics of different groupings in a given situation (Pollin & Heintz, 2017).

Descriptive research design also helps the researcher to think Chronologically about aspects in a given situation under his/her study and provides ideas for further probe into the issues under research to help make decisions. This will involve generating of data in a quantitative form that will be subjected to rigorous quantitative analysis in a formal and rigid way. With this type of research therefore, numerical analysis will be possible which is of great importance when we come to comparative analysis (Auboin & Ruta, 2011).

The population comprising of gathering numeric figures from the exchange rate figures gathered by the Nestle Ghana Limited were analyzed. The unit of analysis was the aggregate manufacturing export earnings and would include the foreign exchange budget, inflation rates, interest rates, the value of import of machinery and transport equipment, total electricity generation in megawatts, manufacturing sectors consumption. Some other factors may also be taken into consideration such as manufacturing foreign private investment, manufacturing gross

product, manufacturing employment rate (Bah & Amusa, 2003). The study is therefore a purely statistic study (Otieno & Mudaki, 2011).

In the case of this research non-probability sampling was used which included the sample taken by the researcher (Ćorić & Pugh, 2010).

This study used secondary data gathered from Nestle Ghana Limited for the period of ten years (2000-2015), to try and derive a whole-some understanding that helped the researcher achieve the research objective stated (Otieno & Mudaki, 2011). Manufacturing import and export earnings on foreign exchange statistics data were gathered from Ghana Statistical service, Bank of Ghana and the various Ghana budgets; Data on foreign exchange rate fluctuations was obtained while data on inflation was obtained from Ghana Statistical Service and Bank of Ghana.

The data gathered was interpreted in the form of an equation  $Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$  Where:  $Y =$  Log of Total Manufacturing import export earnings  $X_1 =$  Monthly Foreign exchange rate (GHC Vs the US dollar)  $X_2 =$  Monthly Inflation  $X_3 =$  Monthly Foreign direct investment as a percentage of the country's GDP  $\varepsilon =$  Error term.

## DATA ANALYSIS AND PRESENTATION OF RESULTS

### Introduction

The results of the data analyzed as well as the discussion of the findings are presented in this chapter. In the discussion of the findings, attempts were made to give their possible implications. The analysis is performed based on the data capture from 2000 to 2014, the specified model has been SPSS package. Various test and analysis were run using the SPSS (22).

### Descriptive Statistics

Descriptive Statistics shows the mean, minimum and maximum values of variables used in the study in addition to standard deviation (Ndung, 2000).

	<b>N</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>		<b>Std. Deviation</b>
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic
EXCHANGE RATE	16	7.5225	8.756355	6.13E+03	1.19024	4.76095
MANUFACTURINGSECTORS CONSUMPTION	16	-2.3	11	3.6062	0.77484	3.09935
Inflation index	16	-17.2	19.4	7.1188	0.04086	8.16343
Valid N (listwise)	16					

*Source: Research Findings, 2021*

Table 1 above provides the descriptive statistics for the variables as shown in the study. SPSS 22 software was sourced to calculate the descriptive analysis variables for the period of fifteen years (2000 to 2015) for the effect of exchange rate fluctuation (Kandil & Mirzaie, 2002).

Exchange rate fluctuation had a mean of 6.125 with standard deviation 4.76095. The manufacturing sector consumption had a mean 3.6062 and a standard deviation of 3.09935; inflation index had a mean of 7.1188 with a standard deviation 0.04086 (Cameron et al., 2005).

### Correlation and Regression Analysis

The effects of exchange rate fluctuation, inflation and manufacturing consumption effect were analyzed using correlation coefficients. The research seeks to establish the effects of exchange rate fluctuation and manufacturing sector. The regression model established the relationship between independent variable and dependent variables (Cheng & Orden, 2005).

The findings were analyzed by using the following form of an equation  $Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$  Where:  $Y =$  Log of Total Manufacturing import export earnings  $X_1 =$  Monthly Foreign exchange rate (GHC Vs the US dollar)  $X_2 =$  Monthly Inflation  $X_3 =$  Monthly Foreign direct investment as a percentage of the country's GDP  $\varepsilon =$  Error term.

Values required to do analysis

$$\beta = -0.085$$

$$\beta_1 = 0.164$$

$$\beta_2 = 0.75$$

$$\beta_3 = 0.518$$

Therefore

$$MIEE = \beta_0 + \beta MFER + \beta MI + \beta MFDI + ER + \varepsilon$$

$$MIEE = -0.085 + 0.164MFER + 0.75MI + 0.518ER$$

Total Manufacturing Import Export Earnings (MIEE)

Monthly Foreign Exchange Rate (MFER)

Monthly Inflation (MI)

Monthly Foreign Direct Investment (MFDI)

Exchange Rate (ER)

In Table 1, it is observed that the exchange rate fluctuation has a significant effect ( $b=0.75$ ,  $p=0.000$ ) on the listed manufacturing firms. In other words, there is a strong positive correlation between the fluctuation of exchange rate and the manufacturing sector of Ghana. Which means that an effect of exchange rate affects significantly the outcome of the profitability of manufacturing sector due to import of export of goods.

The coefficient of  $R^2=0.75$ . This means that 75% of the changes in exchange rate has a significant effect on manufacturing sector (Batten & Belongia, 1984).

All the dependent variables were correlated with the independent variable. From the above analysis the exchange rate had a correlation of 75% with manufacturing consumption. The



correlation coefficient of the foreign exchange rate and the value of import is negative 17.2 % while that of the manufacturing consumption is 71.1% to the effect on exchange rate.

### Interpretation of Manufacturing Consumption Sector

Table 2 shows the strong relationship between the effect of exchange rate fluctuation on inflation, electricity consumption and the manufacturing consumption. The outcome of the model indicates that the standard deviation of 50.1% and an adjusted R square of 70.1%. This means that there is reliability in the model adopted and so it can be relied upon to take any decision in the future (Bilson & Marston, 2007).

<b>Model</b>	<b>R</b>	<b>R Square</b>	<b>Adjusted R Square</b>	<b>Std. Error of the Estimate</b>
1	0.629a	0.501	-0.071	4.92603

Predictors: (Constant), Manufacturing sectors consumption

*Source: Research Findings, 2021*

The adjusted R square depicts the changes in the dependent variable from the independent variable due to the determination of the adjusted coefficient. From the above analysis, the following findings were captured (Gertner et al., 2010). The Adjusted Square was 0.71 which indicates that 71% of the effect manufacturing consumption by the manufacturing sector are caused by the effect on exchange rate fluctuation which comes as result of the unstable exchange rate on the financial or forex market (Tulasombat & Ratanakomut, 2015). Other factors which were not captured in the model is frequent changes in the economic indicators of an economy such as changes in inflation rate, changes in the basic rate, the operation of black markets, high taxes on import of goods for the manufacturing sector (Mwangi et al., 2014). The model R is 62.9% which indicates that there is a strong and a positive relationship between the dependent variables i.e. the manufacturing consumption, exchange rate, inflation and the total electricity production (Goldstein & Khan, 1985).

<b>Model</b>		<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
1	Regression	0.28	1	0.28	32.301	0.016a
	Residual	339.72	14	24.266		
	Total	340	15			

a. Predictors: (Constant),  
Manufacturing sectors consumption

b. Dependent Variable: YEAR

Source: Research Findings 2021

The findings from the analysis as shown in the table 3 indicates the F Test 32.301 above represents that the regression of the overall significance was very relevant. The value of the significance 0.96 as shown implies that the regression model was significant indicating the prediction of the positive relationship between effects of exchange rate fluctuation manufacturing consumption and it was less than  $\alpha=0.05$ . The significance level indicates that the chances are almost zero which means that the results of the regression model were due to sampling endogenous events instead of the true relationship (Limao & Venables, 2001).

The result interprets the standardized regression coefficients (Beta). In calculating the input of each of the independent variables to the research, it was recognized that the independent variables had a relevant input to the difference of the dependent variable at a relevant level of 0.05.

The equation for regression was given as

$$Y = 0.085 + 0.164X_1 + 0.75X_2 + 0.518X_3 + \varepsilon$$

$$MIEE = -0.085 + 0.164MFER + 0.75MI + 0.518ER + \varepsilon$$

It can be established from the equation above that in order to determine the effect of exchange rate fluctuation on the manufacturing sector, one hold the Exchange Rate, Monthly Inflation, total Manufacturing Import Export Earnings to a constant of zero whiles Foreign Exchange Rate remains at 8.56( Brada & Mendez, 1988).

### General Interpretation of the Findings of the Analysis

It has been established that there exists a strong relationship between the effect of exchange rate fluctuation and manufacturing consumption. From the above analysis it can be seen that Table 3 depicts the results of the correlation of exchange rate of 75%. Monthly inflation rate recorded a negative coefficient correlation of 17% whiles manufacturing export earnings, electricity for the manufacturing sector also recorded a coefficient correlation of 75% and 65% respectively. In a nut shell what the above correlation coefficient shows is that there is a strong effect on exchange rate fluctuation on the performance of the manufacturing sector of an economy. This is due to the higher import of raw materials for the production of some manufacturing goods (Nyangweso & Odhiambo, 2004).

The correlation coefficient therefore shows a strong negative relationship between the effect of the exchange rate fluctuation and manufacturing consumption.

In terms of the effect of exchange rate fluctuation on manufacturing consumption, the coefficient of R square was 50.1 percent, while the independent variables (exchange rate, manufacturing consumption, inflation rate, and percentage of electricity) accounted for 65 percent.

### CONCLUSION

The study critically scrutinized the effect of exchange rate fluctuation on the Ghana manufacturing firms. This is due to the reason exchange rate plays a very important role on the

manufacturing firms of any country. This is because the economic growth of a country may increase as a result of proper industrialization. Unlike the situation in Ghana the country relies more on import than exports this therefore means that the countries manufacturing is not receiving a higher attention as compared to the service sector and other sectors of the economy.

It is worth noting that Ghana is highly dependent on the import of goods to feed most of its sectors. This has made the manufacturing sector worse off in terms growth because almost everything is imported in the country. This has created a serious devaluation of the Ghana cedis against the major foreign currencies (dollar, pound, euro, yen).

It is important to note that the devaluation affects the exchange rate badly, and it associated to factors such as lack of technological and human skills which is necessary to build on the export of the country.

Throughout the study the dependent variables were inflation rate, interest rate, exchange rate and some other factors that were critically considered. That of the variables which were independent were the determinants of Ghana's manufacturing sector performance. High import of goods to feed the manufacturing sector against the low the export affects significantly the performance of the manufacturing sector since the balance of trade is mostly negative. This means that there is a positive relationship between the fluctuation of exchange rate and the performance of the manufacturing sector of Ghana.

Poor financial instruments and weak financial structure is the result of this from the political point of view. The study has shown a conclusion that the major determinant of the fluctuation of exchange rate is due to the devaluation of the Ghana cedis against the major foreign currencies and this is as a result of the high inflation and interest rate combined. The findings of studies were consistent whose research studies indicated that manufacturing sectors could perform creditably well if the government is able to encourage the use of local raw materials as against that of the importation of raw material to produce some local manufacturing products. This would have a significant effect on the exchange rate fluctuation on the performance of these manufacturing firms.

## REFERENCES

- Akila, W. (2004). Exchange rate systems.
- Alemayehu, G. (2001). Macroeconomic policy and agriculture in Ethiopia. *Kenya Institute for Public Policy Research and Analysis and Department of Economics, Addis Ababa University*.
- Anderton, R., & Skudelny, F. (2001). Exchange rate volatility and euro area imports. *Available at SSRN 356121*.
- Arize, A.C., Osang, T., & Slottje, D.J. (2000). Exchange-rate volatility and foreign trade: evidence from thirteen LDC's. *Journal of Business & Economic Statistics, 18(1)*, 10-17.
- Aron, J., Elbadawi, I., & Kahn, B. (1997). *Determinants of the real exchange rate in South Africa*. Centre for the Study of African Economies, Institute of Economics and Statistics, University of Oxford.
- Auboin, M., & Ruta, M. (2011). The relationship between exchange rates and international trade: a review of economic literature. *Available at SSRN 1955847*.
- Bah, I., & Amusa, H.A. (2003). Real exchange rate volatility and foreign trade: Evidence from South Africa's exports to the United States. *African Finance Journal, 5(2)*, 1-20.
- Baldwin, R.E., Skudelny, F., & Taglioni, D. (2005). Trade effects of the euro: evidence from sectoral data. *Available at SSRN 668246*.

- Basu, M.A., Calamitsis, M.A.A., & Ghura, M.D. (2000). *Promoting growth in sub-Saharan Africa: learning what works*. International Monetary Fund.
- Batten, D.S., & Belongia, M.T. (1984). The recent decline in agricultural exports: is the exchange rate the culprit?. *Federal Reserve Bank of St. Louis Review*, (October 1984).
- Bhattarai, K., & Armah, M.K. (2005). *The effects of exchange rate on the trade balance in Ghana: Evidence from cointegration analysis*. Cottingham: Business School, University of Hull.
- Bilson, J.F., & Marston, R.C. (2007). *Exchange rate theory and practice*. University of Chicago Press.
- Brada, J.C., & Mendez, J. (1988). Exchange rate risk, exchange rate regime and the volume of international trade. *Kyklos*, 41(2), 263-80.
- Branson, W.H. (1981). *Macroeconomic determinants of real exchange rates* (No. w0801). National Bureau of Economic Research.
- Cameron, S., Kihangire, D., & Potts, D. (2005). Has exchange rate volatility reduced Ugandan coffee export earnings. *Bradford Centre for International Development (BCID), University of Bradford, Bradford, BD7-1DP, UK*.
- Cheng, F., & Orden, D. (2005). Exchange rate misalignment and its effects on agricultural producer support estimates: Empirical evidence from India and China.
- Chit, M.M., Rizov, M., & Willenbockel, D. (2010). Exchange rate volatility and exports: New empirical evidence from the emerging East Asian economies. *World Economy*, 33(2), 239-263.
- Choudhri, E.U., & Khan, M.S. (2005). Real exchange rates in developing countries: are Balassa-Samuelson effects present?. *IMF Staff Papers*, 52(3), 387-409.
- Churchill, R.Q., Kwaning, C.O., & Ababio, O. (2014). The determinant of bank interest rates spreads in Ghana. *International Journal of Economic Behavior and Organization*, 2(4), 49-57.
- Clark, P. B. (1973). Uncertainty, exchange risk, and the level of international trade. *Economic Inquiry*, 11(3), 302-313.
- Ćorić, B., & Pugh, G. (2010). The effects of exchange rate variability on international trade: a meta-regression analysis. *Applied Economics*, 42(20), 2631-2644.
- De Grauwe, P. (1988). Exchange rate variability and the slowdown in growth of international trade. *Staff Papers*, 35(1), 63-84.
- Edwards, S. (1988). Real and monetary determinants of real exchange rate behavior: Theory and evidence from developing countries. *Journal of development economics*, 29(3), 311-341.
- Fugazza, M. (2004). Export performance and its determinants: supply and demand constraints. *Policy issues in international trade and commodities study series*, (26).
- Gertner, R., Gertner, D., & Guthery, D. (2010). Brazilian exporters: Non-financial export performance measurements and their determinants. *Journal of International Business and Cultural Studies*, 2, 1.
- Goldstein, M., & Khan, M.S. (1985). Income and price effects in foreign trade. *Handbook of international economics*, 2, 1041-1105.
- Hezron, N. (2003). Small Farmer Participation in Export Production: The Case in Kenya, Kenya Institute of Public Policy Research and Analysis. Trade Flows. *Journal of Economic Surveys*, 13(1), 71-106.
- Hooper, P., & Kohlhagen, S. W. (1978). The effect of exchange rate uncertainty on the prices and volume of international trade. *Journal of international Economics*, 8(4), 483-511.
- Kandil, M., & Mirzaie, A. (2002). Exchange rate fluctuations and disaggregated economic activity in the US: theory and evidence. *Journal of International Money and Finance*, 21(1), 1-31.
- Kiptui, M.C. (2008). Does exchange rate Volatility Harm exports? Empirical evidence from Kenya's Tea and horticulture exports. In *Workshop paper at the CSAE Conference at Oxford University* (pp. 16-18).
- Limao, N., & Venables, A.J. (2001). Infrastructure, geographical disadvantage, transport costs, and trade. *The world bank economic review*, 15(3), 451-479.
- Madura, J. (2007). *International Financial Management*. 7Th Edition, South Western Publishing Co.2007.
- Mandal, K. (2013). The Recent Exchange Rate Fluctuations. *Foreign Trade Review*, 48(1), 137-142.
- McPherson, M.F., & Rakovski, T. (1998). *Exchange rates and economic growth in Kenya: an econometric analysis* (No. 651).

- Mwangi, S.C., Mbatia, O., & Nzuma, J.M. (2014). Effects of exchange rate volatility on french beans exports in Kenya.
- Nazar, M.S., & Saleem, H.M.N. (2009). Firm-level determinants of export performance. *International Business & Economics Research Journal (IBER)*, 8(2).
- Ndung'u, N.S. (2000). The exchange rate and monetary policy in Kenya. *African Development Review*, 12(1), 24-51.
- Nyangweso, P.M., & Odhiambo, M.O. (2004). Exporting Kenya's horticultural products: Challenges and opportunities in the 21st century.
- Otieno, B., & Mudaki, K. (2011). Factors influencing real exchange rate and export sector performance in Kenya. *School of business and economics. Department of economics, Moi University*.
- Ozturk, I. (2006). Exchange rate volatility and trade: A literature survey. *International Journal of Applied Econometrics and Quantitative Studies*, 3(1).
- Pollin, R., & Heintz, J. (2017). *Expanding Decent Employment in Kenya: The Role of Monetary Policy, Inflation Control, and the Exchange Rate* (No. 6). International Policy Centre for Inclusive Growth.
- Saunders, M., Lewis, P., & Thornhill, A. (2003). Research methods for business students. *Essex: Prentice Hall: Financial Times*.
- Tulasombat, S., & Ratanakomut, S. (2015). The effect of exchange rates on agricultural goods for export: A case of Thailand. *Information Management and Business Review*, 7(1), 1-11.
- Williamson, J. (1994). *Estimating equilibrium exchange rates*. Peterson Institute.

**Received:** 03-Apr-2023, Manuscript No. JMIDS-22-13412; **Editor assigned:** 05-Apr-2023, Pre QC No. JMIDS-22-13412 (PQ); **Reviewed:** 19-Apr-2023, QC No. JMIDS-22-13412; **Revised:** 21-Apr-2023, Manuscript No. JMIDS-22-13412(R); **Published:** 29-Apr-2023