An Economic Analysis of the Welfare Effects of Higher Import Price Induced by Naira Devaluation

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Abstract

The study examines the effects of the devaluation of naira on the household welfares. What does the recent devaluation of naira mean for the Nigerians, whose their economy depends on mono-product, has been the subject of debate among people of the Federal Republic of Nigeria. The objective of the study is to empirically provide the answer. This study made use of time series secondary data from 2010 to 2016 on monthly basis. The data were obtained from World Bank database, Central Bank of Nigeria Statistical Bulletin, Nigerian National Bureau of Statistics, etc. and the significant relationship was tested between the consumer price index as dependent variable and the exchange rate, total import, urban price index, rural price index, money supply, and inflation rate as independent variables using Microfit statistical package. The results of the analysis lead to a conclusion that the welfare loss due to the devaluation of currency was 6.4%. The main reason for this is a rise in the inflation rate as the price of the goods rise while incomes remain the same. Consequently, to correct negative effects of the naira devaluation on the citizens, the government should develop appropriate policy to restructure and diversify the productive base of the economy in order to reduce dependence on oil and import.

Keywords: Import Price, Naira Devaluation, Mono-product

1. Introduction

Nigeria attained independence when agriculture was the most important sector of the economy and accounted for more than 50% of GDP with more than 75% of export earnings (Aregheore, 2009). But, the crude oil that was discovered in 1956 and attained commercial quantity in 1958 at Oloibiri, in Brass Local government area of present Bayelsa State became a focus as a source of revenue in the early 1970s (Dode, 2012) while agricultural development was neglected, and the sector entered a relative decline (Aregheore, 2009). As at 2014, Nigeria is the 39th largest export economy in the world (WTO, 2015), in which the petroleum and petroleum products accounted for 94% and it is the 123rd most complex economy according to the Economic Complexity Index (OEC, 2014).
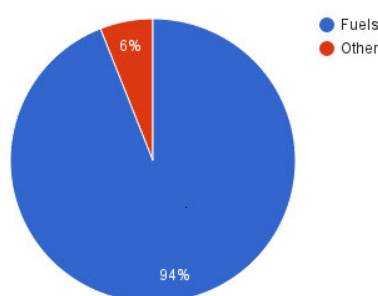
Source: Author (From data collected on UNCTAD

Note that Nigeria is 39 and 49 respectively among leading exporters and importers in the world. Out of total export, the petroleum and petroleum products accounted for 94%.

Trade has been recognized as a requisite impetus for economic growth in different international trade studies. The part played by trade to broader economic development is tremendous in developing countries due to the fact that majority of the essential elements, for development, are imported as domestic supply is not sufficient. Since improved technology is required to enhance export capacity as the policy pursued, the demand for imports will definitely be pushing up.

The debate on whether or not to devalue the Naira in Nigeria is as old as the second republic (Magaji., 2016). Devaluation means that there is a fall in the value of a currency. Tejvan Pettinger (2016) states that export

cheaper, import more expensive, increased aggregate demand, inflation and improvement in the current account and attract foreign direct investment, create employment and promote economic growth and development among others are the effects of devaluation of currency (Magaji., 2016) which, according to Tejvan Pettinger (2016), depend on elasticity of demand for export and import, state of the global economy, inflation and the reason for currency devaluated. Many articles had been written on the issue of devaluation of a currency and its attendance effects on the nation's economy. In his article titled: *How is greenback affect the economy*, Picardo concluded that as vigorous consumer demand and low inflation results in strong economic growth the appreciating US dollar has a net positive effect on the US economy and offsetting negative effects such as the impact on exports and corporate earnings (Investopedia, 2015).

Ayen (2014) investigates the effect of currency devaluation on output in Ethiopian economy and found that currency devaluation is contractionary in the long run and neutral in the short run and concluded that monetary policy has a positive effect on output growth. Genye, (2011) also studied the currency devaluation and economic growth in Ethiopia and showed that devaluation has the time-varying effect. Alemu and Jin-sang (2014) examined the effects of currency depreciation on trade balance in selected Asian economies; they came to a conclusion that no evidence for the effect of depreciation to improve trade balance which they attribute to exports that did not respond as expected because of a decline in terms of trade for primary commodities and manufactured products or heavy dependence on import goods. In Nigeria, many debates on the effect of the devaluation of the economy were held which resulted in different view among the economists. Some support devaluation while some against it. Mr. Godwin Emiefele, the CBN Governor, refused to devaluate the naira on the basis that it would not have a direct impact on country's export as a mono-economy (Ayansina., 2015). This article, however, is intended to focus on the effect of the devaluation of naira on Nigerian from the perspective of its effect on import price; considering the nation that operates on "Casino economy" or mono-product economy of oil. The rest of the paper is organized as follows: in chapter 2, a brief review of the literature is provided while the methodology of the study is presented in chapter 3. Chapter 4 presents result and data analysis. The conclusion and suggestions are presented in chapter 5.

2.   Literature review
2.1 Stabilization Policy
Stabilization of the economy is attempted by increasing spending or cutting taxes to increase output and employment, or by cutting spending and increasing taxes to curtail inflation (Salawu, 2005). It is the task of government to study the trend of an economy and develop appropriate policy through policy development teams otherwise known as policymakers to identify a need and gathering information pertaining economy of the nation. Baxter (1985) states that "the credibility of a policy is defined to be the subjective probability that the government is pursuing a reform policy rule and the credibility of a reform of monetary or exchange rate policies is a function of the parameters of both monetary and fiscal policies". When macroeconomists study an economy, they first look at three variables such as output, the employment rate and the inflation rate (Blanchard, 2009). It is important to distinguish stabilization policy from structural adjustment policy. According to a world bank published in 1990, to make adjustment work as expected for the poor, stabilization is recommended where the emphasis of the economy is of policies to achieve internal and external balance while the structural adjustment is recommended when the emphasis is on changing the structure or incentive institutions (Morrissey, 1994). However, stabilization programs if not apply well can fail. According to Blanchard (2009), Argentina succeeded in the early 1990s after it failed for its five stabilization policy from 1984 to 1989. Likewise Brazil, in its sixth attempt in 12 years, succeeded in 1995. Some of the reasons, as stated by Blanchard, come from the half-hearted effort at stabilization, political opposition and/or from the anticipation of failure (Blanchard, 2009). Stabilization policy which includes both monetary policy and fiscal policy also includes an arrangement for international monetary transactions -that is, exchange rate policy and international coordination policy- because no market economy is closed (Taylor, 1996).

2.2 Exchange Rate Regimes
A country's exchange rate regime governs its exchange rate—that is, how much its own currency is worth in terms of the currencies of other countries. In July 1944, Bretton Woods an area within the town of Carroll, New Hampshire, United States received the representative of 44 countries to design a new international monetary and exchange rate system. The fixed exchange rate was adopted when all member countries fixed their currency in term of dollars. The Bretton-Woods system continued to operate until early 1973 when there was an end to its period due to a series of exchange rate crises- a huge and unsustainable expansion in U.S. dollar-denominated global liquidity and ad hoc arrangements aimed at sustaining the system (Hall et al.,2011). The suspension of dollar-gold convertibility in 1971 due to the debt default and high oil prices effectively ended the gold exchange standard (Steve., 2012; Mondi., 2016). Since then, the world has been characterized by many exchange rate arrangements (Blanchard, 2009). Exchange rate regimes are categorically divided into three. First, hard exchange

rate pegs which go together with good fiscal and structural policies, and low inflation. Second, soft exchange rate peg (SERP), that is, currencies that maintain a stable value against an anchor currency or a composite of currencies and they allow for a limited degree of monetary policy flexibility to deal with shocks. However, when there is a large devaluation, SERP can be vulnerable to financial crises. The third category is floating exchange rate regimes which are mainly market determined. In countries that allow their exchange rates to float, the central banks intervene (through purchases or sales of foreign currency in exchange for local currency) mostly to limit short-term exchange rate fluctuations (Stone, et al., 2008).

One of the majored unresolved questions in macroeconomics is the choice of an optimal exchange rate regime (Bubula A. & Inci Otker-Robe, 2002). In evaluating the nexus between exchange rates and macroeconomic stability by analysts and policymakers, among the most important asked questions is why some countries adopted rigid, including fixed, exchange-rate regimes, while others have gone for more flexible systems (Edwards, 1999). Edwards (1999) develops a simple theoretical framework for analyzing the selection of an exchange-rate regime that relies on the existence of a trade-off between "credibility" and "flexibility". He comes to a conclusion that political instability plays an important role in the selection of the exchange-rate regime. Also, he further stated that countries with a history of inflation and those with lower holdings of international reserves will tend to favor the adoption of a more flexible system; and countries with poorer performance by the historical rate of growth will have a greater incentive to reverse on their low inflation promises and, thus, will benefit from adopting a more rigid exchange-rate system.

When a country adopts flexible exchange rate, like a case of Nigeria recently from the fixed exchange rate, a currency's value is determined by supply and demand contrasted with a fixed currency whose value is tied to that of another currency, gold or to a currency basket. Under a regime of flexible exchange rates, there can be appreciation or depreciation of the currency. It is pertinent to mention here that a decrease in the exchange rate under the regime of fixed exchange rates, as stated in Blanchard's Macroeconomics, is called a devaluation rather than a depreciation, and an increase in the exchange rate under the regime of fixed exchange rates is called a revaluation rather than an appreciation. Because exporters receive more in domestic currency than they would have received at a higher benchmark rate, promotion of export and increasing domestic production accompanied by the devaluation of currency and likewise importers pay more in domestic currency resulted to the lower quantity of imports. Koo and Kennedy (2005) state that devaluation acts as an implicit *subsidy on exports* and an *implicit tax on imports* (Mosavi et al., 2014).

Graphical comparison of nominal effective exchange rates (NEERs), real effective exchange rates (REERs), naira/dollar exchange rates (#/$) and consumer price index (CPI) from 2010 to 2016
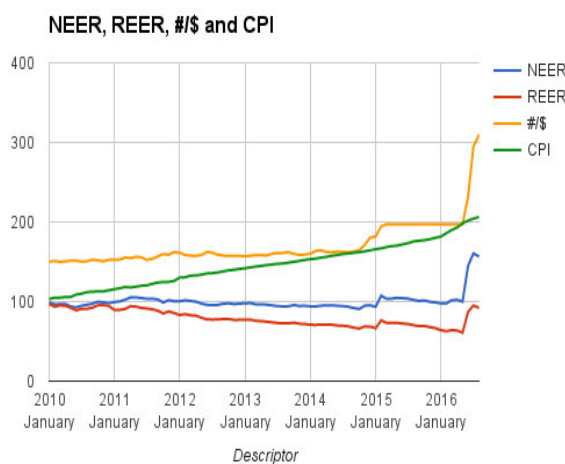

Source: Author's computation

2.3   Imports:

Imports are defined as purchases of goods or services by a domestic economy from a foreign economy. Aggregate imports of Nigeria have grown significantly since the country's independence due to the numbers of factors which include the need to pursue economic development, the expansion in crude oil export, the over-valuation of the local currency and the huge expansion of domestic demand (Egwaikhide, 1999). To regulate the importation, governments put in place different trade policies or barriers such as import tariff and import quotas. Steve (2012) states that an import tariff will raise the domestic price; and in the case of a large country, lower the foreign price but in the case of a small country leave the foreign price unchanged. It will reduce the volume of imports, raise the price of the untaxed domestic import-competing good and with the tariff in place in a two-

country model, export supply at the lower foreign price will equal import demand at the higher domestic price. He also stated that these price effects are identical to the price effects of an import quota. The impact of tariffs and/or quotas is increasing in the price of imported goods thereby make it unbearable.

Nigeria is considered as a small country relative to the quantity of its import. As stated by Steve, "the small country assumption means that the country's imports are a very small share of the world market—so small that even a complete elimination of imports would have an imperceptible effect on world demand for the product and thus would not affect the world price. Thus when a tariff is implemented by a small country, there is no effect on the world price".

The small country assumption implies that the export supply curve is horizontal at the level of the world price. The small importing country takes the world price as exogenous since it can have no effect on it.
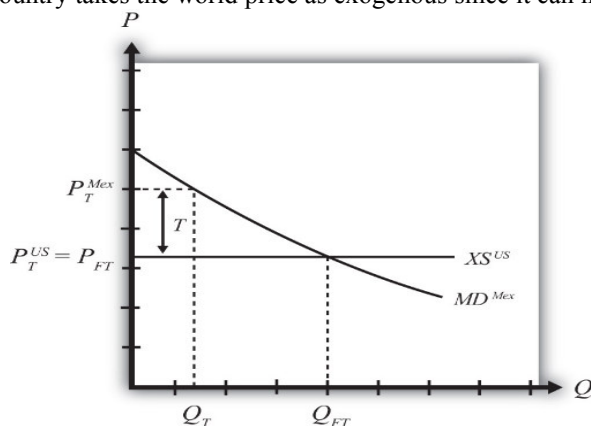

Tariff Equilibrium- Small Country Case (Graph)
SOURCE: Steve Textbook on International Trade Policy and theory

In the same way, when the currency is devalued/depreciated, the value of goodwill cost more than before, make importable unbearable as well. By inference, the price effects of tariffs are applicable to the impact of the devaluation of currency on import. When he examined the determinants of aggregate imports and its major components in Nigeria, Egwaikhide (2000) demonstrated that there is a high sensitivity of demand to imports, therefore, devaluation can reduce the demand for aggregate imports. In the same vein, import of capital goods is highly sensitive to the dynamics of relative prices anything that changes in relative prices has an important effect on these imports.

2.4   Small Country Welfare Effects Induced by High Import Price

A small importing country faces an international or world price of P_{FT} in free trade. Note that high price here is caused by tariff imposed on import goods
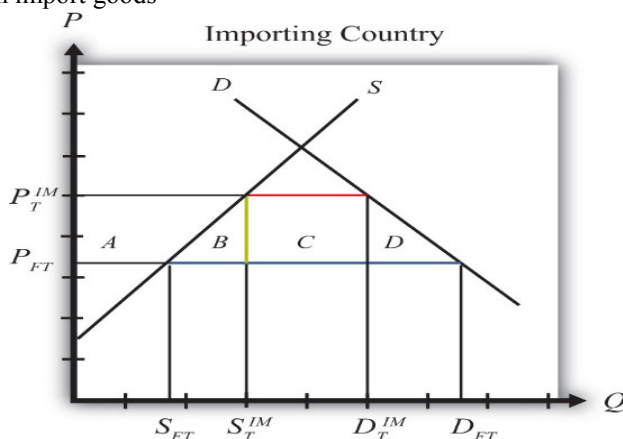
P_{FT} = the free trade equilibrium price. At that price, is given by
D_{FT} = domestic demand
S_{FT} = domestic supply
$D_{FT} - SFT$ = imports

The domestic price will rise by the full value of the specific tariff implemented by a small country. Suppose the price in the importing country rises to P_{IMT} because of the tariff. In this case, the tariff rate would be t = P_{IMT} − $P_{FT,}$

	Importing country
consumer surplus	− (A + B + C + D)
producer surplus	+ A
government revenue	+ C
national welfare	− B − D

Because of the increase in the domestic price of both imported goods and the domestic substitutes, the consumers of the product in the importing country are worse off as a result of the tariff, while the producers are better off. The government receives revenue as a result of the tariff and the beneficiary will depend on how the government spends it. When summing up the gains and losses of consumers, producers, and the government, the aggregate welfare effect for the country is found. The net effect consists of two components: a negative production efficiency loss (*B*) and a negative consumption efficiency loss (*D*). The two losses together are typically referred to as "deadweight losses." (Steve, 2012)

Going by the price and welfare effects of tariffs explained by Steve, I conclude as follow.

Suppose **country A** imposes a specific tariff on imports of **commodity X**. The tariff will hinder the flow of **commodity X** across the border. It will now cost more to move the product from the exporter country (say, **Country B**) to **country A**.

As a result, the supply of **commodity X** to the **country A**'s market will fall and an increase in the price of **commodity X** will follow. If **commodity X** is homogeneous and the market is perfectly competitive, the price of all **commodities X** sold in **country A**, both domestic produce one (that is, **commodity X**) and imported one will rise in price. The higher price will reduce **country A**'s import demand. Here, the similitude is the case of the devaluation of a currency, it is plausible that as it cost more to move particular product to a country than before depreciation/devaluation. As a result, the volume of imported goods will fall and there will be a rise in price. The rise in the price is as a result of two reasons. First, the available goods are proportionally less than before depreciation/ devaluation of the currency. Second, the cost price is more than before devaluation of the currency. The consumers, being the rational being, will shift demand to domestic substituted goods. Given that the product is homogeneous and the market is perfectly competitive, the price of that import-competing goods product will also rise.

Welfare effect on the importing country's consumers is that there will be a reduction in well-being as a result of inflation induced by devaluation. However, the import-competing producers will have their well-being increase. The increase in the price of their products in the domestic market increases their surplus, output, and employment which in turn increase their profit. This conclusion of mine is in line with the effects of devaluation as stated in the literature. However, aforestated points did not take cognizance of price elasticity which is determined by the availability of substitute, the proportion of purchasers' budget consumed by the items, the degree of necessity duration of price change among others. If demand is price inelastic, then a rise in the price of imports will lead to only a small fall in quantity. Therefore, the value of imports may not fall as expected. In the short term, demand may be inelastic, but over time demand may become more price elastic and have a bigger effect.

2.5   A Need for Diversification:

The economy of Nigeria resides as a mono-product based economy that invariably relies heavy on oil products as a source of revenue. One of the purposes of devaluation is to make exports cheaper. But the question is that given the fact that petroleum and petroleum products that accounted for 94% of Nigeria's export portfolio hitherto and which is already naturally cheap (that is, fall in price) through U.S. oil shale that entered into the market, then why devaluation? The diversification of Nigerian economy is important for a number of reasons. First, the oil price volatility which affects revenue supports the argument for diversification of exports. For instance, oil prices capsized due to a combination of oversupply through oil share producers that entered the market coupled with the weakening demand. Secondly, oil being an exhaustible asset that is vulnerable to dry up is another supportive argument. Thirdly, according to JHawksworth and Chan (2015), it has been projected that newly emerging economies such as Nigeria could grow at 5% or more per annum on average over the period to 2050; growth that is conditioned with the diversification of its economy. Auboin and Ruta (2011) carried out an investigation on the impact on international trade of exchange rate volatility and of currency misalignments and came to the conclusion that exchange rate volatility has a negative effect on trade flows even if not large. They further stated that the extent of the effect depends on the existence of hedging instruments, the structure of production (e.g. the prevalence of small firms), and the degree of economic integration across countries (Auboin & Ruta, 2011). Egwaikhide (2000) stated that economic growth tends to expand the demand for capital goods imports- which is vital to economic growth as it directly affects investment- especially in the absence of foreign exchange constraints and import restriction measures; and also in the absence of an increased domestic supply of raw materials, the growth of the industrial sector is expected to raise the demand for imported raw materials.

3.   Research Methodology and Data

The method of analysis employed in this project is the regression analysis. Time series secondary data were used for the analysis of this study which focuses on the welfare effect of household follows the high import price**s** induced by the devaluation of naira. The secondary data were obtained from World Bank database, Central Bank of Nigeria Statistical Bulletin, Nigerian National Bureau of Statistics, etc. Microfit statistical packages were used to process the data. The Microfit has the attribute of providing a large number of diagnostic and non-nested tests not readily available on other packages**.**

3.1 Model Specification

This study adopted an empirical approach similar to that of Kraay (2008) to measure the effects of the Naira devaluation on household welfare in terms of consumption expenditure. Cited from Dahai and Shantong (2014), "following the standard *Exchange Rate Pass-Through* (ERPT) models such as Feenstra et al. (1996) and Goldberg and Knetter (1997), the consumer price changes are modeled as a function of the exchange rate, trade costs, producer prices, prices of imported goods, money supply, and domestic demand". However, studying employed additional relevant independent variables to modify their model. Therefore, the estimation equation is in form of:

$$CP = f (NEXR, M, UCPI, RCPI, M2, ICPI, \varepsilon) \qquad (1)$$

Where:

CP = the monthly price index

NEXR = the monthly average of nominal exchange rates

M = import

UCPI = Urban Consumer Price Index

RCPI = Rural Consumer Price Index

M2= the money supply

ICPI = CPI & Inflation Rates

ε = the error term

It follows from equation (1) above:

$$CP=\beta_0+\beta_1 NEXR+\beta_2 M+\beta_3 UCPI+\beta_4 RCPI+\beta_5 M2+\beta_6 ICPI+\varepsilon \qquad (2)$$

A logarithmic relationship of equation (2) is re-written as:

$$LogCP=\beta_0+\beta_1 logNEXR+\beta_2 logM+\beta_3 logUCPI+\beta_4 logRCPI+ \beta_5 logM2+ \beta_6 logICPI+ \varepsilon \qquad (3)$$

3.2 A Priori Expectation

Based on theoretical background, a rise in nominal exchange rates will lead to an increase in the price of both imported and domestically produced goods that used imported input and even those that do not use it due to a high inflation rate. Hence, the coefficient of NEERs will be positive (that is, $\beta_1>0$). Also, it is expected that the coefficient quantity of imported goods (M) will be negative (that is, $\beta_2<0$). Money supply is expected to have a positive correlation with consumer price index and therefore, $\beta_5>0$. Finally, the coefficient of Urban Consumer Price Index, Rural Consumer Price Index, and CPI & Inflation Rates are also expected to have a positive value.

3.3 Welfare effect of Price Changes Caused by Exchange-rate

Here, the study employs the Slutsky identity (total effect) method for simplicity. The Slutsky equation states that the total change in demand equals to the sum of substitution effect and income effect. The compensating variation (hereafter CV) to measure the impact of price changes on household welfare has been used by a number of authors. "The CV measures how much extra money government would have to give the consumer if it wanted to exactly compensate the consumer for the price change" (Varian H. R., 2006). Mathematically, it is expressed as follow:

$$CV = e (p_1, u_0) – e (p_0, u0) \qquad (4)$$

CV = compensating variation

p_0 = price level before the shock

p_1 = price level after the shock

Suppose that the consumer has a quasilinear utility function, that is, $u(x_1) + x2$. In this case, the demand for good 1 will depend on its price, say, p_1, that is, $x1(p_1)$. Consumer chooses for good $(x_1) = x_1 (p_1)$ and has a utility of $u(x_1) +m- p_1 x_1$. (M is income). If the price changes, say, to p_1^*, then at p_1^*, the consumer chooses $x_1^*= x_1 (p_1^*)$

Let the CV comes into play, we have:

$$U(x_1^*) + m + CV- p_1^* x_1^*= u(x_1) +m+- p_1 x_1$$

Solving for CV, we have:

$$CV= u(x_1) -u(x_1^*) + p_1^* x_1^*- p_1 x_1 \qquad (5)$$

The quasilinear utility is equal to the change in consumer's surplus (CS):

$$\Delta CS= [u(x_1) - p_1 x_1]-[u (p_1^*) - p_1^* x_1^* \qquad (6)$$

If a price of x_1 change as explained above, such that the budget is pivoted on x_2-axis and shift in x_1-axis, this implies that the real income, M, also change, so we have: M1. The ***substitution effect*** is the change in demand from p1 to p1* and at the same time money income change from m to m*, that is,

$$\Delta x_1^S = x_1 (p_1^* m^*) - x_1(p_1 m) \qquad\qquad (7)$$

To determine the substitution effect, we use the consumer demand function (also known as Marshallian or ordinary demand function) to calculate the optimal choice at p*1m1 and p1m.

To derive consumer demand function, we maximize utility function [U=X1jX2k] subject to budget line $(p_1 x_1 + p_2 x_2 = M)$. (Note: if j+k=1 this is called Cobb-Douglas function)

Therefore, $x_1 = M.j/ (j+k) p_1$ while $x_2 = M.k/(j+k)p_2$ (these are consumer demand functions)

The substitution effect is also called ***compensating demand*** because the idea is that the consumer is being compensated by enough income given back to purchase the original bundle. However, compensating demand function is calculating by minimizing the budget constraint subject to a utility function. Thus, we have:

$$X_1 = \quad\quad [{}^{j+1}\sqrt{\quad}\quad\quad (jUp_2/kp_1),] \quad\quad and \quad\quad [x_2 = \quad\quad {}^{k+1}\sqrt{\quad}\quad\quad (kUp_1/jp_1)]$$

Income effect can also come up with positive or negative effect depends on whether the goods are inferior or normal.

The income effect is calculating using this formula;

$$\Delta x_1^I = x_1 (p_1^* m) - x_1(p1^* m^*) \qquad\qquad (8)$$

When summing up equation (7) and (8), that is, substitution effect and income effect, we have what is called total effect. The total effect changes in say, x1 due to substitution effect and change in x1 due to income effect. Thus, we have:

$$\Delta x_1^I = \Delta x_1^S + \Delta x_1^I.$$

Substitute $x_1 (p_1^* m^*) - x_1(p_1 m)$ for Δx_1^S and $x_1 (p_1^* m) - x_1 (p_1^* m^*)$ for Δx_1^I, we have:

$$\Delta x_1^I = [x_1 (p_1^* m^*) - x_1(p_1 m)] + x_1 (p_1^* m) - x_1(p^* 1m^*) \qquad\qquad (9)$$

The total effect occurs due to real income effect which is technically called ***Slutsky identity.*** Each of substitution effect and income effect is negative for normal goods while for inferior goods only substitution effect is negative because for an inferior good, demand increase even when price increase. If income effect is so large to offset the negative effect of substitution effect, the ***Slutsky equation*** shows that the income effect and substitution effect reinforce each other.

Economic policy analyst often uses this method to explain the effect of policy changes on consumer budget constraint and a consumer's welfare or well-being. Estimating substitution effect is, therefore, important. And, since, estimated substitution effects is for the full set of price change here, which is similar in magnitude to the estimated substitution effects associated with exchange rate-induced changes in consumer price, then there is no restriction. This, therefore, gives some comfort that this assumption is not too misleading.

4.   Data Analysis and Results
Dependent Variable: CPI
Method: Ordinary Least Squares Estimation
Date: 04/11/17 Time: 22:04
Sample: 2010M1-2016M0
Included observations: 76 after adjustments
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Regressor	Coefficient	Standard Error	T-Ratio[Prob]
CONST	-.0010136	.076955	-.013171[.990]
NEER	.1939	.3150	.61569[.540]
TOTAL	-.1490	.2102	-.70885[.481]
CPIINFL	.98024	.053913	18.1818[.000]
BROAD	-.2269	.7407	-.30634[.760]
URBAN	.0061815	.024273	.25467[.800]
RURAL	.013593	.029613	.45902[.648]

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R-Squared	1.00000	R-Bar-Squared	1.00000
S.E. of Regre	.023990	F-stat. F(6, 69)	1.56[.000]
Mean of DepVar.	144.6718	S.D. of DepVar.	26.8101
Resid Sum Sq	.039712	Eqn. Log-likelihood	179.3208
Akaike Info.	172.3208	S. Bayesian Crit	164.1632
DW-statistic	1.9631		

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Source: Author's computation Nov., 2017

The variables are co-integrated given that the value of t-statistics (0.13171) is greater than the coefficient of

the constant variable (0.0010136). The adjusted R2 used in measuring the goodness of fit of the model is satisfactory, pegged at 100 percent. All variation in the dependent variable (CPI) is explained by the joint effect of all the regressors in the model and is a good fit. The F statistics of 1.56 used in measuring the joint significant of all the independent variables in the model is statistically significance and is a good fit as well. The Durbin Watson's value of 1.963 for the model falls within the determinate region of no serial correlation region.

The coefficient of the nominal effective exchange rates confirming its close relationship with consumer price index (=cost of living index). The transmission may be fairly direct or indirect. For instance, when consumers buy imported goods, it is direct and when they buy domestically produced goods and services that are affected by changes in the cost of imported inputs, it is indirect. From the analysis, one percent rise in nominal effective exchange rates (NEERs) will raise the cost of living to about 19.39 percent. But, money supply is expected to have a positive relationship with consumer price index negative correlated, meaning the fall in real income. As a result of fall in the real money income, the cost of living will high. In other words, too much of money in circulation brings about the inflation will have a negative effect on consumer price index. However, as expected, urban CPI and rural CPI are all positively significant to consumer price index. An increase in these variables summed up to an increase in total consumer price index.

5. Summary and Conclusion and Recommendation

This study empirically investigated the welfare effect of the devaluation of naira on Nigerians through rising in the import price. The regression analysis was carried out with a test for ordinary least square (OLS) using Microfit statistical package and welfare cost was examined. From the results obtained, the welfare of Nigerians has been critically affected by naira devaluation. Generally speaking, the Naira devaluation is found to have driven domestic demand down in both the imported and the domestically produced goods. On average, the welfare cost of change of prices is 6.41% on consumers. It is also observed that devaluation has different welfare effect on people from urban and rural. There are 6.9% and 5.9% respectively for urban and rural dwellers. Of course, the cost of living in the habitats of the City of Ede cannot be compared to that of Lagos'. As the prices go up the households are worse off given that the incomes remain static. There is a proverb that says "what's good for the goose is good for the gander". China and Nigeria are not like goose and gander. Thinking that the policy China adopted successfully can equally succeed for Nigeria amounted to the fallacy of generalization. China devaluates its currency in 2015 and rattled the market because of its many export portfolios. In contrast, Nigeria economy that is based on mono-product cannot attain such advantage.

The policy doses that Nigeria administered may lead to macroeconomic instability (that is, low output, raise in inflation and unemployment). Nigeria economy that is based on the mono-product needs to be diversified. This induced a need for importing capital goods to achieve its aim of diversification. Continually, Nigeria economy is mono-product, want to make exports cheaper, and import more expensive. A wrong policy may not achieve our aim of diversification. One of the reasons why structural adjustment programs failed was the inconsistency of fiscal, monetary and exchange rate policies in the adjustment package with the goals of recovering economy from recession. The adjustment stage focuses on its transformation of economic structure to restore growth without regard for the development dimension. A deeper understanding of what policy to adopt for a certain condition requires a deep understanding of the current functioning of the economy which, in turn, depends on the institutional context that governs.

It is recommended that government should develop appropriate policy to restructure and diversify the productive base of the economy in order to reduce dependence on oil and import. The good importation policy where only goods that can aid the achievement of the nation's aim of diversification should be formulated and adhere to. Given the ultimate objective of innovation as to raise living standards, the government should develop programs that will be more focused on generic knowledge and boosting productivity. The strategic orientation of the local innovation system is an important dimension. An innovation policy geared to product development is, in the long run, undermining the accumulation of knowledge stock and its ability to adjust to generic technological change. To support intensive R&D activities inside Nigeria, it would be ideal for Nigeria to have more high-quality scientists and engineers. However, developing highly qualified scientists and engineers is not a short-term project. Therefore, the government should not neglect opportunities to build networks with others in the global brain pool. The government should develop and implement a good industrial policy to address the current global challenges as well as the emergent domestic challenges so as to give the Nigerian companies chance to meet global competition.

The study, however, has some limitations. First, the study is only examined the welfare effects of Nigerians through import price only, as we know that when a nation's currency is devaluating not only import prices are touched. Another critical limitation is that welfare effects of import prices are studied over a very short period. Given the fact that the devaluation has a time-varying effect, therefore, further research on the same work is needed in the future.

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