

The Effect of Exchange Rate on Agricultural Commodity and Pricing on Nigeria: 2009-2014

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Abstract: This study on the Effect of Exchange Rate on Agricultural Commodity and Pricing on Nigeria: 2009-2014 is carried out of necessity. The exchange rate volatility in Nigeria has reached the level that even market women who know nothing of international economics knows “dollar price increased” as it has become their slogan as their reaction to the why they hike the price of goods. This study investigated the trends in exchange rate and agricultural commodity price in Nigeria: 2009-2014, explored the effect of exchange rate on agricultural commodity pricing and the consequences of agricultural commodity price fluctuations on the living standard of Nigerians. Using descriptive statistics, the study qualitatively analyzed empirical data secondary from secondary sources and came into the following conclusions: that exchange rate have been on the increase within the period in review; that agricultural commodity price increased and peaked at 2011 after when it started declining; that in as much as exchange rate fluctuation have some effect on agricultural commodity price, the trend of both variables shows that they could be some other factors responsible for the fluctuations in agricultural commodity fluctuations; and that changes in agricultural commodities have some effects on the living standard of Nigerians.

Keywords: Effect, Exchange Rate, Agricultural Commodity, Pricing, Nigeria

INTRODUCTION

There has been a long standing discussion on the response of agriculture supply, demand and pricing to general price movements. This could be traced back to the analysis of the United State’s long run supply elasticity for corn, cotton and wheat [1] down to the Abiodun and Shehu [2] observation of some shortcomings of the Nerlovian model in terms of the supply elasticity, varying widely by crop and region which made the model inadequate for deriving the long run response which led them to their own study.

It is on record that for the past two decades, population increase at between 2.5 and 3 percent and food production at 2.5 percent per annum [3, 4] which has attracted the attention of researchers to causes of low food productivity. Such studies have discovered that the price of agricultural commodities can discourage farmers in many ways [5, 6, 7].

Therefore, it becomes pertinent to know the factors affecting agricultural commodity price. One of such factors of interest to researchers is exchange rate. Exchange rate could be seen as the value of a country’s currency expressed in comparison to some other country’s currency. Exchange rate has a lot to do with

prices of goods, both domestic and foreign. It has much impact on the economic development and standard of living of any country, such that how strong or weak its value is in comparison to other currency especially the dollar determines or has an implication on the strength or weakness of the domestic currency-country’s economy [8].

Exchange rate in Nigeria has experienced different levels of change through different economic policy regimes (regulated and deregulated). It has been seen as relatively stable over some past years between 1973 and 1979 at the oil boom era and the nation’s GDP dependence on agriculture. After these periods, the Nigeria exchange rate became so unstable, as the value of the naira continuously decreased after the Structural Adjustment Programme of the federal government in 1986 [9, 10, 11].

Notwithstanding how hard the government of the federation has tried to improve the rate of exchange and at least make it stable, the naira keep depreciating from the 1980s till date [12, 13]. This situation calls the attention of economic researchers. But beyond this is the observation above of a similar trend in agricultural commodity prices.

Before the 1970s, Nigeria exported cocoa and had it, with some other agricultural commodities like cotton, groundnuts, palm oil etc as her main source of foreign exchange earnings, and oil revenues then was insignificant to the country's GDP. But according to Ebi [13] the percentage share of agriculture export in relation to the percentage of total exports started and kept declining since after the Structural Adjustment Programme.

Ebi and Ape, [6] described the oil boom as inflicting the Nigerian economy with the so-called "Dutch disease". This is because many researchers have seen the change in agricultural commodity price as a result of the oil boom which brought about increase in foreign exchange earnings to Nigeria and its consequent neglect of agriculture [5, 6, 7]. The issue therefore, raises a question of the effect of exchange rate on agriculture commodity and pricing. Therefore, this discourse shall go by the following questions: what is the trend of exchange rate in Nigeria between 2009 and 2014; what is the trend of agricultural commodity price in Nigeria between 2009 and 2014; what are the effects of exchange rate on the agricultural commodity price in Nigeria: 2009 – 2014; and what are possible consequences of the effects of exchange rate on the agricultural commodity price on the living standard of Nigerians?

OBJECTIVES OF STUDY

1. To examine the trend of the exchange rate between 2009 – 2014
2. To examine the trend of agricultural commodity price between 2009 – 2014
3. To investigate the effect of exchange rate on agricultural commodity and pricing between 2009 – 2014
4. To explore possible consequences of the effect of exchange rate on agricultural commodity price on the living standard of Nigerians.

THEORETICAL AND EMPIRICAL CONCEPTIONS

Exchange rate is defined as the price of a domestic currency compared to a foreign currency; and this makes exchange rate an important tool in any economy because of its influence on other prices generally. This importance has reflected on many sectors of the Nigerian economy like agriculture which is the area of interest in this study. Many other studies and schools of thought have analyzed the effect of exchange rate on agricultural commodities and pricing and have come out with many divergent views, but most concerting on the view that exchange rate has some level of effect on commodity prices.

The elasticity approach in explaining the exchange rate and its influence on prices, argued that the simple policy that can aid the expansion of export is a change in the exchange rate. Their explanation holds that for a country to increase their export capacity lies in their ability to devalue or revalue their domestic currency.

This approach goes to prove that if a country devalues her currency by 30%, it will cause a 30% increase in import prices and therefore discourage imports. Therefore, exports will receive a proportional increase in domestic currency for every foreign currency earned [14].

From the above approach one can deduce that agricultural commodity in Nigeria have continued to increase after the Structural adjustment era as a result of the continuous increase in exchange rate. This is so because agricultural commodities have received less attention from the period of the oil boom, forcing the country to import such commodities as the need arises. The continuous import with less export (less foreign currency earned), has led to the continuous devaluation of the Nigerian currency and the continuous increase of agricultural commodity price.

Ajayi [15] used the structuralism approach to oppose the notion of a more flexible exchange rate in Nigeria. According to them, to devalue exchange rate would be stag flationary, resulting to no significant effect on external trade balance in the less developed nations [2].

TRENDS OF EXCHANGE RATE AND AGRICULTURE COMMODITY PRICE IN NIGERIA 2009-2014

Studies have been mostly on exchange rate volatility and agricultural share of GDP, with few looking in details on the effects of exchange rate fluctuations on agricultural commodity price [16, 17, 18, 20]. This section of the study shall be taking a graphical look at the trends of exchange rate and commodity price in Nigeria 2009-2014, in order to infer the effects of exchange rate on agriculture commodity price.

The multilateral institution projection of exchange rate between the naira and dollar between 2009 and 2015 are as follows: in 2009, the naira will exchange on the average for N148.7 to the dollar while in 2010, it will go for N149.9 to the dollar. In 2011, it is projected for N155.1 to the dollar, 2012 it will be N166.1 to a dollar. In 2013, the exchange rate of the naira will depreciate further to exchange for N177.7 to the dollar and in 2014, it will be N189.9 to a dollar and in 2015, N202.7 will exchange for one dollar.

And in reality the IMF reported the value as follows:

2009 - 148.90, 2010 - 150.30, 2011 - 154.74,
2012 - 157.50, 2013 - 157.31, 2014 - 158.55

Table 1: Nigeria Exchange Rate in Naira per US Dollar 2009-2014

YEAR	RATE	
	PROJECTED	REAL
2009	148.7	148.90
2010	149.9	150.30
2011	155.1	154.74
2012	166.1	157.50
2013	177.7	157.31
2014	189.9	158.55

Source: Hosain – IMF 2002

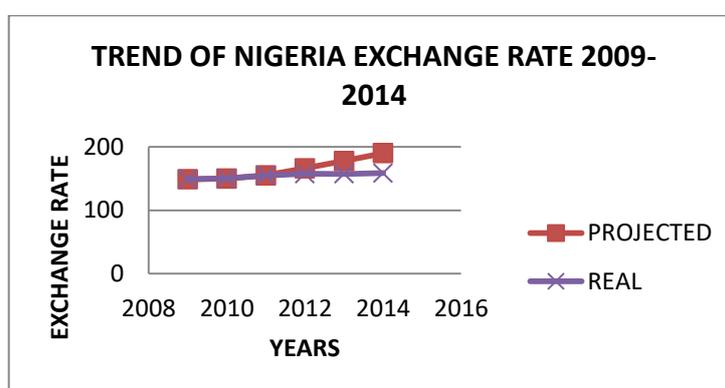


Fig. 1: Projected and the real exchange rate figures of naira per US dollar between 2009 and 2014

The above graph shows the projected and the real exchange rate figures of naira per US dollar between 2009 and 2014. It shows a continuous increase in the real exchange rate from N148.90 in 2009, to N158.55 in 2014. Compared to the projected, one could observe a slight difference. In 2009, it was 148.90

against the projected 148.7, in 2010, it rose above the projection to be at 150.30 against the projected 149.9, and then from 2011, it continued to go below the projection till 2014 when it was at 158.55 against the 189.9 projected.

Table 2: Nigeria Agricultural Commodity price 2009-2014

DATE	NOMINAL PRICE INDEX	DEFLATED PRICE INDEX
2009	160.3	132.8
2010	188.0	150.7
2011	229.9	169.1
2012	213.3	158.8
2013	209.8	158.5
2014	201.8	152.0

Source: FAOSTAT, 2012

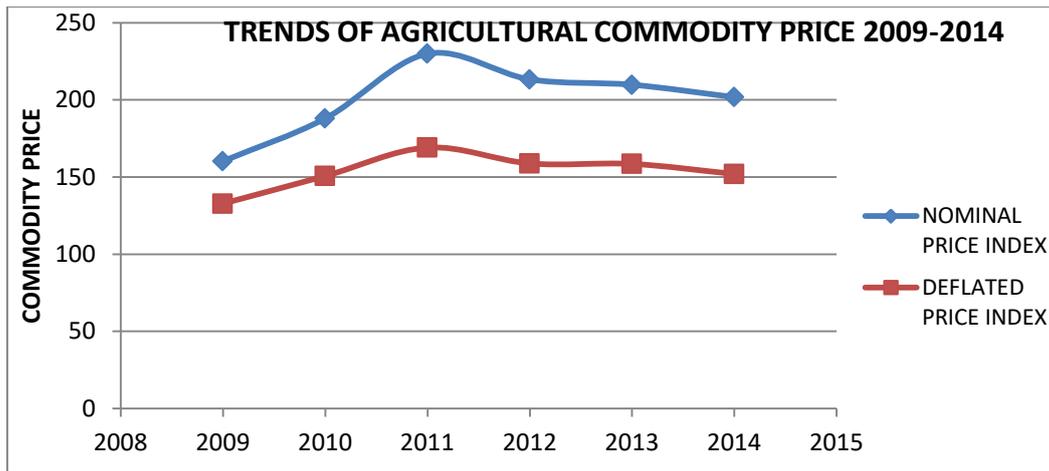


Fig. 2: Trend of Nigeria agricultural commodity price 2009-2014

The graph above shows the trend of Nigeria agricultural commodity price 2009-2014. It reveals an upward slope from 2009 to 2011 when it peaked and then downward to 2014. The nominal price as at 2009

was 160.3; in 2011 it increased up to 229.9 which is the peak for the period in review. Then in 2014, it came relatively low to 201.8.

Table 3: Comparative Trend of Exchange Rate and Agricultural Commodity Price 2009-2014

DATE	AGRIC COMMODITY PRICE	EXCHANGE RATE
2009	160.3	148.90
2010	188.0	150.30
2011	229.9	154.74
2012	157.50	158.8
2013	209.8	157.31
2014	201.8	158.55

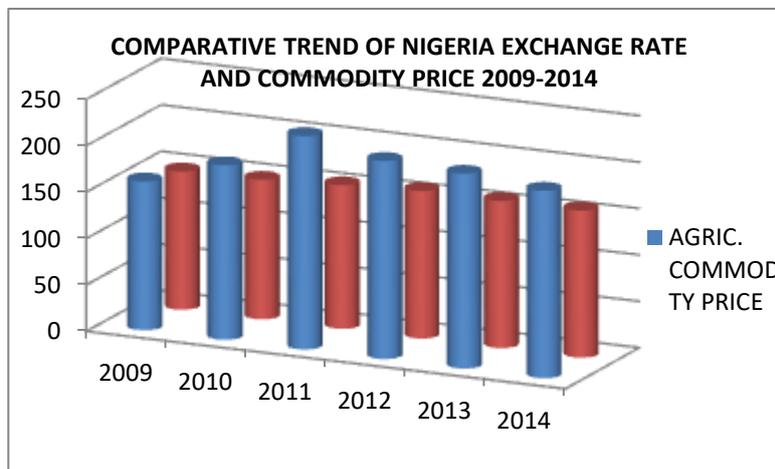


Fig. 3: comparative trend of the Nigerian exchange rate to the agricultural commodity price 2009-2014.

The graph above compares the trend of the Nigerian exchange rate to the agricultural commodity price 2009-2014. It reveals that both have been on the increase over the period in review. But the increase in exchange rate has more steady than that of the agricultural commodity price. While the agricultural commodity price peaked in 2011 and started declining,

the exchange rate is still increasing. This reveals probably, that some other factors, in addition to exchange rate, are responsible for agricultural commodity price changes; which support the findings of some researchers [5, 6, 7 21].

EFFECTS OF EXCHANGE RATE ON AGRICULTURAL COMMODITY AND PRICING

Many research efforts have been geared towards determining the effects of exchange rate on agricultural commodities. Many have agreed there is an effect, but the level of effect is what defiles consensus. Many have agreed that the level of effects is determined by the two interacting currencies and regions [14, 22, 23].

Akilu [22] agrees that the introduction of the Structural Adjustment Programmes in many nations have brought to the fore the issue of whether exchange rate has any effect on trades and commodity prices independent of other factors. Many other studies interested themselves only with the effect of exchange rate on price of manufactured goods [24, 25, 26].

Earlier before the structuralist approach of Ajayi [15], Ojo [21] had argued that exchange rate don't really have to play any significant role in the causes of import – export balance and consequently on agricultural commodity price.

Osuntogun et al [27] looked at the effects of exchange rate uncertainty on the performance of the Nigeria's non oil exports. But Pick [28], using the Caballero and Corbo [29] measure of risk argued that Osuntogun's analysis was wrong because it over-exaggerates. Over-exaggeration here has to do with tagging all the effects received by agricultural price on exchange rate without considering some other factors involved.

Looking at the analysis of our empirical data above, one will find that changes in trend of the exchange rate are not same as that of the agricultural commodity. This implies a possible effect from some other factors on agricultural commodity and pricing.

Johnson, et al [30] confirmed this as they compared the impact of exchange rate and the impact of foreign commercial policy in the pricing of the United States wheat. They found that foreign commercial policy (not limited to exchange rate), made to discourage consumers from increasing prices was more effective in the domestic price of wheat than the United State's policy.

Oyinlola [23] used the ECM to investigate the effect of exchange rate movements on disaggregated import prices of an open economy like Nigeria. The study observes that in the short run, exchange rate will have a significant impact on import prices.

Bradshaw and Orden [31] using the Granger Causality Test determined the effects of exchange rates on agricultural commodity pricing and found that detecting Granger causality from exchange rate to

flexible agricultural prices were difficult compared to export sales volume. And also, that in comparison to manufactured commodity prices, agricultural commodities are more rapid in response to exchange rate changes.

Kiputui [32] studied the impact of the real exchange rate on Kenya's export products. They used the Bounds testing and Auto-Regressive Distributed Lag (ARDL) in their analysis. The study found a relationship between exchange rate and the export of coffee, tea and horticulture in the long run and non for manufactured goods.

Maskus [33] trying to critique other studies, tried to compare effects of exchange rate risk across major sectors of the economy like the manufacturing sector (manufactured goods), agricultural sector (agricultural commodities), chemicals etc. Maskus opined that agricultural commodities in comparison to manufactured goods, is more responsive to exchange rate changes. The reason according to him is that trades in agricultural commodities is open to international trade if openness is measured by the ratio of exports and imports to domestic agricultural output; and that agriculture in Nigeria shows a low level of industry concentration.

IMPACTS OF THE CHANGES IN AGRICULTURAL COMMODITY PRICE ON THE LIVING STANDARD OF NIGERIANS

The price of almost every commodity in the Nigeria market in the recent time has increased, and when you ask, the common language from the marketers is "the price of dollar increased" whether they know the implications of naira devaluation or not, the fact is that most of the marketers have taken advantage of that opportunity even when it doesn't affect their commodities.

One of the most challenging macroeconomic factors facing the Nigerian economy is price instability. Jhingen [34] defines inflation as a persistent and appreciable rise in the general level of prices and Rashaq [35] argued that this situation causes a continuous depreciation in the value of nation's currency and a consequent increase in exchange rate of the foreign currency. According to Rashaq, the devaluation of the Nigerian naira coincided with the time of inflationary growth which has led to continuous depreciation of the living standard of the Nigerian citizens.

Ifad [36] reports that agriculture one of the major source of living for about 75 percent of people who survives on less than 1 dollar per day, which is the international definition of absolute poverty in rural areas. This goes to support Maxwell's [37] assertion

that in Africa about 70 percent of their labor force is employed by agriculture, which implies that any change in agriculture results to a change in their living standard. Such change can be negative or positive.

Diagne et al. [38] therefore argues that to increase consumption (livelihood), food prices should be reduced. He furthered that this could be achieved by the increment of agricultural productivity through agricultural technology which will as well increase the farmers' income and reduce poverty.

In agreement with this the World Bank [39] estimates 1percent increment in agricultural productivity will reduce the price of agricultural commodity and consequently reduce the percentage of poverty (international definition) by between 0.6 and 2 percent. They argued that no other economic activity can be this positive in poverty reduction.

Nevertheless, Adekoya and Babaleye [40] observed that not all price change is bad, that when the change follows a smooth and well established trend reflecting market fundamentals. The problem comes when the change is so significant and un-anticipated, because it will cause some level of uncertainty, increasing risk of production. The risk of production causes price fluctuation which in turn affects the living standard of the citizens.

CONCLUSION

From the foregoing discourse, it has been established that many research activities have been around exchange rate fluctuations on commodity prices, but few have centered on agricultural commodity. This has raised the significance of this study on the effect of exchange rate on agricultural commodity and pricing. The study has observed the trends of exchange rate and agricultural commodity in Nigeria 2009-2014.

The study discovered that exchange rate has been on the increase through the period in review and has impacted on the price of many commodities as has been reported by previous researches. On the other hand, agricultural commodity price has been fluctuating through the period in review, such that one cannot just conclude an increment or a reduction. The price peaked in 2011, after which it started declining till 2014.

It has been observed as well that comparing the trends of the two variables, exchange rate and agricultural commodity price, one cannot empirically conclude that exchange rate alone causes the fluctuation in agricultural commodity price; therefore, the need to look at other factors which could cause such fluctuations. Nevertheless, there is the observation that

the changes in agricultural commodity price affect the living standard of the Nigerian citizens.

RECOMMENDATIONS

Having looked at the trends of exchange rate and agricultural commodity price, the effect of exchange rate on agricultural commodity and pricing and the impacts of agricultural price fluctuations on the living standard of Nigerians, the study recommends as follows:

1. The increasing trend of exchange rate have been reported by many researchers and confirmed by this present study to effect mostly negatively on commodity price especially agricultural commodity. Therefore, it is recommended that the government and other policy makers and stakeholders of the economy work together to chart the course for the revaluation of the naira. To do this, domestic production should be encouraged and that is by improving the countries technology and power stability to help the producers come out with products of international quality for exports.
2. Besides exchange rate, it has been observed that they could be some other factors that cause agricultural price fluctuations. The government should fund researches in this area so as to find these factors and address them.
3. It is advised that the citizens should embrace government policies made to promote agriculture so as to increase productivity, reduce poverty by yielding income for the famers. This can also help reduce the rate of unemployment in the nation.

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