IMPACT OF PETROLEUM PRODUCTION & OIL PRICES ON NIGERIA’S CHANGE IN EXCHANGE RATES

Abstract

This paper discusses the relationship between the shift in exchange rate regime from fixed to floating in Nigeria with the nation’s most significant economic drivers, oil and petroleum. It examines the economic background of Nigeria and the oil industry’s impact on Nigeria’s economy. The paper begins with exploring Nigeria’s economic regimes from 1959-2016. It then goes into the decision-making process for choosing an exchange rate regime by discussing each regime and their advantages. The paper then dives into characteristics of emerging countries with an emphasis on oil by investigating the relationship between oil prices and emerging market exchange rates. The paper continues to look at this same relationship in other African countries’ economies. Further, the paper discusses the positive and negative effects of economic factors on Nigeria’s economy and exchange rate.

Although there is information regarding exchange rate regimes and oil effects, it remains uncertain whether or not the exchange rate regime switch is going to positively or negatively affect Nigeria’s petroleum production and oil prices. In the end, the paper provides a recommendation for what Nigeria needs to do in order to determine whether or not the change in exchange rate regime will positively affect its petroleum industry.

KEYWORDS: Oil prices, Emerging economies, Nigeria, Floating exchange rate regime

Introduction

Exchange rate policy in Nigeria has gone through many changes. The exchange rate spans between two major regimes, namely, the fixed and floating exchange rate regimes. Between 1960 and 1985, Nigeria adopted fixed exchange rate regime while the floating system was used from 1986 until 1994 where the fixed exchange rate was reintroduced. From 1995 until 2016, the floating system was used, however, with series of modification through government intervention. In 2016, Nigeria officially announced that they were going to float their exchange rate 100% free of any government intervention (Obi, Kenneth & Oniore, Jonathan, 2016).

The exchange rate started as a fixed parity in 1960 and was tied with the British Pound Sterling. In 1973, the naira was introduced as the currency of Nigeria. In 1978, the naira was pegged against seven convertible currencies. The changes in these seven convertible currencies, which were floating since the early 1970s, had a direct impact on Nigeria’s exchange rates. Despite the impact from this currency basket, the two main currencies that had the most effect on the Nigeria’s exchange rate was the US dollar and Pound Sterling. The reason behind these effects was the dominance of these two currencies over the other five currencies in the basket. Essentially, whenever the US dollar and Pound Sterling appreciated or depreciated against the other currencies, the naira would reflect the same changes. This exchange rate regime was in practice until 1985 (Mawuli, 1993).
In 1985, the naira was quoted against the dollar, discarding the 1978 policy. The naira was over-valued before 1986 because of the exchange rate policies at the time. To overcome this issue, in September 1986, the naira was deregulated under the Structural Adjustment Programme Package. To enhance the implementation of the Structural Adjustment Programme was the introduction of the Second-tier Foreign Exchange Market (SFEM). SFEM was expected to usher in a mechanism for exchange rates determination and allocation in order to ensure short term stability and long-term Balance of Payments equilibrium. The objectives of SFEM was to achieve a realistic naira exchange rate. This would be done through demand and supply market forces, efficiently allocating resources, new investments in non-oil efforts, create more foreign exchange inflows than domestic outflows, wipe out unofficial parallel foreign exchange market by eliminating currency trafficking, and improve the Balance of Payments. To establish the objectives of SFEM, various adjustments were made from Foreign Exchange Market (FEM) to Autonomous Foreign Exchange Market (AFEM), to Dutch Auction System and, to the wholesale Dutch Auction System. In July 1987, FEM was instituted because there were problems emerging from the first and second-tier rates. Following this, in 1989, Bureau de Change was instituted to expand the horizons of FEM. Nigeria relaunched a fixed exchange rate system in 1994. In 1995, the Autonomous Foreign Exchange Market (AFEM) policy was put to place where there was a reversal of guided deregulation which led to Nigeria to have a mixed exchange rate system. In 1999, there was the reintroduction of the interbank foreign exchange market (IFEM). Following the abolition of the official exchange rate from January 1, 1999, the IFEM brought the merger of

Source: Obi, Kenneth & Oniore, Jonathan, 2016
the dual exchange rate. Due to the rising intensity of demand pressure in the foreign exchange market and the depletion of Nigeria’s reserves, there was the re-introduction of the Dutch Auction System (DAS). The introduction of wholesale DAS in 2006 liberalized the market in an attempt to create a realistic exchange rate for the naira. Up till 2016, the exchange rate regime in Nigeria has between swinging back and forth between fully managed regime and freely floating regime. The table below summarizes the scheme of events in exchange rate management in Nigeria (Obi, Kenneth & Oniore, Jonathan, 2016). During 2016, the central bank governor announced that Nigeria will be moving to a single exchange rate regime, which was freely floating (Giokos, 2017). The purpose of moving to a freely floating exchange rate was in a belief that the floating exchange rate will yield better outcomes than the fixed exchange rate regime.

Literature Review

This paper’s literature review section will provide necessary factual evidence that will be applied to further analyze the effects that Nigeria’s change in exchange rates had on the nation’s petroleum prices. It is divided into four parts: a detailed breakdown of each exchange rate regime, the characteristics of an emerging economy in relation to its oil price, the correlation between the health of the economies in African countries and its accessibility to petroleum, and a holistic perspective of Nigeria. These four sections help the reader to understand the types of exchange rate regimes that exist and how countries ultimately decide which one they want to use. They also describe how various factors affect economies’ oil prices and dives into details about Nigeria’s economy.

The Decision-Making Process of Choosing an Exchange Rate Regime

An exchange rate is the price of one currency in terms of other currency. According to a paper written by Okechukwu (2017), the International Monetary Fund (IMF) has classified the regimes into four categories: hard exchange peg, soft exchange peg, flexible exchange rate, and other management arrangements. The hard peg is the same as the fixed exchange rate regime. Formal dollarization: when the currency of a stronger foreign currency becomes the legal tender of a weaker foreign nation; comes under the hard exchange rate regime. There are different kinds of management arrangements as well. A currency union is where countries come to a consensus and choose one currency as their legal tender. Another arrangement is a currency board: a system where a group of countries are obligated to exchange their own currency with the currency of another country at a fixed pre-decided rate. The soft peg which is a conventional peg lies between a fixed and floating rate. The government tries to bring about equilibrium by intervening and hence, there is some kind of flexibility. There is a horizontal of one percent above or below the fixed rate for this peg. Lastly, the flexible or floating exchange rate regime system allows the market to affect the demand and supply of the currency to find out the exchange rate between a domestic and foreign currency. This system is of two types. The free or clean floating system allows the exchange rate to be solely determined by the market effects of demand and supply, and there is no intervention involved. The managed or dirty floating exchange rate system is influenced by demand and supply but in order to find the appropriately required equilibrium, government intervention does influence the rate in this case (Okechukwu, 2017).
Frankel (2012) emphasizes the necessity of flexibility in his research paper about the thought process of deciding on what exchange rate regime is best suited for an economy. His study dissects how a country should choose what kind of regime should be adopted. Proposed by Eichengreen, the “corners hypothesis” is the idea that countries should move away from the intermediate regime and favor either side of the spectrum of a hard peg or floating regime. Five advantages of fixed exchange rates are “providing a nominal anchor to monetary policy, facilitating trade, facilitating investment, precluding competitive depreciation, and avoiding speculative bubbles” (Frankel, 2012, pp. 3). The nominal anchor for monetary policy has been the most focused advantage out of the five because of the possibility of having a higher than optimal level of inflation when a monetary policy is set with full discretion. A central bank can attain a lower level of inflation for any given level of output by fixing the exchange rate or giving up its currency altogether. Wages will be set accordingly to the inflation rate, and with it having low expectations, the country is able to attain a lower level of inflation. In addition, in many small developing countries, recent econometric studies have shown a negative correlation between the international trade flows and exchange rate variability, thus proving that having a fixed exchange rate may encourage trade. Five advantages of floating exchange rates are the “national independence for monetary policy, allowing automatic adjustment to trade shocks, retaining seigniorage, retaining lender-of-last-resort capability, and avoiding speculative attacks” (Frankel, 2012, pp. 16). One advantage that stands out is that a floating currency allows for automatic adjustment to trade shocks. The respective currency responds to adverse developments in the country’s export markets or other shifts in the terms of trade by depreciating, thus achieving the necessary real depreciation even in the presence of sticky prices or wages. Two significant characteristics that would help determine the choice of a regime are the size and openness of the country and the level of financial development. For example, relatively smaller countries in size and openness tend to favor a fixed exchange rate. Countries at low levels of financial development are recommended a fixed rate because the benefits of using exchange rate flexibility to accommodate real shocks are outweighed by costs of financial shocks. Once markets become more sophisticated and developed, exchange flexibility becomes more attractive (Frankel, 2012).

**Characteristics of Emerging Countries and Oil Prices**

Petroleum has been a significant determinant of global and national economic performance. Emerging markets are a huge player in this industry because of the expectation and speculation of their increasing dominance in the international landscape. The increase in private capital inflows over the past couple of years in emerging markets also creates uncertainty about the resilience of the markets, as their financial system is not deep compared to those of developed countries. The effects of oil price fluctuations, thus, are more vital for the health and well-being of the markets (Chuku, 2012). The price fluctuations during the financial crisis period raises the question of what the rapid changes will mean to the emerging market economies as they are more vulnerable to international investors’ cross-border rebalancing decisions. Rebalancing can increase exchange rate volatility and hamper the efficiency of the transmission mechanism. With oil prices moving more quickly than world economic recovery, the petrodollar liquidity will be significant in the long run. Based on the study, an oil shock has a stronger impact on the emerging economies now compared to the past and that oil price dynamics and flows are a major driver of capital flows in emerging markets after 2008. The correlation-increase points out that oil price level and
emerging markets exchange rate relation becomes more immune to the expectations of global investors (Turhan, Hacihasanoglu, and Soytas, 2013).

There has also been great speculation over the US dollar being the key driver for the rise and fall in exchange rates. Oil has become a commodity currency and people have been keeping a close eye at it since 1973 when the first oil shock took place. Today, because the US dollar is used to measure oil prices internationally, oil prices directly influence the currency rate of other countries. Göcekli and Peker (2015) analyze the relationship between oil prices and the Turkey exchange rate. When oil prices increase, the demand for the dollar in oil importing countries increases (as they need to buy the oil in US dollars). This, in turn, appreciates the dollar. However, because these countries have to buy the dollar, the value of the local currency depreciates. When the payment is received, the supply of the dollar increases in the oil exporting countries, leading to the depreciation in the exchange rate. While this occurs on a daily basis, there are two possible situations to consider. If the oil exporting country increases the import of goods because the dollar depreciated, demand for the dollar would increase, leading to an increase in the exchange rate. On the other hand, if the goods import does not increase, the exchange rate would continuously be on a decrease because of the depreciation of the dollar. Within the period analyzed by this paper which uses a lot of statistical methods to find a correlation between the US dollar and oil prices, it is found that an increase of 1% in the exchange rate of the dollar leads to a 1.32% decrease in the price of oil. Hence, it proves that the oil market and other commodities are affected by the fluctuation in the dollar exchange rate (Göcekli, Sidre & Peker, Osman, 2015).

**African Countries’ Economies and Oil Prices**

Pershin, Molero, and Perez de Gracia (2015) takes a deep dive on the relationship between oil prices and exchange rates in three African countries. They decided that exchange rates, interest rates, and oil prices will be three variables that are mainly focused on this research paper. It was discovered that an oil price increase tends to appreciate the local currency against the US dollar. It was discovered that heavy influence from policy authorities can swing the effects of oil prices and exchange rates.

The Algerian economy is another market that is highly dependent on oil production accounting for more than two-thirds of the country’s wealth. The developments in oil prices are reflected in the currency exchange rate. The study conducted by Djebbouri (2018) tells that if the dinar deterioration against dollar is not controlled and an atmosphere of confidence is not created in the economy, the country may face many repercussions in the future. In the long-term, it was found that the shocks in crude oil prices contribute to explaining about 26.25% of changes in the Algerian dinar (Djebbouri, 2018).

**Nigeria**

Nigeria is an oil-rich country that relies heavily on oil as its main sources of government revenues and foreign exchange. Nigeria’s exchange rate is based on oil making their exchange rate a resource-based exchange rate. Despite Nigeria’s massive oil reserves, Nigeria has many struggles such as insufficient power supply, the absence of infrastructure, indecisive regulatory environment, an ineffective judicial system, insecurity, and corruption. Nigeria’s regulatory
constraints and security risks have not allowed them to positively invest in oil despite their oil production decreasing. Nigeria has struggled so badly that in 2016 it experienced a recession as a result of low oil prices and low oil production (CIA, 2018).

Chioma, Oleka, and Okolie (2016) discusses the effects of the floating exchange rate regime that was implemented on the economic growth in Nigeria, ranging from 1986 to 2015, and the determinants that influenced the Nigerian government’s decision to float the naira had a positive impact on its economic growth. The Optional Currency Area theory, discovered by McKinnon, is discussed as a “widely used theory which discusses the decision as to the choice of exchange rate regime a country can adopt. This theory discusses trade and liberalization of businesses and conceptualizes what they called the symmetry of shocks, the degree of openness and labor market mobility. It postulates that a fixed exchange rate can increase trade and growth in output by lowering uncertainty in the exchange rate and encourage investment by reducing interest rates” (Chioma, 2016, pp. 36). However, Chioma rebukes this statement by McKinnon by stating that having a fixed exchange rate can reduce trade and growth by the same amount as it would increase trade and growth because it slows down the relative price adjustment mechanism. By adopting a floating exchange rate regime, it allows monetary policies to be useful for other purposes besides just trade and development of the national economy. In the study, data on some of Nigeria’s major macro-economic indicators like the Gross Domestic Product, Exchange Rate, Interest Rate, and Inflation Rate. The Ordinary Least Square (OLS) regression was used as the estimation technique in the study to determine the impact of floating exchange rate on economic growth proxy by GDP growth rate. Through the regression result, the two explanatory variables of interest Floating Exchange Rate showed a positive and significant relationship with economic growth. “It can be deduced in other words, that a 1% increase in LNFEXR produces a 13% increase in economic growth rate when other variables are being equal. In other words, the result from the analysis revealed that floating exchange rate has a positive and significant impact on the economic growth of Nigeria since the rate of increase in the exchange rate in relation to the rate of increase in GDP growth rate is positive (13%)” (Chioma, 2016, pp. 39).

Floating exchange rate regimes have a positive and significant impact on economic growth, economic growth is impacted positively but not significantly by interest rate, and high inflation rate impacts negatively on the growth of the Nigerian economy. Although the naira has been depreciating over the course of the switch in exchange rate regimes, its weak export potential is to blame. Thus, it is suggested that the Nigerian government should discourage importation and encourage exportation at all cost.

Discussion and Analysis

Without a reasonable timeframe to conduct our own research, this paper will utilize numbers from other sources to give recommendations on the possible outcomes that can happen with Nigeria’s decision to switch to a floating exchange rate. Nigeria’s economy is heavily dependent on oil and the political turmoil making it difficult to provide an exact direction of where Nigeria’s economy.

Predicted by PricewaterhouseCoopers (2019), the real GDP growth in 2019 is expected to increase slightly to 2.5% from 1.9% in the previous year and 0.8% during the year before that.
This is because of the moderate improvements in net exports and domestic demand. With large, dominant countries like China continuing to invest in the Sub-Saharan region of Africa, this will ultimately help Nigeria strengthen its economic foothold. With a positive trend in real GDP growth, it supports Nigeria’s decision to swap to a floating exchange rate. Nigeria is also dealing with fluctuating oil prices, which opens up its oil-driven economy to unforeseen external shocks (Nevin and Omomia, 2019). However, Frankel (2012) said it best when he described the five advantages of adopting a floating exchange rate. He stated that having a floating exchange rate implemented would help with trade shocks as it will automatically correct itself over time.

There are serious potential risks that can be a threat to Nigeria’s macroeconomic growth and socio-political stability. With OPEC members failing to comply with the production cuts agreement, oil prices in Nigeria are taking a hit. The oversaturation of oil within the market is not helping with Nigeria’s economic standing. Analysts at Goldman Sachs predict that the oil prices will still drop in the near future, but this will allow OPEC to dial back and tighten up on production. This opportunity was described as a “re-anchoring of long-term oil prices”. Diving into the socio-political stability of Nigeria, the disruptions to crude oil production and the political risk are other major near-term risks that may impact Nigeria. Recently, there have been threats to attack oil and gas facilities by militant groups in the Niger Delta region. Fear is being spread throughout the nation as this will potentially push Nigeria into another recession. “Attacks on pipelines and other facilities in the Niger Delta in 2016 cut Nigeria’s crude production from a peak of 2.2 million barrels per day to nearly 1 million barrels per day, which is the lowest level seen in at least 30 years.” With oil being the number one source of income for Nigeria, this is definitely an obstacle that may drive Nigeria’s economy to the ground (Owolabi, 2018).

With elections right around the corner, political tensions are elevating because of the uncertainty of what will happen. Of course, Nigeria’s lagging economy is one of the dominating issues in the race and both candidates pitched their ideas to the public. Buhari, who is running for re-election, promises for more state-driven reforms and public investment, while his counterpart, Atiku, promotes his business acumen and advocating for more private sector initiatives as the solution to turn the oil-dependent economy around. Despite the plans that both candidates are standing behind, the vote is constantly getting postponed and both are pointing fingers at each other, accusing one another on the attempt to sabotage and manipulate the election. With the prolonged process, inflation will rise because of the increased spending during the election (Owolabi, 2018).

**Conclusions and Recommendations**

Nigeria’s decision to float its exchange rate is, indeed, beneficial for its economy, as its GDP growth in the past couple of years have trended upwards. There is also no need for central banks to intervene when Nigeria goes through rough patches like trade shocks because there is no parity to maintain. The floating exchange rate will also act as a shock absorber in this situation because of the natural correction it will have to reset the balance of payments back to equilibrium. Lastly, the adoption of a floating exchange rate insinuates freedom and independence for Nigeria, thus other economic problems that are happening in other countries will not be as nearly as detrimental to Nigeria if the nation was pegged to one of these countries.
However, a lot of external factors cloud the effects of the floating exchange rate, as Nigeria is dealing with threats from Nigerian militants and the political war between Atiku and Buhari. With the uncertainty that comes with dealing with socio-political endeavors, we recommend re-evaluating the Nigerian economy after the political uproar dies down and it can re-focus on improving its economy.
References


