EFFECT OF OIL PRICE AND EXCHANGE RATE VOLATILITY ON ECONOMIC GROWTH IN NIGERIA (1970-2012)

BY

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CERTIFICATION

This research work by OLOFINLE Gbenga Dayo has been read and approved in partial fulfillment of the requirements for the award of Master of Science Degree in Economics in the Department of Economics, Obafemi Awolowo University, Ile – Ife, Nigeria.

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DEDICATION

This research work is dedicated to the Almighty God, the fountain of knowledge and understanding, as well as my loving parent Mr and Mrs Olofinle, two apples of God's eyes whose love continue to spur me into greater height.

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ABSTRACT

Controversies abound over the nexus between oil price and exchange rate volatility on economic growth. However, previous related studies in Nigeria only focused on either the impact of oil price shock on economic growth or the effect of exchange rate volatility on economic growth without examining the joint effect of the two variables on economic growth.

The study analyzed the trend and pattern of oil price and exchange rate volatility in Nigeria and also examined the effect of oil price on exchange rate volatility. The study equally determined the dynamic interrelationship that exists among oil price, exchange rate volatility and economic growth in Nigeria. Secondary data were used for this study. Annual data on real gross domestic product, exchange rate, money supply and inflation rate were sourced from Central Bank of Nigeria (CBN) Statistical Bulletin. While annual data on oil price was sourced from energy price indicator. Data collected were analyzed using descriptive statistics (such as graphs and percentages) and econometrics method which include co-integration and vector autoregressive techniques.

The result showed that oil price volatility has negative but insignificant relationship with economic growth as a 1 per cent increase in oil price volatility reduces real gross domestic product by 1.7 per cent. In the same vein, exchange rate volatility has insignificant adverse effect on real GDP as 1 percent increase in exchange rate volatility brings about 2.6 per cent decrease in real GDP. Also, inflation rate has insignificant negative relationship with GDP as 1 per cent increase in inflation rate results to 0.005 per cent decrease in real GDP. Money supply has positive relationship with GDP as 1 per cent increase in money supply leads to 0.08 per cent increase in real GDP.

The study concluded that oil price volatility depresses economic growth more than volatility in exchange rate-a scenario that may attribute to mismanagement of oil revenue in the country.

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background to the study

It has been observed that exchange rate plays an increasingly significant role in any economy as it directly affects domestic price level, competiveness of traded goods and services, allocation of resources, productive capacity of goods and services and investment decision Odusola, (2003). Besides, Exchange rate is a key variable in the context of general economic policy making as its appreciation or depreciation affects the performance of other macroeconomic variables in any economy. In the light of its importance, every country pays so much attention to the appropriateness of her foreign exchange policy and the stability of the exchange rate becomes the formidable bedrock of all economic activities. Since the adoption of the Structural Adjustment Programme (SAP) in July, 1986, Nigeria has moved to various types of floating regimes of exchange rate from the fixed/pegged regimes between 1960s and the mid-1980s. Floating exchange rate has been shown to be preferable to the fixed arrangement because of the responsiveness of the rates to the foreign exchange market (Nwankwo, 1980).

Exchange rate volatility is a risk associated with unexpected changes in exchange rate, this is caused by some economic factors such as inflation rate, interest rate, and balance of payments (Ozturk 2006). Ozturk argued in his paper on impact of oil price shock and exchange rate volatility on economic growth that depreciation of exchange rate leads to increase in exports and decrease in imports while appreciation of exchange rate would tend to discourage export and encourage import. With this argument, it is obvious that when exchange rate appreciates the exporting country benefits more while the importing country pays more for her imports. This however depends on the degree of responsiveness of the product to change in price. If the product is inelastic, the importing country would still have to purchase the product. In that sense, the exporting country benefits more because the importing country has to pay more for her imports

Williamson (1994) concluded that there was no simple answer in determining exchange rate equilibrium, and estimating the equilibrium exchange rate and proportion of misalignment of the exchange rate remains part of the most defying empirical problems in an open-economy macroeconomics. A country's actual exchange rate deviation from such an unobservable equilibrium is referred to as an exchange rate misalignment. When an exchange rate depreciates more than the equilibrium it is referred to as undervalued, and an appreciation of an exchange rate than the equilibrium is referred to as overvalued.

The volatility in oil price has varying consequences for different countries; while oil-producing countries reap the benefit of high oil price, oil-importing countries experience unfavourable terms-of-trade in their external sector that can transfer into their economies in the long run. Several empirical studies have been undertaken to investigate the effect of oil price volatility on exchange rate movement in different economies. Although the findings are mixed on the causality between the two variables, most empirical studies *et al.*, show that oil price directly impact on exchange rate (Amano and Norden 1995; Jin 2008; Coudert, 2008). Exchange rate volatility, however, tends to increase the risk and the uncertainty of external transactions and predisposes a country to exchange rate-related risks (Celasun 2003; Setser 2007; Jin 2008).

Crude oil became an export commodity in Nigeria in 1958 following the discovery of the first producible well in 1956. Prior to that, exports were mainly primary agricultural commodities that comprised groundnuts, cocoa beans, palm oil, cotton and rubber. Palm oil was the leading export from 1946-1958, followed by cocoa beans while groundnut/oil ranked third

(CBN, 2000). From a production level of 5100 barrels per day in 1958, crude oil exports rose to 2.35 million barrels per day in the early 2000s (CBN, 2010). However, it had fluctuated between 1.26 and 1.8 million barrels per day between 2007 and 2010 which was far below the OPEC quota due to the socio-political instability in the oil-producing areas of the country. In terms of its contribution to total revenue, receipts from oil that constituted 26.3 per cent of the federally collected-revenue in 1970, rose to 82.1 per cent in 1974 and 83.0 per cent in 2008 largely on account of a rise in crude oil quota and prices at the international market (CBN 2010).

Non-oil exports on the other hand, as a percentage of total exports, declined from 7.0 per cent between 1970-1985 to 4.0 per cent between 1986- 1998 (CBN, 2000).

The discovery of crude oil in Nigeria led to what is commonly referred to as the "Dutch disease". The Dutch Disease (DD) refers to the paradoxical deleterious consequence of natural resource booms on the countries where they occur. The concept was coined from the experience of Netherlands in the 60s when, as a result of exploitation of the newly discovered large deposit of natural gas in the North Sea, the non-oil tradable sector became less competitive and declined, Olusi and Olagunju (2005). Thus, the performance of the manufacturing sector remained less impressive and that of agriculture declined. In the early 1960s, manufacturing activities consisted of partial processing of agricultural commodities, textiles, breweries, cement, rubber processing, plastic products, and brick making. The economy gradually became dependent on crude oil as productivity declined in other sectors.

As a mono-product economy, Nigeria remains susceptible to the movements in international crude oil prices. During periods of favourable oil price shocks triggered by conflicts in some oil -producing areas of the world, the surge in the demand for the commodity by consuming nations, seasonality factors, trading positions, etc; the country experiences favourable