

Exchange Rate Deregulation Policy and the Nigerian Economy

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Abstract: *The Study examined the performance of the Exchange rate Deregulation policy on the Nigerian Economy. Emphasis was to find out the actual period when the policy experienced structural break before 1985 when the policy was implemented and after. The period covered by the study is between 1981 and 2021. The Andrew –Zivot unit root test was employed to test for the structural break. The result indicates that the Exchange Rate had structural break in 2010 due to the Deregulation policy. The study recommends increased investment in the production of more of non-oil goods to boost the volume of export in order to allow this policy to take more positive effect on the Nigerian economy.*

Keywords: Andrew-Zivot test, economic policy, exchange rate deregulation and structural break

INTRODUCTION

Foreign trades are being regulated by certain economic policies which have improved with globalization (Troy, Gordon & Michael, 2021). One of such policies is the exchange rate deregulation policy. The rate of exchange of one currency with another depends on the macroeconomic policy guiding transactions. Exchange rate deregulation policy advocates deregulation and liberalization of terms of trade, which makes the exchange rate to be governed by the forces of demand and supply of goods. Corden (2002) is of the view that the objectives of exchange rate deregulation policy is the optimization of output and where the shocks are external, exchange rate would facilitate adjustment in relative prices. Exchange rate helps to maintain international competitiveness and serves as nominal anchor for export (Adesina & Daodu, 2020).

Trade policies are economic plans and measures formulated to regulate transactions between a country and other countries. The Nigerian government has made some strategic efforts to improve exports via trade policies. Among such policies are the import Substitution policy (ISP) of 1960, Nigeria Export Promotion Council (NEPC) of 1976, Export Processing Zone Policy of 1991, Nigerian export and import bank of 1991, Economic Recovery and Growth plan (2017-2020), Economic Sustainability plan (2021 – 2023). In 1986, the Nigerian government formulated the structural adjustment programme (SAP) in order to remove all the bureaucracies and to boost export. Trade policies of this era involve deregulation, commercialization, privatization and liberalization of the economic. The objectives of the SAP can only be achieved through the instrument of exchange rate deregulation policy. One of the fastest ways of achieving viable balance of trade and growth in the economy is via non oil export. But non oil export depends on a number of exogenous variables of which exchange rate is one of them. Subsequently, the CBN report (2003) noted that the exchange rate deregulation policy is a market based framework for the determination of exchange rate. Thus it was envisaged that this policy would have eliminated distortions in the external sector and stimulate non oil export and economic growth. However, the central Bank of Nigeria noted that this policy has failed in meeting its target. Between 2019 and 2021, the real gross domestic product and the non oil export fell from 72,094.09 and 19,077,608.09 to 70,257.82 and 14,365,281.64 respectively. On the other hand exchange rate was rising within this period from 306.921 in 2019 and 315.264 in 2021. The deregulation policy for exchange rate ought to encourage increase the volume of nonoil export and economic growth, but decline of these variables was actually obtainable. It is against this background that this study examined the actual performance of the exchange rate deregulation policy via the period it experienced structural break on the Nigeria Economy

Objectives of the study

The overall objective of this study is to determine the performance of Exchange Rate deregulation policy on the Nigerian Economy. Specifically to determine the existence of structural break arising from the Exchange rate Deregulation policy.

LITERATURE REVIEW

Broda(2001) was of the opinion that negative terms of trade, given a flexible exchange rate regime induces more than proportionate real depreciation and smaller losses in output growth while the fixed exchange rate regime yields less than optimal output.. Ghosh, Ostry and Wolf (1996) found that GDP growth are faster under intermediate exchange rate regime. Levy –Yayati and

Sturzenegger (2002) used cross country regression and found that for most developing countries ,exchange rate flexibility is strongly associated with higher growth and less output volatility.

Bailliu , Lafrance and Renault (2001) carried out a study on twenty five emerging countries with emerging and found that the flexible exchange rate are associated with higher economic growth ,but only for countries that are relatively open to international capital flow and well developed financial market. Aizenman (1994) was of the view that exchange rate regimes can influence economic growth through their effects on the rate of physical capital accumulation. Edwards (1993) argued that investments will tend to be higher under a fixed exchange rate regime as a result of reduction in macro policy uncertainties. Therefore exchange rate regimes can be grouped into three namely; Fixed, intermediate and flexible regimes.

Ghosh et al(1997) .Developing countries are more vulnerable to adverse effects of exchange rate volatility an trade and inflation than developed countries that have well developed financial market which makes it much easier for them to adopt any of the regimes (CBN ,2003).

METHODOLOGY

The expo facto research was adopted for the estimation and analysis using time series data between 1981 to 2021.The test for structural break was done using the Andrew –Zivot unit root test .

Theoretical Framework

This study was anchored on export led growth hypothesis which postulates that export growth is one of the key determinants of economic growth. The advocates of the ELGH have stated that trade was in fact the main engine of growth in both developed and developing countries of the world. They further argued that, for instance, Hong Kong (China), Taiwan Province of China, Singapore and the Republic of Korea, the so-called Four Tigers, have been successful in achieving high and sustained rates of economic growth since the early 1960s because of their free-market, outward-oriented economies (World Bank, 1993). This theory is of the view that long run economic growth can be achieved not just by increasing the amount of labor and capital but also by expanding exports. The functional relationship of the ELGH can be specified thus: $GDP = f(L, K, E)$,where L,K&E stands for labour ,capital and exports, respectively. This theory is suitable for this study because the exchange rate deregulation policy is market driven by the forces of demand and supply of goods in the international market , which anchors on diversification of the export base via non oil goods .

Test for Structural Break

Structural breaks indicate sudden changes in the parameters of a model, caused by some underlying factors or change in policy implementation in the system. To address the issue of possible structural breaks in the series, we employed the Zivot and Andrews (1992) unit root test to interrogate the order of integration of the included variables. This test accommodates one endogenously determined structural break in its approach to unit roots testing. Zivot-Andrew's unit root test provide the corresponding break years in different specific time points. The assumption is that the exact time of the break points is unknown. (Waheed, Alam and Ghauri, 2006). The Zivot and Andrew method regards every break points as a potential break date (TB) and runs regression for every possible break date sequentially. The null hypothesis in this case is the presence of unit root with drift that excludes any structural break in the series while the alternative is a trend stationary series process that allows for a one-time break in the trend function (Zivot & Andrews, 1992).

The dependent variable (LRGDP) was modeled as a linear combination of regressors with dummy variable as time invariant coefficient and exchange rate as trend shift variable or time variant coefficient as follows

$$\Delta LRGDP_t = \alpha + \beta LRGDP_{t-1} + \gamma DUM_t + \sum_{j=1}^k \delta_j \Delta LRGDP_{t-j} + \epsilon_t \quad (3.1)$$

This study interrogated the possibility of structural breaks in the equation, in which the coefficient of exchange rate is assumed to be changing at different exchange rate regimes in the estimation period. To investigate this phenomenon, the Zivot and Andrew (1992) test procedure was employed. This procedure enabled us to endogenously detect unknown break dates in the variables both in trend and intercept by testing the null hypothesis of ' $\alpha=0$ ' breaks against an alternative of ' $\alpha<0$ ' number of breaks in a sequential manner. Decision rule remains that if the value of the t-statistics is less than 5% critical value, then the presence of structural breaks is accepted.

Model Specification for Structural Break

This study follows the model as specified by Zivot and Andrew (1992) where the dependent variable y_t was modeled as a linear combination of regressors with both time invariant coefficient Du_t (dummy variable for mean shift occurring at each possible break date, TB) and time variant coefficient DT_t (trend shift variables). This was specified as follows

$$\Delta y_t = \alpha + \beta y_{t-1} + \gamma \sum_{j=1}^k dj \Delta y_{t-j} + \delta Du_t + \epsilon DT_t + \sum_{i=1}^m \epsilon_i t_i \quad 3.2$$

This model combines one time changes in level and slope trend function of the series.

Y_t=dependent variable (Real gross domestic product)

C=constant

α
=0: null hypothesis=absence of structural break

α
<0=Alternative hypothesis=presence of structural break at unknown point in time

TB= All possible break point

Du_t= Dummy variable

1 if t > TB

Else 0 if t < TB

DT_t=trend shift variable (exchange rate)

Thus, for the purpose this study, the unit root structural break was specified as follow:

$$\Delta LRGDP_t = \alpha + \beta LRGDP_{t-1} + \gamma \sum_{j=1}^k dj \Delta LRGDP_{t-j} + \delta DUM_t + \epsilon EXCHR_t + \sum_{i=1}^m \epsilon_i t_i \quad 3.3$$

Result of the Unit Root Structural Break

The structural break test was estimated to gain insight into the changing dynamics of the exchange rate during the estimation period of 1981-2021. The zivot-Andrew unit root test was presented in figure 4.1. Based on the result, the t-statistic (-3.449646) is less than 5% Critical Value (-5.08) in absolute term. Thus an indication of the presence of Structural Break within the period Study.

Zivot-Andrews Unit Root Test		
Date: 07/09/22 Time: 10:07		
Sample: 1981 2021		
Included observations: 41		
Null Hypothesis: EXCHR has a unit root with a structural break in both the intercept and trend		
Chosen lag length: 1 (maximum lags: 4)		
Chosen break point: 2010		
	t-Statistic	Prob. *
Zivot-Andrews test statistic	-3.449646	0.040888
1% critical value:	-5.57	
5% critical value:	-5.08	
10% critical value:	-4.82	
* Probability values are calculated from a standard t-distribution and do not take into account the breakpoint selection process		

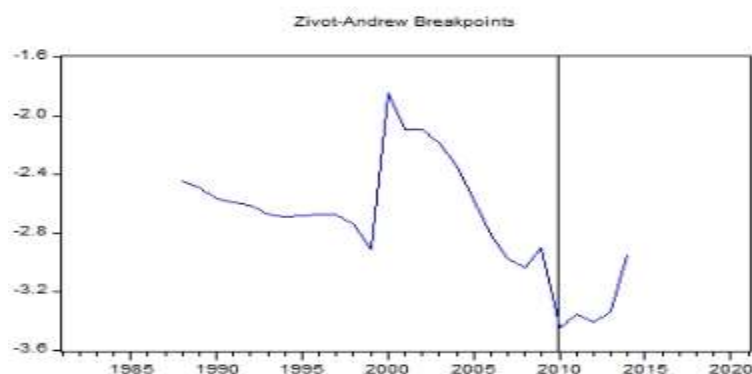


Figure 4.1. Zivot-Andrews structural unit root Test

From the figure 4.1 above, it could be seen that there is sharp decrease in exchange rate in year 2010 as a result to exchange rate deregulation policy that was introduced during the period of the study. This implies that the effect of the exchange rate deregulation policy was more significant on the Nigerian economy in 2010.

Recommendation

Based on the findings of the study, it is suggested that there should be increased investment by the government and the public sectors in the non-oil goods, to achieve a more diversified economy and to boost the volume of export. This will help the exchange rate deregulation policy for improved positive effect on the Nigerian Economy .

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