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Comparative analysis of bureaux de change and official exchange rates volatility in Nigeria

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Abstract

Exchange rates stability is an important monetary policy target. Hence monetary authorities aim at avoiding wide divergence between the official exchange rate and parallel exchange rates in most developing economies. This paper employs GARCH (1,1) and GJR-GARCH (1,1) models to estimate and compare volatilities of official, interbank, and bureaux de change markets Naira/US$ exchange rates for the January 1995–December 2014 period. The results of the study show that the volatilities of interbank and bureaux de change exchange rates in the previous periods influence current volatility of exchange rates. The results also show evidence of volatility clustering in the interbank market and bureaux de change Naira/US$ exchange rates. Sum of the ARCH and GARCH coefficients indicates evidence of volatility persistence in the exchange rates returns series. Comparative analysis between the exchange rates volatilities shows that the magnitude of impact of volatility shocks on current volatility as well as volatility clustering are greater in bureaux de change than in other exchange rates in Nigeria. The asymmetric parameter indicates that exchange rates depreciation tends to produce higher volatility in the immediate future than appreciation of the same magnitude in both the interbank and bureaux de change markets in Nigeria.

JEL classification: G11; C32

Keywords: Volatility comparison; Exchange rates; Cureaux de change; GARCH models; Nigeria.

1. Introduction

The importance of stable exchange rate to sustainable development of developing economies is well established. Monetary authorities therefore aim at avoiding wide divergence between the official exchange rate and parallel exchange rates. Omojimite and Akpokodje (2010) observe that exchange rates have been highly volatile in Africa

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especially since the move to a floating exchange rate system with negative repercussions for trade, investment and growth. Nigeria for instance, practiced a fixed exchange rate before 1986, but she adopted flexible exchange rate policy thereafter. As a result, the official Naira exchange rate was allowed to float, within a pre-specified band, in relation to other currencies thereby allow changes within the band to be determined by market forces of demand and supply. Some of the policies employed to ensure exchange rate stability include among others: second-tier foreign exchange market, bureaux de change, autonomous foreign exchange market, inter-bank foreign exchange market, the enlarged foreign exchange market, and Dutch auction system (DAS), which includes the retail and wholesale DAS. The ineffectiveness of each of the policies to achieve sustainable stability in the Nigeria exchange rate led to the adoption of another.

Despite these policy efforts by the Nigeria monetary authority to maintain exchange rate stability, the Naira continues to fluctuate widely against the US dollar. The Naira, according to Opara, Emenike, and Ani (2015), appreciated against the US dollar from ₦0.71 in 1970 to ₦0.62 in 1975 and further to ₦0.55 in 1980. However, the exchange rate depreciated throughout the 1980 s. For instance, the naira depreciated from ₦0.61 in 1981 to ₦2.02 in 1986, and further to ₦8.04 in 1990. By the year 2000, the exchange rate stood at ₦106.71, and depreciated further to ₦132.86 in 2005. Thereafter, the exchange rate appreciated minimally to ₦128. 26, ₦118.21 and ₦117.74 in 2006, 2007 and 2008 respectively, before moving upward. In 2014, the official, inter-bank and bureaux, de change Naira/US$ exchange rates closed at ₦169.68, ₦188.33 and ₦188.45. It is therefore surprising to see that Naira/US$ exchange rate which was less than ₦1/$1 in 1980 closed at ₦197/$1 by the end of first quarter of 2015. These wide depreciation in the value of Naira exacerbates exchange rates volatility.

Exchange rate volatility makes international trade and investment decisions more difficult because volatility increases exchange rate uncertainty and risk. Hericourt and Poncet (2012) argue that there is indeed a negative impact of exchange rate volatility on firms exporting behaviour, magnified for financially vulnerable firms, and dampened by financial development. In the same vein, Aghion, Bacchetta, Ranciere, and Rogoff (2009) provide evidence of substantial negative effects of the exchange rate volatility on growth in developing countries, and emphasis that financial development tends to reduce the impact of exchange rate volatility on economic performance. Taiwo and Adesola (2013) note that a stable exchange rate is needed to improve the ability of the banking sector to channel credit to the economy. Given the uncertainty and risk associated with volatile exchange rates as well as the frequent exchange rate policy changes in many developing countries, there is need to measure exchange rate volatility across time. Hence, empirical evidence on the nature of exchange rate volatility should be provided frequently and compared across official and parallel rates in the economy, as a gauge to the efficacy of exchange rate policies.

Although, numerous empirical studies have documented evidence of exchange the volatility in both developed and emerging economies (See for example, Hsieh, 1989; Abdalla, 2012; Marreh, Olubusoye, and Kihoro, 2014), most of the studies modeled the volatility of the official exchange rates without comparison with parallel rates in the economy. Analysing the volatility of both the official exchange rate, interbank exchange rate and bureaux de change exchange rate and comparing their estimates against the other would be a more informative method of gauging the volatility of exchange rates. Such analysis would highlight whether or not parallel exchange rates move closely with the official exchange rates set by the monetary authorities.

The objective of this study is to estimate and compare the volatilities of the official market, interbank market, and bureaux - de change Naira/US$ exchange rates in Nigeria using GARCH models. The findings of this study will be useful to monetary authorities, international traders, investors and scholars. Given that exchange rate stability is one of the goals of monetary policy, and the need to keep the official rates close to parallel rates, comparative analysis of exchange rates volatilities will enhance exchange rates policy-making and management in developing economies. More so, international traders want to understand volatility dynamics of Naira/US$ exchange rates as majority of foreign trades in Nigeria are transacted using the US dollar. This study will also serve as reference materials to scholars. The remainder of the paper is organised as follows: Section 2 presents the overview of foreign exchange market and empirical literature review. Section 3 provides the methodology and data. Section 4 presents the empirical results, and Section 5 provides the summary and conclusions.