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Between dollarization and exchange rate volatility: Nigeria's portfolio diversification option

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Abstract

This paper investigates the relationship between nominal exchange rate volatility and dollarization in Nigeria by applying Granger causality test for the period 1986 (1)–2003 (4). Previous theoretical and empirical studies on this issue provided conflicting results. The empirical results of Granger causality test support a bi-directional relationship. However, causality from dollarization to exchange rate volatility appears stronger and dominates. This suggests that policies that aim to reduce exchange rate volatility in Nigeria must include measures that specifically address the issue of dollarization. An important factor in this case is the supply of sufficient domestic currency assets that would permit portfolio diversification and capable of dousing negative expectations about future inflation in the country.

JEL classification: F31; E41

Keywords: Exchange rate volatility; Dollarization; Granger causality

1. Introduction

The impact of exchange rate volatility on macroeconomic variables has been investigated in a number of empirical and theoretical studies (see for example, Arize & Malindretos, 1998; Calvo,

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1996; Chowdhury, 1999; Honda & Schumacher, 2006; Osakwe, 2002). The major assumption of most of these studies is that causality runs from exchange rate volatility to other macroeconomic variables. Recently however, researchers are divided as regards the direction of causation especially in the dollarization literature. Mizen and Pentecost (1996) argued that exchange rate volatility motivates domestic residents in switching to hold and using foreign currency for purposes of unit of account, transactions, and store of value functions of money. Specifically, they argued that exchange rate depreciation lowers the value of domestic money in the portfolio of assets of an economic agent thereby leading to a higher share of foreign currency in the portfolio of assets. They concluded, "The exchange rate is clearly the crucial variable driving the process of dollarization..." On the other hand, Friedman and Verbetsky (2001) while discussing dollarization in Russia noted that there are several policy issues arising from dollarization that are important for emerging market and transition economies. In particular, they noted the issue of exchange rate behaviour in the presence of dollarization. In their review of some literature, they came to the conclusion that "Dollarization makes exchange rate very volatile in response to policy changes". This is consistent with Willett and Banaian (1996) argument that slight changes in dollarization would cause a "huge exchange rate movements". McKinnon (1982, 1993) and Bofinger (1991) maintained that dollarization is the main cause of instability in flexible exchange rates. This view implies that dollarization has been a significant destabilizing force in the world economy (Willett & Banaian, 1996). This become more relevant for a developing economy like Nigeria where exchange rate instability has strangulated most productive sectors of the economy especially manufacturing which is import dependent. McKinnon (1996) supports this position when he argues that "The concept of international dollarization is useful for explaining why floating exchange rates have been so volatile."

Gruben and McLeod (2004) considered dollarization and inflation convergence in Latin American countries. The study finds that dollarization causes inflation convergence (causes a reduction in inflation) as inflation in theses countries mimic that of the US whose currency is being used for transaction and store of value purposes. Although this study was not directly addressed to exchange rate volatility, inferences can be drawn as exchange rate volatility tends to manifest itself through inflation whether full, partial or delayed pass-through is assumed. These conflicting observations make the causal relationship between exchange rate volatility and dollarization to be an empirical issue. Indeed, this issue is particularly important for Nigeria operating a flexible exchange rate system especially after the implementation of Structural Adjustment Programme (SAP) supported by the World Bank and International Monetary Fund (IMF) since 1986.

While many Sub-Saharan African countries especially Nigeria, have moved from fixed to flexible exchange rate system at some point in the recent past, studies that explores the causal relationship between exchange rate volatility and dollarization have been rare. Yet, we need to understand the causal relationship between exchange rate volatility and dollarization in Nigeria. The identification of the causal direction will be particularly relevant for policy makers in developing and transition economies, where designing appropriate sequencing of stabilization programmes targeted at reducing vulnerability of their economies (as indicated by a significant share of their monetary base held in foreign currency denominations) have been a challenge. Therefore, the focus of this paper is to provide an empirical evidence on the causal relationship between exchange rate volatility and dollarization in Nigeria for the period 1986 (1)–2003 (4).

The remaining part of this paper is structured as follows: Section 2 provides some facts about the macroeconomic environment in Nigeria that lay the foundation for dollarization. Model and