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Effect of exchange rate volatility on trade: Evidence from selected Sub-Saharan African countries☆

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Abstract

The volatile nature of exchange rates with the advent of floating regimes has received much attention in economic research. The volatility is generally perceived as negatively affecting international trade. While theoretical predictions and empirical outcomes appear mixed, the balance seems to tilt in favour of this perception. Applying the pooled mean-group estimator of dynamic heterogeneous panels technique to data for eleven Sub-Saharan African economies over the period 1993 to 2014, this paper uncovers no significant effects of exchange rate volatility on imports. In the case of exports, however, the study finds a negative effect of volatility in the short-run, consistent with the above view, but a positive impact in the long-run.
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1. Introduction

The cessation of the Bretton Woods Monetary System of fixed parities, which has led to the adoption of floating regimes by many economies since 1973, has occasioned wide unpredictable

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fluctuations in bilateral exchange rates. These erratic movements have spawned renewed interest in exchange rates, owing to the perceived adverse effects on international trade (Dell' Ariccia, 1999). The traditional school of thought holds that by intensifying the risk associated with cross-border exchanges, fluctuations in exchange rates may dampen the volume of international trade, as risk-averse traders substitute away from their high-risk trading obligations, towards less risky ones (McKenzie, 1999). The risk-portfolio stance, however, counters this traditional view, with the conjecture that higher risk implies higher returns. Thus, increasing risk due to fluctuating exchange rates could rather increase the volume of trade (De Grauwe, 1996).

In an ideal world where changes in exchange rates are predictable, volatility would not have significant adverse effects even if these changes were quite substantial. Traders may factor in the predicted changes by adjusting the agreed-on price, and as such, the observed movements in exchange rates would not impede trade (Hakkio, 1984). With floating regimes, however, movements in exchange rates have been highly unpredictable, thus often resulting in some undesirable and/or unpredictable influences on the balance of trade (Sosvilla-Rivero, 1999).

Balance of payments difficulties in developing countries date as far back as the 1970s, coming to a head in 1982 when Mexico declared the inability to service its debt. In the Sub-Saharan African (SSA) region, efforts to fix exchange rates despite external shocks with no support for fiscal and monetary policies, led to overvalued exchange rates with serious balance of payments consequences. Foreign exchange regimes of SSA economies were characterised by administrative controls on foreign exchange allocation and current account transactions, extensive foreign exchange rationing due to persistently weak external accounts, sizeable black market premiums and, notably, stagnating *per capita* real incomes (Maehle et al., 2013). In the 1980s and 1990s, many of these countries, in the face of severe macroeconomic imbalances, embarked on reforms to liberalise their economies. The reforms undertaken covered exchange rate and international trade liberalisation, in conjunction with structural reforms (Maehle et al., 2013).

Although exchange rate liberalisation was instrumental in the economic revival experienced by some SSA economies in the 1980s and 1990s, it has also led to an upsurge in exchange rate fluctuations. For instance, conditional variance plots of the generalized autoregressive conditional heteroskedasticity (GARCH) and exponential GARCH (EGARCH) models (see Fig. A1 in the Appendix) reveal significant levels of volatility over the periods following the exchange rate liberalisation of a group of 11 SSA floating economies. Consequently, it would be useful to examine the short- and long-run macroeconomic implications of a flexible regime with increasing exchange rate volatility, particularly in less developed economies. Has it effected adverse trade balance ramifications along the line? Evidence from the past two decades reveal a persistence in current account deficits, often exceeding the 5% ceiling in many floating developing economies (Osakwe and Verick, 2007). In a study of 38 SSA countries, spanning 1970 to 2005, Osakwe and Verick (2007) find that current account deficits in the region are driven principally by trade deficits. In addition, challenges often emerge in amassing inflows to counterbalance long running current account deficits (Osakwe and Verick, 2007). While a few economies are able to attract more stable sources of deficit financing, such as foreign direct investment (FDI) inflows, the majority depend on external debt, which may not be sustainable.

With persistent current account deficits and the challenges associated with their management, this paper examines the effects of exchange rate volatility on trade (exports and imports) in the SSA region. Although there are a large number of existing studies on the exchange rate volatility-balance of trade nexus on developing economies generally, a focus on Africa is important, given likely geographical differences. Existing studies on SSA countries have often been country-specific, and are unlikely to generate useful generalizable results. Consequently, this paper jointly covers 11 floating-

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