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Fiscal shocks and real exchange rate dynamics: Some evidence for Latin America

Guglielmo Maria Caporale [a,b,c,*], Davide Ciferri [d], Alessandro Girardi [e]

[a] Brunel University, London, United Kingdom
[b] CESifo, Munich, Germany
[c] DIW Berlin, Germany
[d] Cassa Depositi e Prestiti, Rome and John Cabot University, Rome, Italy
[e] Ministry of Economic Affairs and Finance, Rome, Italy

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A B S T R A C T

This paper analyses the effects of fiscal shocks in selected Latin American countries using a two-country model for output, labour input, government spending and relative prices. Dynamic simulation techniques are then applied, in particular to shed light on the possible effects of fiscal imbalances on the real exchange rate. Using quarterly data over the period 1980–2006, we find that in a majority of cases fiscal shocks are the main driving force of real exchange rate fluctuations.

1. Introduction

Since the seminal contribution of Krugman (1979), it is well known among international economists that most of the Latin American (LA) countries suffered speculative attacks on their currencies from international investors mainly because of inconsistencies between domestic macroeconomic policies and the adopted exchange rate regime. In turn, real exchange rate misalignments have often led to macroeconomic disequilibria, and hence the correction of external imbalances might require both demand management policies and real exchange rate devaluations (see, among others, Edwards, 1988). As a result, equilibrium real exchange rates have changed over time, periods of large appreciations being followed by severe depreciations or periods of stability. Furthermore, real exchange rate

* Corresponding author. Centre for Empirical Finance, Brunel University, West London UB8 3PH, UK. Tel.: +44 1895 266713; fax: +44 1895 269770.

E-mail address: Guglielmo-Maria.Caporale@brunel.ac.uk (G.M. Caporale).

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variability in the LA countries over the eighties was greater than almost anywhere else in the world (Edwards, 1998), owing to debt crises that resulted in a real depreciation of the domestic currency, with frequent devaluations and inflationary episodes.

The existing literature on the sources of real exchange rate fluctuations has typically focused on the role of real demand (Enders and Hurn, 1994), monetary (Clarida and Gali, 1994; Weber, 1997) or productivity (Alexius, 2005) shocks, and has overlooked the possible effects of fiscal unbalances on countries' international competitiveness. Notable exceptions are the studies of Obstfeld (1993) and Asea and Mendoza (1994). Further, only a few studies (Chowdhury, 2004; Hoffmaister and Roldos, 2001; Rodríguez and Romero, 2007) have investigated the sources of real exchange rates fluctuations in emerging economies (and even less in LA countries), mainly assessing the relative contribution of temporary and permanent disturbances.

This paper, unlike previous studies on the exchange rate determination in emerging economies, adopts a framework which allows for a wide range of (structural) shocks with an economic interpretation potentially affecting the real exchange rate, including fiscal disturbances. While the effects of fiscal policy on the real exchange rate have recently been investigated in the case of industrialised countries (Ravn et al., 2007; Kim and Roubini, 2008), to the best of our knowledge, no studies exist for the LA countries.

The most common methods to identify macroeconomic structural shocks rely on building DSGE models to derive the exact cross-equation restrictions necessary for identification and to test if the data are consistent with some of these constraints as shown in Del Negro and Schorfheide (2006), or instead impose restrictions on Structural Vector AutoRegression models to identify disturbances with an economic interpretation that affect the long-run (Gali, 1999; Blanchard and Perotti, 2002).

The contribution of the present study is mainly empirical. We employ a two-country model for labour productivity, labour input, private output and relative prices, along the lines of Ahmed et al. (1993) and Hoffmaister and Roldos (2001), where the modelling approach to macroeconomic fluctuations developed by Blanchard and Quah (1989) is extended to an open-economy setting allowing for the possible existence of cointegration relationships among the variables of the system. A quasi-recursive scheme is adopted to obtain the orthogonality restrictions required to identify the structural shocks, either supply-side (relative productivity and relative labour inputs) or demand-side (relative fiscal and relative preference) ones. Their dynamic effects on the real exchange rate are then examined within a structural Vector Error Correction (VEC) framework by means of dynamic simulation and historical decomposition techniques in order to estimate the contribution of each structural disturbance in driving real exchange dynamics over the sample period under investigation.

Applying the same identifying strategy to a relatively homogeneous sample of countries of the same area (namely, the LA region), and including the US economy in the analysis as the most appropriate proxy for foreign factors (Berg et al., 2002; Ahmed, 2003), enables one to establish whether there are empirical regularities across this set of countries, despite their historically different experiences (Ahmed, 2003). Using quarterly data over the period 1980–2006, we provide clear evidence that fiscal shocks are a key determinant of real exchange rate dynamics for most of the LA countries we consider (namely, Argentina, Bolivia, Brazil, Chile, Mexico, and Peru), suggesting that appropriate fiscal policy measures are crucial to enhance the international competitiveness of these economies. By contrast, monetary factors appear to account for a relatively small fraction of the overall real exchange rate variability. These results are robust across a number of alternatives specifications of the empirical model. Further, we show that the contribution of demand (and monetary) shocks to explaining real exchange rate fluctuations increases when shorter cyclical fluctuations are taken into account. Finally, omitting the cointegration relationships, which we show exist, is found to lead to overestimating the role of demand shocks and, most importantly, underestimating the contribution of fiscal disturbances.

The layout of the paper is as follows. Section 2 describes the econometric model and presents the empirical results. In Section 3, dynamic simulations based on forecast error variance and historical decompositions are discussed, while robustness analysis is presented in Section 4. Some final remarks follow in Section 5.