



# Expenditure switching versus real exchange rate stabilization: Competing objectives for exchange rate policy<sup>☆</sup>

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## Abstract

This paper develops a view of exchange rate policy as a trade-off between the desire to smooth fluctuations in real exchange rates so as to reduce distortions in consumption allocations, and the need to allow flexibility in the nominal exchange rate so as to facilitate terms of trade adjustment. We show that optimal nominal exchange rate volatility will reflect these competing objectives. The key determinants of how much the exchange rate should respond to shocks will depend on the extent and source of price stickiness, the elasticity of substitution between home and foreign goods, and the amount of home bias in production. Quantitatively, we find the optimal exchange rate volatility should be significantly less than would be inferred based solely on terms of trade considerations. Moreover, we find that the relationship between price stickiness and optimal exchange rate volatility may be non-monotonic.

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## 1. Introduction

This paper develops a novel view of exchange rate policy as a trade-off between the desire to smooth fluctuations in real exchange rates in order to achieve smaller cross-country deviations in consumer prices on the one hand, and the need to allow flexibility in the nominal exchange rate so as to facilitate terms of trade adjustment on the other hand.

There is a substantial body of empirical evidence establishing that the link between movements in exchange rates and changes in national consumer prices is weak.<sup>1</sup> One explanation for this weak link is that prices of all goods are sticky in local currencies (LCP, or local currency pricing), and do not respond to movements in the exchange rate. In this case, nominal exchange rate fluctuations lead to inefficient movements in real exchange rates because they alter relative prices of identical or similar goods across countries. From this perspective, it is desirable to avoid movements in exchange rates because they lead to differences in prices across countries for goods that have similar resource costs.<sup>2</sup>

But there is separate evidence that relative traded goods prices are linked to movements in exchange rates. *Obstfeld and Rogoff (2000)* show that exchange rates are highly correlated with the terms of trade, measured as the relative price of imports to exports. This suggests that exported goods tend to have prices set in the producer's currency (PCP, or producer's currency pricing), and a depreciation raises the relative price of foreign to home export goods. In this case, the exchange rate may play a role in facilitating relative price adjustment in face of country specific shocks when nominal prices of traded goods are slow to adjust to the shocks.

We present an analysis of exchange rate policy when there is a conflict between the objectives of stabilizing consumption-based real exchange rates and allowing terms of trade adjustment. We build a model consistent with both the evidence of weak exchange rate pass-through to consumer goods prices and high pass-through to imported goods prices. In the model, imports and exports are intermediate goods. The law of one-price holds for these traded products, so nominal price stickiness of these goods is of the PCP variety. Intermediate goods are used to produce final consumer goods, whose prices are sticky in the consumers' currency. Consistent with the evidence, consumer prices are unresponsive to nominal exchange rate changes. In general, optimal exchange rate movements in this setting do not deliver full terms of trade adjustment. There is a trade-off. Nominal exchange rate movement changes the terms of trade in the desired direction when there is a real shock, as the literature has suggested, but mimicking the optimal terms of trade change may imply undesirable changes in the consumption-based real exchange rate.

In our model, the optimal real exchange rate is constant only when the production functions for the final consumption good in the home and foreign country are identical and use only traded inputs. If we consider that special case, then under LCP for final goods, nominal exchange rate changes induce movements in real exchange rates that lead to inefficient consumption allocations. Stabilization of the consumption real exchange rate is a legitimate goal of exchange-rate policy, but it conflicts with the objective of achieving

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<sup>1</sup>See Engel (1993, 1999), Rogers and Jenkins (1996), Engel and Rogers (1996, 2001), Obstfeld and Taylor (1997), and Parsley and Wei (2001, 2003). Mussa's (1986) classic paper stimulated much of this research.

<sup>2</sup>Devereux and Engel (2003) find that if exporters set prices according to LCP, a fixed exchange rate regime is the optimal monetary policy. Similar results are found in Corsetti and Pesenti (2005).

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