Monetary policy in the open economy revisited: The case for exchange-rate flexibility restored

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ABSTRACT

This paper revisits the sticky-price pricing-to-market model of Devereux and Engel [Devereux, M.B., Engel, C., 2003. Monetary policy in the open economy revisited: price setting and exchange-rate flexibility. Review of Economic Studies 70(4), 765–783], in which fixed exchange rates are optimal even in the face of country-specific nonmonetary shocks. We show that this result hinges critically on the Devereux–Engel model's prediction that international consumption levels are perfectly synchronized under flexible prices. Realistic modifications of the model that produce nonsynchronous consumption movements – such as, the presence of nontraded goods – upset the fixed exchange rate prescription even in the absence of an expenditure-switching role of exchange rate changes.

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1. Introduction

This paper revisits the question of optimal exchange rate variability when prices cannot adjust immediately after country-specific real shocks. The traditional approach to this question dates back to Friedman (1953) and even earlier writers, who argued in favor of flexible exchange rates. In conventional open macromodels, dating back to the seminal works of Fleming and Mundell in the 1960s, imports are priced in the currency of the producer and the law of one price holds for tradable goods. The pricing assumption implies that the pass-through of an exchange rate change to import prices is complete and immediate: when a currency depreciates, for example, the prices of all imports rise immediately in proportion to the depreciation. This relative-price change generates an expenditure-switching

effect between home and foreign goods and lends a stabilization role to exchange rates in the face of country-specific real shocks. Empirical evidence, however, suggests that the assumptions of costless international trade and rapid, unitary pass-through are in general oversimplifications, lending further interest to the study of macromodels featuring market segmentation and pricing-to-market in international trade.[1]

In a pioneering paper, Devereux and Engel (2003) – DE hereafter – extend sticky-price models in the "new open economy macroeconomics" vein to incorporate price-setting in buyers' currencies by price-discriminating exporters. A key feature of the DE model is that exchange rate changes are not associated in the short run with changes in the relative import prices that confront consumers and, thus, do not generate an expenditure-switching effect between local and imported goods. One might infer that in models such as DE's, featuring pricing-to-market and local-currency pricing, exchange rate variation cannot stabilize the economy as it does in the Mundell–Fleming model, by switching aggregate demand between home and foreign goods. And indeed, DE conclude, on the basis of a welfare analysis in their model, that fixed exchange rates are optimal even in the presence of idiosyncratic national productivity shocks. This inference would seem to overturn the conventional wisdom that country-specific real shocks make exchange rate flexibility desirable. See Engel (2002) for an elaboration of this theme.

In this paper, we demonstrate that flexible exchange rates are optimal in realistic variants of the DE model which still feature a complete absence of expenditure-switching effects of exchange rate changes. In our model, it is optimal for monetary authorities to affect domestic aggregate demand differently in response to country-specific real shocks, implying a flexible exchange rate under optimal policies. In DE's model, the optimality of fixed exchange rates is primarily due to a knife-edge and unrealistic symmetry restriction embedded in their model that eliminates the need for distinct effects of monetary policy on aggregate demand across countries. We emphasize that DE's result is not due to the absence of expenditure-switching effects of exchange rate changes. It is important to stress that we are not simply making the point that an absence of expenditure-switching exchange rate effects on *consumer* spending leaves room for exchange rate flexibility.[2] Instead, we show that even a *complete* absence of expenditure-switching effects need not nullify the case for flexible exchange rates in more realistic variants of the DE model. The specific modification we make to the DE model is to add nontradable goods, although our analysis suggests that a number of alternative plausible modifications would have a similar effect on the model's predictions about optimal monetary policy.[3] Our conclusion is that while more detailed theorizing about open economy price rigidities is extremely valuable, the channels of monetary policy transmission can be subtle and researchers should accordingly be cautious in leaping to radical policy conclusions.

2. Intuition for the basic result

A central building block of DE's model is an assumption of complete international asset markets. With segmentation across national goods markets, but free trade in international asset markets, prices of state-contingent claims to future *money* payments are equalized internationally. That equality leads to the condition for international risk sharing tested by Backus and Smith (1993). Let C denote a consumption index, P the overall money price level, S the exchange rate (domestic price of foreign currency), and let asterisks denote the corresponding foreign variables. Furthermore, for simplicity assume a constant coefficient of relative risk aversion, ρ. Then the Backus–Smith risk sharing condition takes the form:

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[1] See Goldberg and Knetter (1997) for a survey of international pricing. On trade costs in general, see Anderson and van Wincoop (2004).

[2] Thus, Obstfeld and Rogoff (2000) argue that the pass-through of exchange rates to producer prices is relevant. Following up on this point, Obstfeld (2001) presents a formal analysis in which producers respond to the implied relative-price changes, even though relative consumer prices are all predetermined.

[3] Duarte (2004) and Obstfeld (2006) demonstrate the case for flexible exchange rates in models with pricing-to-market in local-currency and nontraded goods. Duarte works with a variant of the model of Corsetti and Pesenti (2005). Obstfeld uses a variant of the DE model in which the nominal interest rate is the monetary policy instrument and shocks can be temporary.