

What Drives Volatility in Real Exchange Rates? Evidence for Industrial Countries

CALDERON Cesar

The collapse of Bretton Woods in 1971 forced industrial economies to switch from a fixed exchange rate to a floating system. This switch brought a larger volatility for both the nominal and the real exchange rate (Stockman, 1983; Mussa, 1986). During the 1970s, the great volatility of the exchange rate was blamed to the monetary authorities. Theoretically, Dornbusch (1976) showed that unanticipated monetary policy shocks might generate disproportionately large fluctuations in the exchange rates. In Dornbusch's model, the lower speed of adjustment of goods markets implies that the exchange rate disproportionately absorbs the unanticipated monetary shock in the short run. However, the hypothesis that monetary stability is the sole culprit of exchange rate instability has lost ground as most industrial economies have stabilized inflation at annual rates below 3 percent. For example, inflation rates have converged to the 1 to 2 percent range in the U.S., Japan, and Europe; whereas the exchange rates across the US dollar, the euro, and the yen are still significantly volatile (Rogoff, 1999). The fact that exchange rate volatility among the major currencies has not declined even though the serious and successful efforts to bring inflation down, allows us to think that the role of monetary factors implied by Dornbusch (1976) was overstated. In addition, the inability of monetary models to replicate and forecast exchange rate fluctuations (Meese and Rogoff, 1983) implies that monetary instability is only one of the several factors driving exchange rate volatility. A recent strand of the literature, the so-called "*New Open Economy Macroeconomics*", argues that non-monetary factors have gained importance in explaining exchange rate volatility. That is, in addition to money, we should include productivity shocks, terms of trade shocks, and government spending, among others. The goal of the present paper is to explain the real exchange rate volatility by positing a structural relationship between volatility and its determinants. The set of forcing variables will be determined by a dynamic general equilibrium model in the spirit of Obstfeld and Rogoff (2000) that includes government. In order to perform our task we will gather information on exchange rates, productivity of the traded and non-traded sector, terms of trade, government spending, monetary aggregates, interest rates, exchange rate regimes, and capital controls for a sample of industrial and emerging-market countries for the 1973-2001 period. We will use the recent technique developed by Bekaert, Harvey and Lunblad (2001, 2002) that allows us to use overlapping data (specially suitable for variables in standard deviation) and exploit both the time dimension and cross-sectional dimension of our data base.
