

Supply shocks and real exchange rate dynamics: Canadian evidence

TESSIER David, GAUTHIER Céline

In this paper, we study the impact of supply shocks on the Canadian real exchange rate. We specify a structural vector-error-correction model that links the real exchange rate to different fundamentals (commodity prices, productivity, government size, and real returns). The identification scheme we use to recover the different shocks is based on long-run restrictions and allows us to decompose the real exchange rate according to different long-run trends, basically defined in terms of permanent shocks. Two main results emerge from our analysis. First, a positive supply shock in favour of Canada leads to a real exchange rate appreciation. Although consistent with the Balassa-Samuelson hypothesis, this result contradicts previous empirical findings that have used a similar methodology and is at odds with equilibrium models of Lucas (1982) and Stockman (1980) for which a positive supply shock leads to a real depreciation of the currency. Second, commodity price shocks tend to be an important determinant of exchange rate movements over the short and medium run, but supply shocks have the largest impact over the long run. In particular, supply shocks explain most of the *stochastic* depreciation of the Canadian real exchange rate since the beginning of the 1990s.

We can explain the predominance of productivity factors over terms-of-trade effects by recognizing that the real exchange rate is more than just a relative price that reflects the trading sector activity, as implicit in equilibrium models of Lucas and Stockman. Restricting our attention to trade sets aside financial aspects of the exchange rate for which the key determinant is the relative rate of return of capital. The latter is likely dependent upon the productivity of the overall economy, which includes non-tradable sectors, usually excluded from explanations of exchange rate dynamics. In a recent study by Alquist and Chinn from the NBER, the predominance of productivity factors was also found to explain the dynamics of the eurozone-US exchange rate, especially over the period following the launching of the *euro*.
