Modeling Equilibrium Real Exchange Rates
Ibrahim Elbadawi (World Bank)
Raimundo Soto (Universidad Católica de Chile)

Abstract

The research addresses three methodological questions that are central to effective exchange rate and macroeconomic management: what are the determinants and how to model the real exchange rate (RER), how to estimate its equilibrium level, and how to quantify the likely impact of misalignment on exports and long-run economic growth. Despite the substantial number of RER models, current research is limited in that it usually does not present an explicit solution of the theoretical model in econometric terms, it suffers from severe shortcomings arising from measurement error and structural breaks, and policy recommendations derived from estimated models are usually based on the statistical significance of some regression coefficients, which does not necessarily constitute a valid evaluation of alternative policy trajectories.

We develop a simple analytical model of the exchange rate based on the long tradition of modeling real exchange rates in the context of general equilibrium, rational expectations models, capable of addressing the main policy questions in a analytically rigorous, congruent manner. We then develop an econometric strategy to take the analytical model to the data, test its applicability to a single country or a panel of countries, and use the econometric estimation to understand the evolution of the exchange rate and forecast its future evolution as determined by the fundamentals, policies, and exogenous shocks. Third, we develop a methodology to modeling the misalignment of the RER to overcome the problem of scaling arising for estimated cointegration models and compute confidence intervals for the misalignment, allowing for flexible (as opposed to the standard fixed) speed of adjustment to equilibrium.