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An Exchange Rate Model with Market Pressures and Contagion Effects

Abstract

The exchange rate model we propose combines PPP and UIP hypotheses with the effect of risk aversion in financial markets, the impact of currency market pressures, and the contagion effect. A new indicator was developed to identify the periods of pressure in the currency markets, which allows not only short-term but also long-term instabilities to be detected. Because in addition to being an explanatory variable (in the exchange rate equation) the indicator is also explained by the model variables and because the time series are generated by non-stationary stochastic processes, cointegration with dichotomous variables was chosen as an appropriate tool for inference. The asymptotic distribution of the trace statistics necessary to determine the size of the cointegrated space had to be derived and the critical values were simulated.

The empirical results obtained with the Polish data confirm that instabilities in currency market are caused not only by fundamental factors, such as the volume of economic activity and the country's balance of payments, but also by the contagion effect resulting from investors' inclination to perceive Poland and its neighbours, the Czech Republic and Hungary, as one group. On the other hand, it has been shown that the exchange rate is increased by rising inflation and interest rates (vis-à-vis the reference countries), higher risk attributed to the particular market (country) and market instabilities.

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