Vít Pošta

NONLINEAR DYNAMICS UNDER UNCOVERED INTEREST RATE PARITY: CASES OF THE CZECH REPUBLIC, HUNGARY AND SLOVAKIA [1]

Abstract: *There has been an increasing amount of research giving mixed evidence of exchange rates following purchasing power and uncovered interest rate parities conditions. Using linear methods, a stable relationship between exchange rates and the respective fundamentals is usually found; however, the speed of adjustment of the exchange rates toward equilibrium seems to be rather slow. This together with the high volatility of both nominal and real exchange rates is addressed as one of the exchange rate puzzles. One approach to solving this puzzle is the use of nonlinear methods for exchange rate modelling. In this paper nonlinearity of the behaviour of the exchange rate of Czech Koruna, former Slovak Koruna and Hungarian Forint to Euro is tested using the ESTAR modelling framework. While it is usually the purchasing power parity condition which is tested, it is the uncovered interest rate parity which is considered in this paper.*

Key words: *ESTAR, nonlinear dynamics, uncovered interest rate parity*

JEL: C 22, E 44, F 31

Linear relationships between exchange rates and various fundamental variables have long been tested. The use of co-integration has been frequently applied to purchasing power parity (PPP), both uncovered and covered interest rate parities (UIP), monetary models of exchange rates, etc. Usually cointegrating vectors are found among the variables, indicating the presence of long-run relationships. Analyses of the adjustment process of the exchange rate towards the detected long-run relationship using the vector error correction model framework have shown that the adjustment of the exchange rate is slow. The half-life of the adjustment process has been estimated even up to 5 years in some papers. However, high volatility of both nominal and real exchange rates, which is well documented in the literature, indicates that the adjustment should be much faster, especially, if one takes account of the fact that it usually is nominal shocks to the exchange rate that are considered.

[1] This paper is a part of a research project financed by IGA University of Economics, Prague.