

Asymmetry of the Exchange Rate Pass-Through: An exercise on Polish Data.

by

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Modelling framework



- **Import price model**
- Cointegration relationship (Johansen/FMLS)
- Vector Error Correction (VECM) mechanism
- Nonlinear modelling (currency appreciation/depreciation)
- **Models based on a hybrid New Keynesian Phillips Curve**
- Threshold Autoregressive Models (TAR)
- Threshold variables: output gap, NEER, NEER volatility and inflation.
- Nonreversible linear model approach

Key findings



- Incomplete pass-through in the short and long run (in the range of 0.7-0.9 in the cointegrating vector).
- Pricing to market behavior in the short and long run.
- No evidence of nonlinearity in the reaction of the import prices to the exchange rate.
- Rejection of the hypothesis of asymmetric reaction to the exchange rate (currency appreciation/depreciation) in the import price model.

Key findings



- Evidence of asymmetry for the CPI regarding the output gap, exchange rate change and its variability.
- Lower level of exchange rate pass-through with the nonlinear Phillips curve models.
- Low-pass through occurs in the event of a currency appreciation and economic contraction.
- High pass-through occurs in the event of a currency depreciation and economic expansion.

Main comments and extensions



- No financial/post-financial crisis period coverage (2008-) which would be particularly relevant for the nonlinear approach.
- Longer time period.
- Disaggregate analysis at the industry level (panel approach).
- PSTR/PTR models for the analysis of nonlinearity along the lines of González, Teräsvirta et al. (2005)
- Regime-switching models (LSTR/MRS) along the lines of Gerlach and Lewis (2010) for instance.

Main comments and extensions



- Other forms of nonlinearity (nonlinear model, nonparametric estimation).
- Other transition variables (q_i): monetary aggregates
- Real-time data issue in the Phillips curve estimation (output gap).
- Use of a monthly frequency which would provide more precision (relevant for prices and exchange rate variables).
- Tests of exogeneity (Hausman/Sargan tests).

Minor comments



- Estimate a Threshold VECM already for the import price model (pages 37/38).
- Other tests of unit root and stationarity (PP/KPSS), particularly given the possible small sample bias (page 36).
- The Caner and Hansen (2004) paper is on instrumental variables threshold estimation (2SLS) assuming an exogenous threshold. Are the threshold variables exogenous (page 41)?
- What is the set of instrumental variables used in the estimation of the Phillips curve (page 41)? Are they lagged exogenous variables?

References



- Caner, M., and B.E. Hansen. (2004). *Instrumental Variable Estimation of a Threshold Model*. *Econometric Theory* 20, no. 5: 813–843.
- Gerlach S. , Lewis J. (2010). *The Zero Lower Bound, ECB Interest Rate Policy and the Financial Crisis*, De Nederlandsche Bank Working Paper, 254.
- González, A., Teräsvirta, T., & van Dijk, D. (2005). *Panel Smooth Transition Regression Models*. Working Paper Series in Economics and Finance 604, Stockholm School of Economics.