The enlargement of EMU: differences in relative inflation

Lukasz W. Rawdanowicz
lukaszr@case.com.pl

Non-technical summary

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This paper investigates the structural determinants of relative inflation (i.e. inflation of non-tradables vs. tradables) in the context of overall inflation differentials in the EU. The existing empirical literature differs significantly in terms of a model specification, definition of variables, country and time coverage, and econometric techniques. Thus, a need for a standardised empirical investigation based on a common theoretical model arises. This allows for systematic tests of differences in relative inflation determination among advanced and transition economies.

The analysis is based on the theoretical model developed by Bergstrand (1991). It incorporates three alternative hypotheses of relative inflation – the sectoral productivity differential (Harrod-Balassa-Samuelson), demand and the relative capital-labour endowment effects. Various specifications of this model are estimated using the panel group mean fully modified OLS estimator developed by Pedroni (2000) for an unbalanced panel including the majority of EU countries. This estimator is suitable for dynamic panels with non-stationarity data.

Empirical estimations generally support the Bergstrand model, however due to problems with collecting reliable data on capital stocks, it is not possible to estimate the model including the capital-labour ratio. In the curtailed version of the model, labour productivity and the demand effect turn out to be generally significant and correctly signed, corroborating findings of other studies. For the sake of a sensitivity and robustness check, various alternative specifications of the Bergstrand model are tested. The separate estimations for the new and old EU Member States indicate differences in the mechanism of relative inflation determination. The demand effect turns out insignificant for the old Member States, whereas for the new Member States the relative productivity effect is insignificant. Although, the short data sample for the new Member States casts doubts on the credibility of the empirical results for this group, the differences are consistent with theoretical considerations and the transition phenomenon.

Given the many caveats in empirical estimations and problems with obtaining precise estimates of structural inflation, the ensuing policy implications should be carefully considered. Relative inflation models are demonstrated to be a conceptually questionable framework for the analysis of overall inflation differentials especially in the short and medium term. This is primarily due to the failure of the purchasing power parity condition for tradables. Consequently, implications for the inflation target in the enlarged euro area, discussion on the Maastricht inflation criterion and international competitiveness are far from straightforward.

Keywords: relative inflation, Bergstrand model, panel estimations, euro area enlargement