

Executive Summary to the CERGE-EI / GDN Research Grant

Microeconomic Price Adjustment and Aggregate Inflation

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The various elements of this GDN supported research project examine the issue of short-run inflation determination from hitherto unexplored angles. The distinctive characteristics of the project are twofold. The first one is the account for the implications of state-dependent pricing policies for inflation dynamics. The second one is the structuring of the empirical analysis around microeconomic price data. Four specific issues are examined; all of them are able to inform economic policy.

Staggering

Even if one accepts the view that microeconomic prices are sticky, it awaits clarification in what particular way they are so, and how microeconomic stickiness is related to the macroeconomy. Based on a panel of retail prices recorded in Hungary, this part of the project provides detailed evidence on the nature of across-store and within-store staggering in microeconomic data. While staggering is found to be more common across stores than across products within a store, a non-negligible degree of synchronization exists across different stores. Price setting is particularly synchronized in times of large input price shocks.

As countries fighting inflation are likely to enjoy the benefits of microeconomic arrangements in which price setting is dominated by strong synchronization effects, the degree of coordination in the timing of pricing decisions is a critical issue for policymakers in countries attempting to fight inflation.

Pricing points

One of the unexplored explanations for price stickiness is the presence of pricing points, that is the tendency of retail prices ending in 5, 0 or 9. The current research explores the

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nature of pricing points in nominal price levels and price changes, and relates the dynamics in them to time and observable cost shocks. The data analysis is based on a detailed panel data set of store level consumer prices of various processed meat products collected in Hungary. While they identify relatively little evidence for psychological price endings such as 9 or 99, the results show that pricing points, especially multiples of 10 are important components of nominal price levels, and especially nominal price changes at the retail level in Hungary.

The widespread fears that the changeover to the Euro in 2002 in the European Monetary Union would fuel inflation originated from the presumption that psychological and other pricing points could serve as focal points in resetting prices after the conversion to the new currency. As countries joining the European Union in 2004 are set to join the EMU in the near future, confronting the issue of pricing points will soon become vital for policymakers in the accession countries as well.

Price level versus inflation convergence

How fast do relative price differentials across different locations in a common currency area fade away over time? Do price levels eventually converge when they start from significantly different initial positions or instead deviations from the law of one price are persistent? This part of the project empirically investigates the nature of price level convergence. The data analysis is based on a monthly frequency microeconomic price data set of 20 narrowly defined items in Hungary available from January 1992 to December 2001.

In contrast to a large portion of the literature on Purchasing Power Parity and the law of one price, the findings here strongly reject the null hypothesis of price differentials being long-lasting. Indeed, the implied half-lives in general show very fast convergence in prices. The speed is slower for non-tradable services than for tradable food items. If interpreted as fast convergence to a potentially non-zero time-invariant price differential, the law of one price appears to rule. The time-invariant price differential in turn depends on the absolute size of the geographic locations as proxied by the population in the main city in the county, but on the distance of the main city from the benchmark location.

The degree of persistence in price differentials has crucial implications for inflation dynamics in countries of joining the EU and eventually the EMU. The major potential tension is between the economic and monetary integration of currently low-price accession countries bringing about price level convergence and the need of keeping inflation at levels appropriate for monetary integration in these countries. The true quantitative consequences of this tension are determined in turn by the extent to which inflation differences are explained by forces other than convergence in price levels.

Imputation by simulation estimation

What price should be recorded when items are missing? The machinery to impute missing observations has important implications for price measurement by statistical agencies. Mechanical procedures can lead to serious biases, while parametric procedures are often overly restrictive.

This part of the project develops a two-stage estimation framework to impute missing retail price observations via a simulation estimation procedure. The empirical approach accounts for lumpiness and heterogeneity in microeconomic price setting. The simulation estimation approach is contrasted and compared with other standard procedures. Preliminary results show that the simulation estimation technique improves on previous approaches to microeconomic price data imputation.