

2007-03-29

PRESS RELEASE

Price setting in the euro area: Some stylized facts from individual producer price data

NBB Working paper 111 - Research Series

The Working Paper "Price setting in the euro area: Some stylized facts from individual producer price data", which is also published in the ECB Working Paper Series, has been developed within the scope of the "Eurosystem Inflation Persistence Network" (IPN), a research network consisting of 12 of the euro area's national central banks, the ECB and the academic world.

Prices of goods do not adjust immediately in response to changing demand and supply conditions. This fact is not controversial and is a standard assumption in macroeconomic modeling. In fact, a large strand of theoretical literature has been devoted to analyzing the sources of price stickiness and has shown that the nature of nominal rigidities determines the response of the economy to a broad range of disturbances and has several implications for the conduct of monetary policy. However, despite the relevance of these issues for monetary policy, empirical assessment of price setting behavior using individual price data has remained relatively limited, especially for producer prices.

This paper, building on IPN evidence, aims at characterizing the basic features of producer price adjustment in the euro area economy and its member countries.

Based on the analysis of producer price data in 6 euro area countries (Belgium, France, Germany, Italy, Portugal and Spain), several stylized facts have been found:

1. Producer prices change infrequently. On average, around 21 percent of producer prices are changed in a given month.
2. There is a marked degree of heterogeneity in the frequency of price changes across sectors. Specifically, price changes are the most frequent in the energy sector, followed by food and intermediate goods, non durable non food goods, and durable goods.
3. The same sectoral ranking is observed in all countries.
4. There is no evidence of a general downward rigidity in the euro area. In fact, price decreases are not uncommon. On average, 45 percent of the price changes are price reductions.
5. Price changes, either increases or decreases, are sizeable compared to the inflation rate prevailing in each country.

Some further common price-setting patterns have been observed in the different euro area countries considered in this paper. In particular, there is some evidence of time dependency in price setting behavior as the frequency of price changes exhibits seasonal patterns. Price changes mostly occur in January but are less frequent in the summer period and in December. There is also some evidence of state dependency in price setting behavior as the frequency of price changes increases with the inflation rate.

The cost structure seems also to be an important determinant of the frequency of price changes. The higher the share of labor costs in the total cost of manufacturing, the lower the frequency of price changes. On the contrary, the higher the share of energy and non-energy raw materials, the higher the frequency of price changes. The degree of competition also matters as more frequent price changes are observed in sectors characterized by a higher degree of competition.

Finally, it has been found that producer prices tend to be changed more frequently than consumer prices. This indicates that the retail level adds an additional level of stickiness to prices above the producer level.

The facts put forward in this paper broaden our understanding of producer price setting and should improve the understanding of economic fluctuations and inflation dynamics, by improving macro economic modeling.