

Are managers' selling price expectations a good predictor of producer prices?

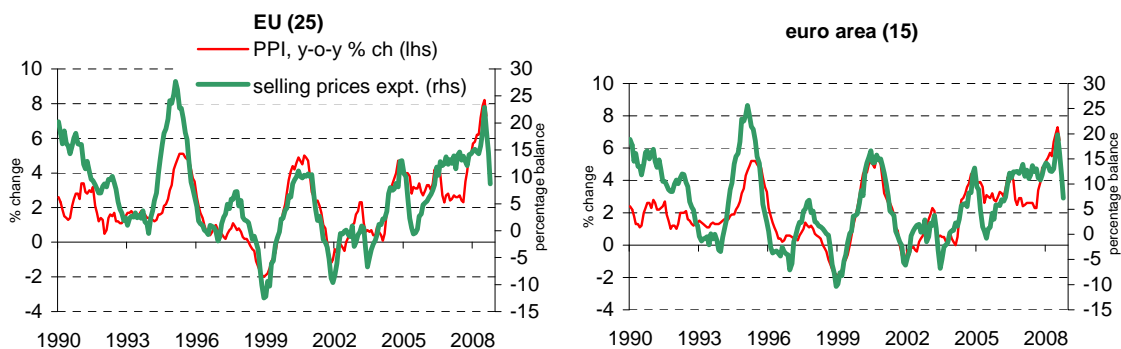
By Roberta Friz, DG ECFIN¹

Preliminary results (November 2008)

Producer prices are of particular importance for policy makers since they help to identify price pressures at the earlier stages of the production chain that could subsequently be passed on to finished goods and hence to consumer prices.² This paper attempts to give an insight in the potential usefulness of managers' expectations as indicators of producer prices (PPI) for the manufacturing sector.

The analysis is based on replies to a specific question asked on a monthly basis to managers in the manufacturing industry. It covers results for the EU and Euro Area (EA) as a whole and for the large EU Member States (Germany, Spain, France, Italy, NL, Poland and UK). The question reads "How do you expect your selling price to change over the next 3 months? They will increase, remain unchanged or decrease". As the question relates to manufacturing, we assess it against the PPI for the manufacturing sector (NACE section D), which represents 87% of PPI for total Industry excluding construction in the EU and 89% in the euro area.³

Graph 1 Selling price expectations (balance statistic) and producer prices in the manufacturing sector (in year-on-year percentage changes)



Source: Commission services.

Graph 1, which presents results for the EU and the euro area, suggests that there is a rather good co-movement of selling price expectations and producer prices. This is valid for the EU and EA as a whole, as well as for individual large Member States (graphs not reproduced here), with the exception of the UK.⁴ However, the evolution of these variables diverged quite significantly, both in direction and strength, in the period 2005

¹ European Commission, Directorate General for Economic and Financial Affairs. The views expressed in this paper represent exclusively the position of the author and do not necessarily correspond to those of the European Commission

² The aim of this analysis is not to assess the pass-through from producer prices to consumer prices. However, it is interesting to note that the correlation between producer prices in the manufacturing sector and HICP for Industrial goods - which represents around 40% of total HICP - is of 0.9 over the period Jan-1997 to July-2008.

³ Given the formulation of the question, one would expect the most appropriate reference series to be the 3m-on-3m percentage change. However, a better match is observed with the annual percentage changes.

⁴ More work is necessary in order to understand the results in the UK and will look notably at elements such as the representativeness of the sample, the used reference series as well as cultural and economic factors.

to 2007.⁵ Selling price expectations and producer prices moved more closely together from the beginning of 2008 and the two decreases in producer price index (PPI) registered in August and September 2008, were correctly reflected in managers' replies.

The visual inspection is supported by the analysis of correlation coefficients between the two series, which indicate that expectations track quite well producer prices in the manufacturing sector for all countries examined (see Table 1).⁶ The higher results are registered for coincident correlations in the EU, the EA, Spain and the Netherlands. In Germany, Italy and Poland selling price expectations are leading producer prices while in France and in the UK higher correlations are registered with expectations lagging producer prices.

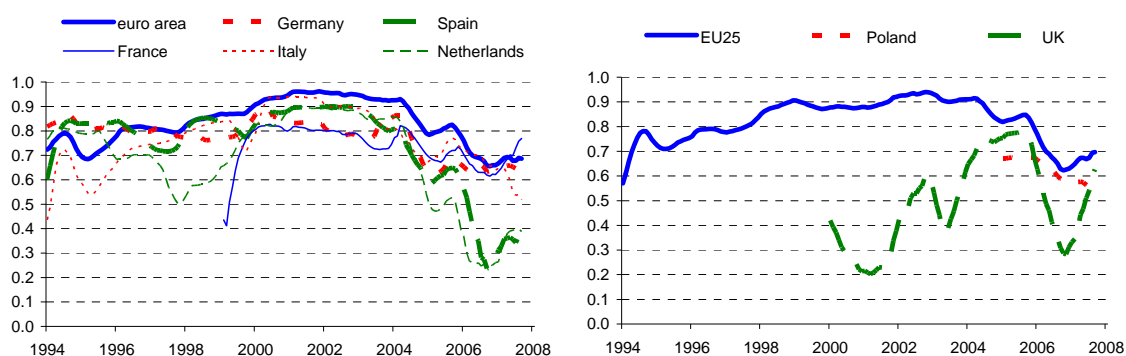
Table 1 Correlation between selling price expectations and producer prices in the manufacturing sector (year-on-year % change)

	EU	EA	DE	ES	FR	IT	NL	PL	UK
coincident	0.74	0.75	0.68	0.68	0.82	0.73	0.70	0.67	0.73
expect. leading 1 month	0.74	0.75	0.69	0.67	0.78	0.77	0.69	0.72	0.70
expect. leading 2 months	0.72	0.74	0.69	0.63	0.72	0.78	0.67	0.75	0.66
expect. leading 3 months	0.70	0.71	0.69	0.60	0.66	0.78	0.65	0.77	0.64
expect. lagging 1 month	0.72	0.73	0.65	0.68	0.85	0.68	0.68	0.58	0.75
expect. lagging 2 months	0.68	0.69	0.60	0.65	0.86	0.62	0.64	0.48	0.75
expect. lagging 3 months	0.62	0.63	0.53	0.61	0.84	0.55	0.58	0.37	0.74

Source: Commission services.

The divergence observed in Graph 1 for the years 2005 to 2007, also transpires from the development of correlation coefficients over time, which highlights significant differences across countries. As shown in Graph 2, these coefficients were quite high for all countries up to end 2005, with the exception of the UK. Thereafter, the correlation decreased in all countries, especially in Spain and in the Netherlands, only to start improving again in recent time.

Graph 2 Three-year rolling horizon correlation coefficients between selling price expectations (balance statistic) and producer prices in the manufacturing sector (in year-on-year % changes)



Source: Commission services.

The directional analysis (number of times that change in expectation correctly signalled the acceleration or deceleration of producer prices) reports a success rate of 58% in the

⁵ Development in energy and food prices may explain this divergence. However, deeper analysis is still needed before drawing conclusions.

⁶ Correlation coefficients with 3 month-on-3 month percentage changes are lower for all the reported countries. This, however, could be partly due to the unavailability of a seasonally adjusted series.

EU between January 1990 and September 2008. Results are similar for the euro area (54%) and the large Member States, where however the percentage varies between a rather low 48% in France and a more satisfactory 62% in the Netherlands.

A statistical analysis through Granger-causality tests on the strength of the relationship between the two variables suggests that selling price expectations contain significant information for the estimation of producer prices in the manufacturing sector.⁷

A similar picture emerges when looking at results from other. For instance PMI includes two questions which can be related to producer prices: one on output prices and the other on input prices⁸. Although such questions have a backward-looking perspective, these two series are both highly correlated with producer prices in the manufacturing sector in the euro area and the seven large EU Member States. Though a somewhat higher correlation can be observed for the EA as a whole, our indicators show better results at individual country level. It should be noted that the PMI neither covers EU-27 nor many of the EU Member States.

Overall, although exceptions and divergences in specific periods or countries occurred, our analysis shows that useful indications can be derived from the answers to the specific question covered by this analysis. In particular, it indicates that managers' opinions on current and future developments in producer prices can be a reliable and leading indicator of PPI in the manufacturing sector and therefore could help to recognize inflationary pressures.

⁷ It has to be noted that cases of nonstationarity have appeared for some PPI series. These arise in particular when more recent PPI developments (of continuous increases) are included in the sample. When the sample is restricted to the end of 2004, the PPI series result stationary and Granger-causality tests show that price expectations can significantly contribute to the estimation of producer prices.

⁸ The exact wording of the questions asked among industries in the manufacturing sector is: For the output prices: "Please compare the average price that you charged per unit of output (volume weighted) this month with the situation one month ago", and for the input prices: "Please compare the average price of your purchases (volume weighted) this month with the situation one month ago".