

## Box 5

### DIFFERENCES BETWEEN INDUSTRIAL PRODUCTION AND VALUE ADDED DATA IN INDUSTRY IN THE FIRST QUARTER OF 2004

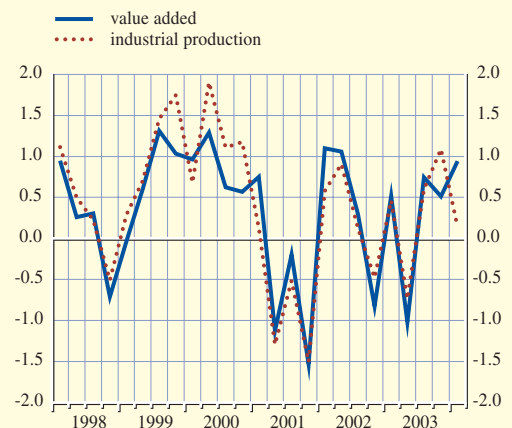
Industrial production and data on value added in industry showed significantly different growth rates in the first quarter of 2004. This has made the assessment of the strength of industrial activity difficult. This box presents a number of factors which may account for this difference. It also reports on developments in other indicators related to industrial activity that provide useful complementary information. These indicators suggest that actual growth in industry was probably stronger than observed in the industrial production data, although possibly not as strong as currently indicated by the value added series.

In the first quarter of this year, euro area industrial production (excluding construction) rose by 0.2% quarter on quarter, giving the impression of renewed weakness in the sector. This result was at odds with value added data, which showed growth of 0.9% in the first quarter (see Chart A). The gap between current estimates of the two indicators is narrower than it was with initial estimates of growth in the first quarter. However, it is still substantial, which complicates the assessment of the pace of growth in industry at the beginning of this year.

When analysing possible factors accounting for this difference, it should be noted that the statistical concepts of the two indicators are similar. In particular, both series measure output net of inputs used in production. However, due to data availability at the country level, the estimate of euro area

Chart A Growth in industrial activity

(quarter-on-quarter percentage changes; seasonally adjusted data)



Source: Eurostat.

industrial production is based on a larger geographical coverage than value added data. In addition, the impact of different coverage for the two indicators was emphasised by different growth patterns across the euro area. In the countries for which value added data were available, growth in industry seems to have been significantly stronger than in those for which only industrial production data were available. The combination of different country coverage and different patterns of growth across countries accounts for around 0.2 percentage point of the 0.7 percentage point gap between euro area industrial production and value added results. Therefore, as quarterly and annual national accounts for the remaining countries become available, the gap between value added and industrial production could be expected to narrow further with slightly lower estimates of growth in value added.

A second factor relates to different seasonal adjustments for the two indicators. Euro area industrial production data are calculated by aggregating working-day adjusted national data. Eurostat then adjusts this aggregate for seasonal factors. By contrast, euro area value added data are constructed by aggregation of national seasonally (and, in most cases, working-day) adjusted series. Seasonal adjustment may partly account for the observed discrepancy in the first quarter of this year, but its contribution is difficult to quantify. Over time, different seasonal adjustment procedures for industrial production and value added in industry should have a random impact on the difference between the two indicators.

Developments in other industry-related variables bring valuable information for assessing the strength of activity in industry at the beginning of this year. Some of these indicators are shown in Chart B. All point to some improvement in the first quarter compared with the end of last year. For example, industrial turnover rose by 2.0% quarter on quarter in the first quarter in nominal terms (no constant price data are available). This was stronger than in the previous quarter. Based on nominal turnover data, a slowdown in real value added as indicated by the industrial production data would imply that either inputs to production rose sharply, that inventories of finished products have been reduced (both hypotheses implying a difference between turnover and value added concepts) or that output prices fell significantly compared with input prices (leading to a gap between growth rate developments in nominal and real terms). No direct information on inputs to production is available, but businesses' assessment of quantity purchases in the Purchasing Managers' Index (PMI) for the manufacturing sector showed only a modest rise in the first quarter. Similarly, survey data on businesses' assessment of stocks of finished goods do not show any evidence of significant destocking. Finally, indicators on prices and costs make it possible to dismiss the hypothesis of divergent input and output prices. Similarly, subdued growth in industrial production

**Chart B Indicators related to industrial activity**

(seasonally adjusted data)



Sources: European Commission and Reuters NTC.

Note: Manufacturing turnover and exports of goods as quarter-on-quarter growth rates; European Commission survey of manufacturing confidence and manufacturing PMI normalised. Turnover data are in nominal terms. Exports of goods include cross-border intra-euro area trade.

would be at odds with robust growth in external demand as witnessed by data on exports of goods (see Chart B). Finally, both the European Commission survey of manufacturing confidence and the manufacturing PMI reported ongoing improvements in businesses' assessment of activity in the sector, which is also contrary to the picture given by the industrial production numbers.

Overall, the available range of indicators consistently points to a strengthening of industrial activity in the first quarter of this year. While increased coverage could imply some downward revisions to the current value added estimates, it seems that growth was stronger than suggested by the industrial production data, although possibly not as strong as currently indicated by the value added series.