

UPDATE OF THE INDEX AND WEIGHT REFERENCE YEAR TO 2010 FOR SHORT-TERM BUSINESS STATISTICS

Short-term business statistics, such as those for industrial production, retail sales and producer prices are expressed as indices with the base year set at 100. In line with international convention, this index base year is updated at least every five years. At the same time, Eurostat, the statistical office of the European Union, updates the weight reference year. With the release of short-term business statistics for 2013, the index and weight reference year at the European level has changed from 2005 to 2010¹, i.e. from a pre-crisis period to a reference year which reflects the structure of economic activity after the 2008-09 recession. This box explains the main changes resulting from the introduction of the new reference year.

Factors behind changes in weights

Weights are based on domestic turnover (for producer prices and retail sales) or value added (for industrial and construction production) in the prices of the base year. The update from 2005 to 2010 weights is affected by changes in both relative prices and relative quantities. For price indices, updates of index and price reference years have an impact via changes in relative quantities, while the development of output indices is only affected by shifts in relative prices. Regarding the relationship between the price and quantity elements of weights, relatively high price increases would mechanically result in a larger share, but this effect may be dampened if relative quantities adjust in response. For the turnover shares, changes in relative producer prices may, for instance, reflect differences in the exposure that individual product groups have to international price developments (e.g. in commodity prices). Differential changes in input costs are not, however, relevant for the price component of value added shares, which are driven by purely domestic factors such as wage and profit developments.

Relative changes in quantities can reflect a large number of factors, including domestic and external demand developments, industrial policies or shifts in the comparative advantage of certain countries or sectors owing to technological developments. An economic interpretation of the changes in weights should be carried out with care, however, as the changes may also reflect statistical effects from changes in sources, methods and data revisions.

Changes in weighting structure across industries

Between 2005 and 2010 the weight of energy increased by 7.5 percentage points for euro area industrial producer prices (excluding construction) and by 3.0 percentage points for euro area industrial production (excluding construction) at the expense of most of the other main industry aggregates (known as the main industrial groupings). These increases also reflect changes in relative prices, as producer prices for energy increased by 23% over the period, whereas those for non-energy components increased by only 8%.

¹ See Council Regulation (EC) No 1165/98 of 19 May 1998 concerning short-term statistics, as amended. A complete set of weights is available from Eurostat's website at <https://circabc.europa.eu/> (in the Eurostat domain, navigate to "Short-term Statistics" and, under "Library", to the sub-folder on weights). Eurostat applies these weights from the new reference year over the whole time range and aggregates the time series to produce European statistics.

Weight breakdown in euro area short-term business statistics in 2010 and changes compared with 2005

(percentages; percentage points)

	Industrial producer prices		Industrial production	
	2010	Change from 2005	2010	Change from 2005
Total (excluding construction)	100.0	-	100.0	-
Intermediate goods	27.5	-2.5	33.6	-2.6
Capital goods	18.7	-3.3	29.2	+0.6
Consumer goods	21.9	-1.7	22.5	-1.0
Energy	31.9	+7.5	14.7	+3.0
			Construction production	
			2010	Change from 2005
Total			100.0	-
Building construction			78.5	+3.3
Civil engineering			21.5	-3.3
			Retail sales	
			2010	Change from 2005
Total			100.0	-
Food, beverages and tobacco			40.1	+1.7
Non-food products			51.1	+0.1
Automotive fuel			8.8	-1.8

Sources: Eurostat and ECB calculations.

Note: Data are provisional.

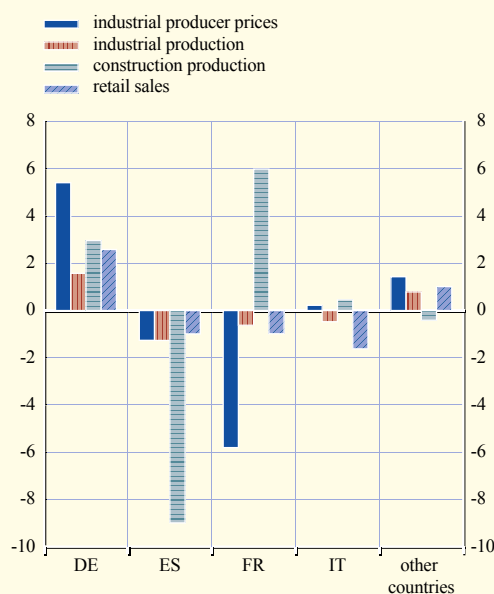
Within euro area production in construction, the dominant component, building construction, has increased its weight to 78.5% (+3.3 percentage points), which is mirrored in the reduced weight of 21.5% (-3.3 percentage points) for civil engineering. For euro area retail trade and its three main components, the share of food has increased by 1.7 percentage points to 40.1%, whereas the share of non-food is almost unchanged (+0.1 percentage point) at 51.1%. The share of retail sale of automotive fuel has been reduced by 1.8 percentage points to 8.8%.

Changes in weighting structure across countries

Further changes have been made in the weights of countries in the euro area aggregates (see the chart). The changes in weights broadly reflect the stronger recovery in the German industry and construction sectors following the 2008-09 recession compared with other euro area countries. For euro area industrial producer prices the weight of Germany has increased by 5.4 percentage points, whereas the weights of France and Spain have declined by 5.8 and 1.3 percentage points respectively. For euro area industrial production, Germany has increased and Spain has decreased its respective weight in the aggregate (+1.6 and

Changes in the shares of large euro area countries in selected indicators from 2005 to 2010

(percentage points)



Sources: Eurostat and ECB calculations.

-1.3 percentage points respectively). Similarly, for euro area retail sales, Germany has been given a higher weight (+2.6 percentage points), whereas Italy, Spain and France have reduced weights in 2010 (-1.6, -1.0 and -1.0 percentage points respectively).

Major changes have occurred in the construction industry. Spain's construction industry in particular has undergone a considerable downward revision of its share in the euro area total (-9.0 percentage points) reflecting the shrinking construction sector in Spain after the 2008-09 recession. Similarly, for Ireland (not shown in the chart) the country weight in euro area construction production decreased from 4.0% to 0.8% between 2005 and 2010. By contrast, the shares of, in particular, France and Germany have increased (+6.0 and +3.0 percentage points respectively). In the case of France, this reflects a relatively robust post-recession construction sector as a result, in part, of government incentive schemes.

Limited impact on aggregated indicators at the euro area level

Overall, despite some significant changes in the weighting structure, the rates of change in the euro area data have been affected only marginally. For example, for euro area industrial production (excluding construction) revisions in the seasonally adjusted month-on-month growth rates lie within a range of +/- 0.3 percentage point. This outcome is partly explained by broadly similar developments between 2005 and 2010 of the industrial production indices in the group of countries that experienced larger changes in their shares in the euro area aggregate; countries showing more disparate developments in industrial production saw only minor changes in their country weights.

Eurostat implemented the new weighting structure for euro area and EU aggregates at the same time for all countries and indices, whereas some national statistical institutes chose a different timing for the updating of the weights in national indices. Therefore, some national indicators used in the euro area aggregates are still based on an older weighting structure which, when updated, could lead to further revisions later in the year. In those instances where the national time series have been migrated to the new weight reference year of 2010, the underlying data in the time series are mostly also recalculated back to 2010; historical data before 2010 are then linked. This further reduces the impact of the new weighting scheme.

Current drawbacks in the weighting structure of short-term business statistics

Overall, the updated weighting scheme for short-term business statistics better reflects the structure of the euro area economy after the 2008-09 recession and therefore improves the quality and relevance of the statistical indicators. However, practices still vary regarding the use of weights for aggregations at national level, so that at the euro area level the totals and their components may not be fully consistent. Eurostat promotes a harmonised application of weights across countries.

Furthermore, with the introduction of a new weighting scheme, there is a general tendency to shorten existing time series by removing historical parts of series, often covering several years. This is unfortunate, as long and high-quality time series are crucial elements for business cycle analysis. The European Statistical System is therefore encouraged to step up efforts in the provision and maintenance of long time series.

Finally, the five-year intervals at which the weights are updated and the time needed to implement these new weights raise questions as to the extent to which five-year fixed-base indices can reflect changing economic structures in a timely manner. The chain-linked indices that have been introduced in other statistical domains (e.g. the HICP and quarterly national accounts), introducing more recent weights at annual frequency, would also be beneficial in short-term business statistics. At the European level, this is relevant in particular where national indices that are chain-linked are combined with non-chained national indices to form euro area totals.