EU-28, EA-19 Industrial producer prices, total, domestic and non-domestic market, 2005 - 2019, undadjusted data (2015 = 100) Source: Eurostat (sts_inpp_m), (sts_inppd_m), and (sts_inppnd_m)

This article provides a general overview of the (industrial) producer price index (PPI), sometimes also called output price index, as it is calculated and used at the level of the European Union (EU) and its Member States.

Please also see the monthly Eurostat News Release 3 December 2019.

Role of the industrial producer price index

The industrial producer price index measures the gross monthly change in the trading price of industrial products. (There are also producer price indices for construction and for services).

The PPI measures price changes from the point of view of the producers/manufacturers of a product. In this it differs from consumer price indices which measure the prices from the point of view of consumers/buyers (see below). The index reflects basic prices, which exclude VAT and similar deductible taxes directly linked to turnover. By contrast, any subsidies on products received by the producer should be added. In order to show the true development of price movements, actual transaction prices - instead of list prices - are collected.

Industrial producer price index - sub-indices

There are two sub-indices for the industrial producer price index, one for the domestic and one for the non-domestic market (Figure 1). When combined, the sub-indices give the change in the PPI for a given industry.
For producer prices on the non-domestic market, the prices are calculated at national frontiers, FOB (free on board); this means that the seller pays for transportation of the goods to the port of shipment, plus loading costs, and the buyer pays freight, insurance, unloading costs and transportation from the port of destination to his factory. All characteristics that determine the price of the products have to be taken into account. This includes quantity of units sold, transport provided, rebates, service conditions, guarantee conditions and destination.

Figure 1: EU-28, EA-19 Industrial producer prices, total, domestic and non-domestic market, 2005 - 2019, undadjusted data (2015 = 100) Source: Eurostat (sts_inpp_m), (sts_inppd_m), and (sts_inppnd_m)

The index for the non-domestic market is further divided into an index for the euro area and one for the non-euro area (Figure 2). These sub-indices are only provided for countries in the euro area.

Figure 2: EA-19 Industrial producer prices non-domestic market, 2005 - 2019, unadjusted data (2015 = 100)Source: Eurostat (sts_inppnd_m)
Producer prices - annual rates of change

After a steady increase for several years, producer prices peaked in summer 2008 and then dropped perceptibly for several months as a result of the financial and economic crisis. However, after about one year prices began to increase again and in late 2010/early 2011 regained their pre-crisis levels. After reaching a new peak in early 2013 industrial producer prices started to decline again until spring 2016. In early 2018 prices reached the level they had in 2012. As Figures 1 and 2 illustrate, the various sub-indices for the EU-28, the euro area and for domestic and non-domestic market all moved in a very similar fashion.

Industrial producer prices, total market, annual rates of change 2005 - 2018, unadjusted data

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Table 1: Industrial producer prices, total market, annual rates of change 2005 - 2018, unadjusted data

Figure 3 shows the (annual) aggregated data for the Main industrial groupings (MIG). For most areas prices
developed in a relatively stable manner. For consumer goods there was not even a noticeable decrease in prices during the financial crisis. Producer prices for energy are, however, very volatile.

Table 1 shows the annual rates of change for the EU-28, the euro area and the individual Member States. While there are some differences in the magnitude of the rates, it can be seen that the general pattern of a steady increase until 2008, a quick drop and a new increase since 2009 is shared by almost all countries. This trend stops in 2013 when, with a few exceptions, most of the countries display a decrease. In 2014 the general downward trend was even stronger. In 2015 and 2016 the downward trend continued. In 2017 a strong increases in prices can be observed in almost all EU countries. In 2018 prices continued their upward trend.

Data sources

Coverage

The data collection at European level results from the Regulation (EC) No 1165/98 which was adopted in 1998 and amended in 2005 by Regulation (EC) No 1185/2005. In parallel to the adoption of the legal texts, Eurostat, with the help of Member States, has developed a methodological guide to ensure consistent data collection in all countries.

All Member States are obliged to transmit data at 2-digit level of the NACE classification (an EU standard classification of economic activities) for:

- Mining and quarrying (Section C);
- Manufacturing (Section D);
- Electricity, gas and water supply (Section E).

The industrial producer price index is published monthly. Countries send data to Eurostat no later than one month and 5 days after the end of the reference period. Eurostat publishes the European price index one month and 5 days after the reference period.

Data collection

The PPI data are based on selling prices reported by establishments of all sizes selected as being representative of the whole population. Regular collection of prices data normally flows from a sample of units and a sample of their products. Data are generally collected using mainly postal questionnaires or by telephone surveys, and increasingly by electronic means. The basic sampling method used varies from one national statistical authority to another (cut-off sampling or sampling proportional to size are applied) and depends on the market that is being studied — i.e. domestic or non-domestic. On the domestic market, the sample of enterprises is normally drawn from the Statistical Business Register. The observation units for the PPI for the non-domestic market are very often selected from external trade data. Samples for the PPI for the non-domestic market are generally much smaller than those for the domestic market.

One key issue in the production of PPIs is to measure the price of the same product over time. In many industrial sectors, the products evolve rather quickly. Therefore methods to deal with the change of product and quality adjustment are important. The aim is to measure accurately which part of the price development comes from a quality change and which part is a real price change. Especially for tailor made industrial products (e.g. railway locomotives) rather sophisticated methods are needed to identify price changes in a correct manner.

Weights for the aggregation of prices into indices are based on turnover information from the Structural Business Statistics database or on information coming directly from Member States. Weights and base years are revised every five years. The current base year is 2010.

Context

PPI data are widely used by both the business community and government, and enable monthly monitoring of prices at different stages of the manufacturing process. There are three major uses of PPIs.
• As an **economic indicator** – PPIs capture price movements prior to the retail level. Therefore, they may foreshadow subsequent price changes for businesses and consumers. They can be an early indicator of inflationary pressures in the economy. These data are used in formulating fiscal and monetary policies.

• As a **deflator** of other economic series – PPIs are used to adjust other economic time series for price changes.

• As the basis for contract price adjustments (escalation) – PPI data are used in escalating purchase and sales contracts. These contracts typically specify amounts of money to be paid at some point in the future. It is often desirable to include an escalation clause that takes account of increases in input prices.

In many countries, there is a big demand for PPIs from the business and trade organisations. As these indices have already been in existence for decades, they are part of economic life for national accountants and businesses. For these uses they need to be maintained by the national statistical institutes at a detailed level. Many medium-sized and small countries calculate detailed PPIs beyond the requirements of the EU Regulation in order to satisfy a national demand.


**Figure 4:** EU-28, Industrial producer price and consumer price for food products, 2005-2018, unadjusted data (2015 = 100) Source: Eurostat (sts_inpp_m) and (prc_hicp_midx)

To some extent the direction and magnitude of changes in the PPI for finished goods prefigures a similar change in the consumer price index (CPI) for all items (Figure 4). This relation is however not general. Both the PPI and CPI measure price change over time for a fixed set of goods. A primary use of the PPI is to deflate revenue streams in order to measure real growth in output. A primary use of the CPI is to adjust income and expenditure streams for changes in the cost of living. The different uses cause various conceptual differences that can be described as follows:

• The definition of prices – The price collected for an item included in the PPIs is the revenue received by its producer. Sales and excise taxes are not included in the price because they do not represent revenue to the producer. The price collected for an item included in the CPI is the expenditure by a consumer for the item. Sales and excise taxes are included in the price because they are necessary expenditures by the consumer for the item.

• The composition of the set of commodities and services – The target set of goods and services included in the PPIs is the entire marketed output of the producers. The set includes both goods and services purchased by other producers as inputs to their operations or as capital investment, and goods and services purchased by consumers either directly from the service producer or indirectly from a retailer. Because the PPI target is the output of the producers, imports are excluded. The target set of items included in the CPI is the set of goods and services purchased for consumption purposes by the households. This set includes imports.
Other articles

- Construction producer price and construction cost indices overview
- Industrial turnover index overview
- Industrial production (volume) index overview

Publications

- All News Releases
- High-technology and medium-high technology industries main drivers of EU-27’s industrial growth, Statistics in focus 1/2013
- Industrial import prices increase less than domestic output prices in the euro area, Statistics in focus 14/2010

Main tables

- Short-term business statistics (t_sts), see:
  - Industry (NACE Rev.2) (t_sts_ind)
    - Producer prices in industry (PPI) (t_sts_ind_pric)

Database

- Short-term business statistics (sts), see:
  - Industry (NACE Rev.2) (sts_ind)
    - Producer prices in industry (sts_ind_pric)

Dedicated section

- Short-term business statistics

Methodology

- Methodological aspects of construction price indices
- Methodology of short-term business statistics – interpretation and guidelines
- Methodology of short-term business statistics – associated documents
- Short-term business statistics - Metadata in SDMX format (ESMS metadata file — sts_esms)
- More information on Metadata in Eurostat
- OECD Producer price Indices – Comparative Methodological Analysis