

Producer price indices QMI

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1 . Methodology background

| | |
|----------------------------|---|
| National Statistic |  |
| Survey name | 3 statutory monthly surveys |
| Frequency | Monthly |
| How compiled | Sample-based surveys |
| Geographic coverage | UK |
| Last revised | 17 January 2017 |

2 . Important points about PPI data

- The Producer Price Index (PPI) is a monthly survey that measures the price changes of goods bought and sold by UK manufacturers.
- PPI provides an important measure of inflation.
- The factory gate price (the output price) is the price of goods sold by UK manufacturers; it includes costs such as labour, raw materials and energy, as well as interest on loans, site or building maintenance, or rent and excludes taxes.
- The input price indices measure change in the prices of materials and fuels bought by UK manufacturers for processing; these include materials used in the final product and what is required by the company in its normal day-to-day running.
- The last 2 months of data are provisional with the last 5 months being subject to revisions.
- Indices with relatively few quotes (fewer than 5) are classified as F and should therefore be treated with caution.

3 . Overview of the output

The Producer Price Index (PPI) measures the price changes of goods bought and sold by UK manufacturers and is one of the most significant economic indicators in the UK.

PPI works on the “basket of goods” concept. The “basket of goods” is a wide collection of representative products and their prices collected each month. The movements in these prices are weighted to reflect the relative importance of the products in a chosen year (known as the base year). The indices were last [rebased in October 2013](#) changing from 2005=100 to 2010=100.

PPI measures changes in manufacturing costs and factory gate prices for UK-based producers. Service sector prices are not included (please see [Quality and Methodology Information for SPPI](#)).

Overall there are 4 types of PPI series produced, these are:

- Gross Sector Output (GSO)
- Net Sector Output (NSO)
- Gross Sector Input (GSI)
- Net Sector Input (NSI)

The headline series produced in the producer price inflation statistical bulletin is the Net Sector Output all manufacturing series including duty for domestic sales.

Output quality

This document provides a range of information that describes the quality of the output and details any points that should be noted when using the output.

We have developed [Guidelines for Measuring Statistical Quality](#); these are based upon the 5 European Statistical System (ESS) quality dimensions. This document addresses these quality dimensions and other important quality characteristics, which are:

- relevance
- timeliness and punctuality
- coherence and comparability
- accuracy
- output quality trade-offs
- assessment of user needs and perceptions
- accessibility and clarity

More information is provided about these quality dimensions in the following sections.

4 . About the output

Relevance

(The degree to which the statistical outputs meet users' needs.)

We carry out the majority of price collection via a statutory monthly survey; however, some indices are compiled using prices from our survey and administrative data provided by third parties. These indices are:

Agriculture – [Department for Environmental Food and Rural Affairs](#)

Energy (including crude oil) – [Department for Business, Energy and Industrial Strategy](#)

Fish – [Marine Management Organisation](#)

Tea – [International Tea Committee](#)

Coffee – [International Coffee Organisation](#)

Metals – [Metal Bulletin](#)

Meat – [Meat Market](#)

Industrial Minerals – [Industrial Minerals](#)

Commodities – [Financial Times](#)

Exchange rates – [Financial Times](#)

Wheat and grains, oilseeds and oil, fats and nuts – [Public Ledger](#)

Milling and feed wheat – [AHDB Bulletin](#)

Timber – [Forestry Commission](#)

Figures for the latest 2 months are provisional and the latest 5 months are subject to revisions in light of (a) late and revised respondent data and (b) for the seasonally adjusted series; revisions to seasonal adjustment factors are re-estimated every month. A routine seasonal adjustment review is normally conducted in the autumn each year.

All index numbers exclude VAT. Excise duty (on cigarettes, manufactured tobacco, alcoholic liquor and petroleum products) is included, except where labelled otherwise.

Indices relate to average prices for a month. The full effect of a price change occurring part way through any month will only be reflected in the following month's index.

Each Producer Price Index (PPI) has 2 unique identifiers: a 10-digit index number, which relates to the [Standard Industrial Classification](#) code appropriate to the index, and a 4-character alpha-numeric code, which can be used to find series when using the time series dataset for PPI.

Every 5 years, producer price indices are rebased and their weights updated to reflect changes in the industry.

Timeliness and punctuality

(Timeliness refers to the lapse of time between publication and the period to which the data refer. Punctuality refers to the gap between planned and actual publication dates.)

PPI is published monthly with approximately 2 to 3 weeks between publication and the reference month to which the PPI data refer, with the exception of aerospace and electronic cost indices (MM19) where data are published 2 months behind.

For more details on related releases, [our release calendar](#) provides 12 months' advance notice of release dates. If there are any changes to the pre-announced release schedule, public attention will be drawn to the change and the reasons for the change will be explained fully at the same time, as set out in the [Code of Practice for Official Statistics](#).

5 . How the output is created

The Producer Price Index (PPI) is based on 3 surveys:

- domestic PPI
- Export Price Index (EPI)
- Import Price Index (IPI)

Service sector prices are not included in the PPI as these are out of scope (please see [Service Producer Price Index](#)).

The PPI works on the “basket of goods” concept. A wide collection of representative products are selected and the prices of this fixed set of goods are collected each month. The movements in these prices are weighted to reflect the relative importance of the products in a chosen year, known as the base year, currently 2010.

Overall there are 4 types of PPI series produced, these are:

- Gross Sector Output (GSO)
- Net Sector Output (NSO)
- Gross Sector Input (GSI)
- Net Sector Input (NSI)

The tables in the PPI QMI Tables PDF contain summary information about PPI, EPI and IPI.

The PPI, EPI and IPI are all Laspeyres type indices with fixed weights updated every 5 years.

Validation and quality assurance

Accuracy

(The degree of closeness between an estimate and the true value.)

Estimates from the Producer Price Index (PPI) are subject to various sources of error. The total error consists of 2 elements, the sampling error and the non-sampling error.

Sampling error

This occurs because estimates are based on a sample rather than a census; the precision is usually estimated through the calculation of standard errors.

[Standard errors for PPI](#) are published annually.

The sample allocation is reviewed annually to maximise optimality with the available resources. This occurs on PPI as part of the sample design process but this does not currently occur for the Export Price Index (EPI) and Import Price Index (IPI).

Non-sampling error

Non-sampling errors are not easy to quantify and include errors of coverage, measurement processing and non-response.

Various procedures are in place to ensure that errors are minimised. Validation checks on data, based on percentage movements from month to month and year to year, are conducted to highlight unusual price changes for items. Disparities in data are investigated by contacting the contributor.

Quality issues such as specification changes are also routinely assessed together with any indices which move more than 5%.

Another aspect of quality is reliability. Assessing the difference between the first published estimate and the final revised figure provides an indication of reliability. We also publish information on the [PPI revisions policy](#) and [revision triangles](#).

The PPI policy is to show significant revisions, but to suppress minor changes to avoid unnecessary inconvenience to users. Indices for the most recent 2 months are shown as provisional and can be changed as later data become available. The latest 5 months are subject to revisions in light of (a) late and revised contributor data and (b) revisions to seasonal adjustment factors which are re-estimated every month. A routine seasonal adjustment review is normally conducted in the autumn each year.

Indices where product coverage is of less than 70% or contributor coverage of less than 30% are classified as B, indicating a lower level of reliability. Indices with relatively few quotes (fewer than 5) are classified as F and therefore should be treated with caution. Indices with respondent coverage of 30% or more are classified as A.

Coherence and comparability

(Coherence is the degree to which data that are derived from different sources or methods, but refer to the same topic, are similar. Comparability is the degree to which data can be compared over time and domain, for example, geographic level.)

To ensure effective comparability, it is essential that the PPI reflects the price movements of products of fixed quality. When the specification of an item changes only the “pure” price change is recorded for PPI purposes and this generally relies on advice from manufacturers.

All major European countries are required to produce a PPI and submit them to the Statistical Office of the European Communities (Eurostat). While the coverage of various sectors may not be equal in all countries, the use of the European classification [Nomenclature statistique des activités économiques dans la Communauté européenne \(NACE\)](#) (implemented as the [Standard Industrial Classification 2007 \(SIC 2007\)](#) in the UK) ensures that all activities are measured in a way that allows comparability across Europe. Furthermore, since NACE is based on the [United Nations International Standard Industrial Classification of All Economic Activities, Rev.4 \(ISIC Rev. 4\)](#), PPIs are broadly comparable internationally. Please see the link to [Eurostat concepts and definitions database](#).

To compare the indices between base years it is necessary to make adjustments for the differing weights applied. [Further information and instructions are available](#).

The major difference between the PPI and the Consumer Prices Index (CPI) is that CPI measures consumer prices in contrast to the PPI, which measures “factory gate” prices.

All 3 surveys are compliant with [Eurostat short-term statistics regulation](#).

Producer Price Index (PPI)

The PPI uses sales data taken from [PRODCOM](#) to update weights. Respondents to the domestic PPI are asked to provide quotes according to the following principles:

- the product is manufactured in the UK and sold to the home market
- price quoted excluding VAT and after discounts
- product is representative of business’s current output
- quote reflects orders delivered in current month
- terms of sale described to ensure consistency between months

Export Price Index (EPI)

The EPI broadly uses the same data collection methodology as the domestic PPI. However, the EPI weights are updated using sales data supplied by HM Revenue and Customs (HMRC). Also, the EPI survey is based on price quotations for a range of items manufactured in the UK but destined for the export market. Some 1,400 manufacturers classified to [Standard Industrial Classification 2007 \(SIC07\)](#) provide around 2,100 quotes monthly. Quotes are provided in the currency quoted to customers and converted to sterling as part of the monthly calculation process. A geographical split is requested from suppliers, that is, 1 price for EU countries and 1 for non-EU countries. Separate indices are produced and published for each category.

Import Price Index (IPI)

IPI prices are collected on a [Standard Industrial Classification 2007 \(SIC07\)](#) basis. Weights are updated from sales data supplied by HMRC and individual suppliers. Data are used to construct import indices that, in turn, are used as components of the domestic PPI – for price movement of materials and fuels bought by UK manufacturers. Prices of imported commodities and capital goods are collected from a sample of approximately 1,400 import agents and manufacturers who return around 1,800 quotes each month. In addition, some prices are collected from published and other sources (for example: prices for imported metals are obtained from the [London Metal Exchange](#) and meat prices are provided by the [Agriculture and Horticulture Development Board](#)). The sample is updated annually to replace losses. Respondents quote prices in a wide range of currencies that are converted to sterling as part of the monthly process. As with the EPI, separate indices for EU and non-EU countries are produced for IPI.

Concepts and definitions

(Concepts and definitions describe the legislation governing the output, and a description of the classifications used in the output.)

The structure of the PPI is defined by the [European classification of products by activity 2008 \(CPA08\)](#) which, in turn, is based on [Standard Industrial Classification \(SIC 2007\)](#). Indices produced for 987 detailed product subcategories are grouped together to produce 222 product class-level series. The product class-level series are then grouped to give 23 division-level (2-digit) indices, which in turn are grouped into the "all-manufacturing" index. The headline series produced in the [PPI statistical bulletin](#) is the Net Sector Output all-manufacturing series including duty, for domestic sales.

[Eurostat](#) requires PPI data from EU member states for use in economic, competition and enterprise policy. The UK is legally obliged to provide output prices for the domestic and non-domestic markets on a monthly basis under the short-term statistics regulation.

The factory gate price (output price) is the amount received by UK manufacturers for the goods that they sell to the domestic market. It includes the margin that businesses make on goods, in addition to costs such as labour, raw materials and energy, as well as interest on loans, site or building maintenance, or rent.

The input price measures the price of materials and fuels bought by UK manufacturers for processing. It includes materials and fuels that are both imported or sourced within the domestic market. It is also not limited to materials used in the final product, but includes what is required by businesses in their normal day-to-day running, such as fuels.

Net sector is the weighting patterns used to calculate net sector indices exclude transactions between companies classified to the same manufacturing sector.

Gross sector relates to the price movement of goods sold within the UK by companies classified to manufacturing as defined by SIC 2007. Weights are calculated on a gross basis, that is, all transactions are included in deriving the weighting patterns, including sales within the same industry.

Other information

Output quality trade-offs

(Trade-offs are the extent to which different dimensions of quality are balanced against each other.)

The producer price inflation statistical bulletin is one of the timeliest economic releases, with outputs relating to a particular reference month published on a Tuesday. While this timetable does not have a significant impact on quality in terms of response information, there is a limit to the amount of contextual information that can be included in the release.

See Validation and quality assurance section for information on revised data.

Assessment of user needs and perceptions

(The processes for finding out about uses and users, and their views on the statistical products.)

User engagement for the Producer Price Index (PPI) is conducted mainly by responding to queries via a dedicated PPI inbox and by telephone. The views of users are welcomed at any time and this is highlighted in the statistical bulletin and in the signature block of all emails sent from the PPI inbox. Any feedback received is then used during the process of making any changes or improvements.

Users are consulted ahead of any changes proposed for the PPI and are notified of any consultations via the statistical bulletin, our website and by emailing known users directly.

Meetings are also held directly with key users to seek their feedback and keep them updated of any proposals for change.

Sources for further information or advice

Accessibility and clarity

(Accessibility is the ease with which users are able to access the data, also reflecting the format in which the data are available and the availability of supporting information. Clarity refers to the quality and sufficiency of the release details, illustrations and accompanying advice.)

Our recommended format for accessible content is a combination of HTML web pages for narrative, charts and graphs, with data being provided in usable formats such as CSV and Excel. Our website also offers users the option to download the narrative in PDF format. In some instances other software may be used, or may be available on request. Available formats for content published on our website but not produced by us, or referenced on our website but stored elsewhere, may vary. For further information please refer to the contact details at the beginning of this document.

For information regarding conditions of access to data, please refer to the links below:

- [Terms and conditions \(for data on the website\)](#)
- [Accessibility](#)

In addition to this Quality and Methodology Information, basic quality information relevant to each release is available in the Quality and methodology section of the relevant statistical bulletin.