

Statistical bulletin

# Producer price inflation, UK: October 2015

Changes in the prices of goods bought and sold by UK manufacturers including price indices of materials and fuels purchased (input prices) and factory gate prices (output prices).



Contact:  
Kat Pegler  
business.prices@ons.gov.uk  
+44 (0)1633 456468

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# 1 . Main points

- The price of goods bought and sold by UK manufacturers, as estimated by the producer price index, continued to fall in the year to October 2015. Crude oil continued to drive down input prices, feeding through to a drop in output prices of petroleum products
- Factory gate prices (output prices) for goods produced by UK manufacturers fell 1.3% in the year to October 2015, compared with a fall of 1.8% in the year to September 2015
- Core factory gate prices, which exclude the more volatile food, beverage, tobacco and petroleum products, rose 0.3% in the year to October 2015, compared with a rise of 0.2% in the year to September 2015
- The overall price of materials and fuels bought by UK manufacturers for processing (total input prices) fell 12.1% in the year to October 2015, up from a fall of 13.4% in the year to September 2015
- Core input prices, which exclude the more volatile food, beverage, tobacco and petroleum products, fell 6.5% in the year to October 2015, compared with a fall of 5.7% in the year to September 2015

## 2 . What is the producer price index?

The [producer price index \(PPI\)](#) is a monthly survey that measures the price changes of goods bought and sold by UK manufacturers and provides an important measure of inflation, alongside other indicators such as the [consumer price index \(CPI\)](#) and [services producer price index \(SPPi\)](#). This statistical bulletin contains a comprehensive selection of data on input and output index series and also contains producer price indices of materials and fuels purchased and output of manufacturing industry by broad sector.

The output price indices measure change in the prices of goods produced by UK manufacturers (these are often called “factory gate prices”).

The input price indices measure change in the prices of materials and fuels bought by UK manufacturers for processing. These are not limited to just those materials used in the final product, but also include what is required by the company in its normal day-to-day running.

The factory gate price (the output price) is the price of goods sold by UK manufacturers and is the actual cost of manufacturing goods before any additional charges are added, which would give a profit. It includes costs such as labour, raw materials and energy, as well as interest on loans, site or building maintenance, or rent.

Core factory gate inflation excludes price movements from food, beverage, petroleum, and tobacco and alcohol products, which tend to have volatile price movements. It should give a better indication of the underlying output inflation rates.

The input price is the cost of goods bought by UK manufacturers for the use in manufacturing, such as the actual cost of materials and fuels bought for processing.

Core input inflation strips out purchases from the volatile food, beverage, tobacco and petroleum industries to give an indication of the underlying input inflation pressures facing the UK manufacturing sector.

## 3 . Output prices: summary

Factory gate inflation fell 1.3% in the year to October 2015, compared with a fall of 1.8% last month.

The rate of both total output and core inflation has generally been falling since autumn 2011, when output inflation reached its post-economic downturn high of 5.3% in September 2011. During this period, core factory gate inflation has tended to run at a lower rate and show a smaller degree of volatility than total output. However, since January 2014, core output price inflation has been running at a slightly higher rate than total output: a result of the downward pressures from petroleum, which is excluded from the core measure of inflation (Figure A).

Looking at the latest estimates (Table A), movements in factory gate prices over the 12 months to October 2015 were as follows:

- factory gate prices fell 1.3%, compared with a fall of 1.8% in the year to September 2015
- core factory gate prices rose 0.3%, compared with a rise of 0.2% in the year to September 2015
- factory gate inflation excluding excise duty fell 1.1%, up from a fall of 1.6% in the year to September 2015

Between September and October 2015:

- factory gate prices saw no movement (0.0%), compared with a fall of 0.1% last month
- core factory gate prices fell 0.1%, compared with a rise of 0.1% last month

#### Table A: Output prices (home sales)

UK, May to October 2015

	Percentage change					
	All manufactured products		Excluding food, beverage, tobacco and petroleum		All manufactured products excluding duty	
	1 month	12 months	1 month	12 months	1 month	12 months
2015 May	0.1	-1.6	0.0	0.1	0.0	-1.3
Jun	0.0	-1.5	0.0	0.1	0.0	-1.1
Jul	-0.2	-1.6	0.0	0.2	-0.1	-1.2
Aug	-0.5	-1.9	-0.1	0.0	-0.5	-1.6
Sep	-0.1	-1.8	0.1	0.2	-0.1	-1.6
Oct	0.0	-1.3	-0.1	0.3	0.0	-1.1

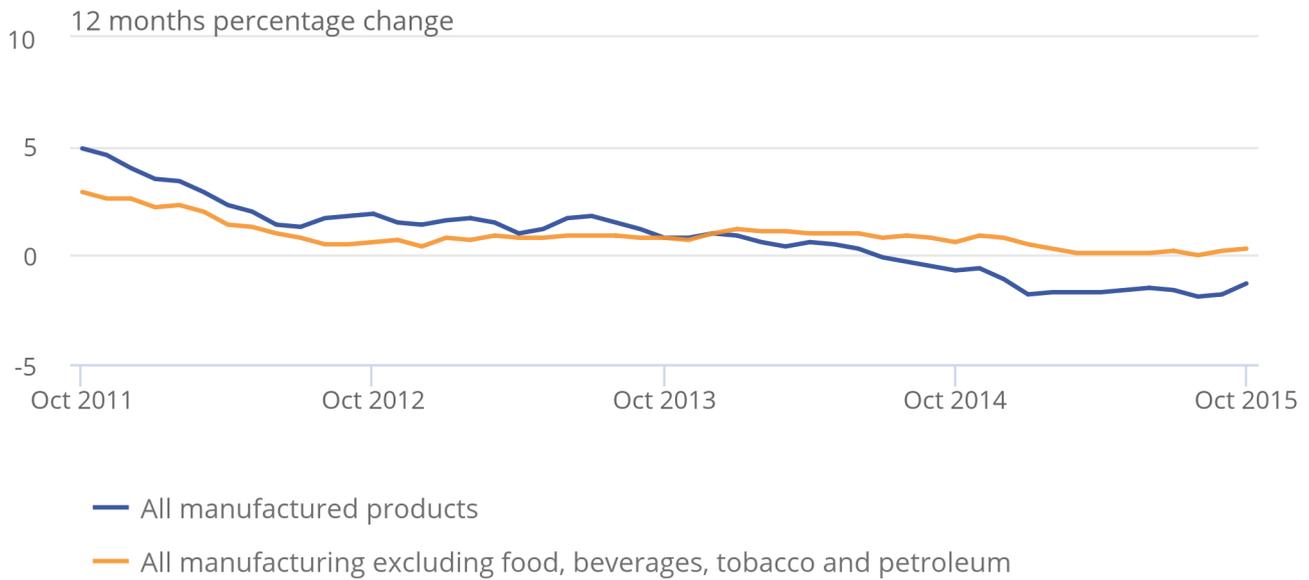
Source: Office for National Statistics

## Figure A: Output prices

UK, October 2011 to October 2015

## Figure A: Output prices

UK, October 2011 to October 2015



Source: Office for National Statistics

## 4 . Supplementary analysis: Output prices

Table B shows the annual percentage change in price across all product groups and Figure B shows their contribution to the annual factory gate inflation rate.

**Table B: Output prices, 12 months change, October 2015**

UK	
Product group	Percentage change
Food products	-1.8
Tobacco and alcohol (incl. duty)	1.0
Clothing, textile and leather	1.2
Paper and printing	0.1
Petroleum products (incl. duty)	-17.4
Chemical and pharmaceutical	-1.5
Metal, machinery and equipment	0.2
Computer, electrical and optical	0.1
Transport equipment	-0.4
Other manufactured products	1.4
All manufacturing	-1.3

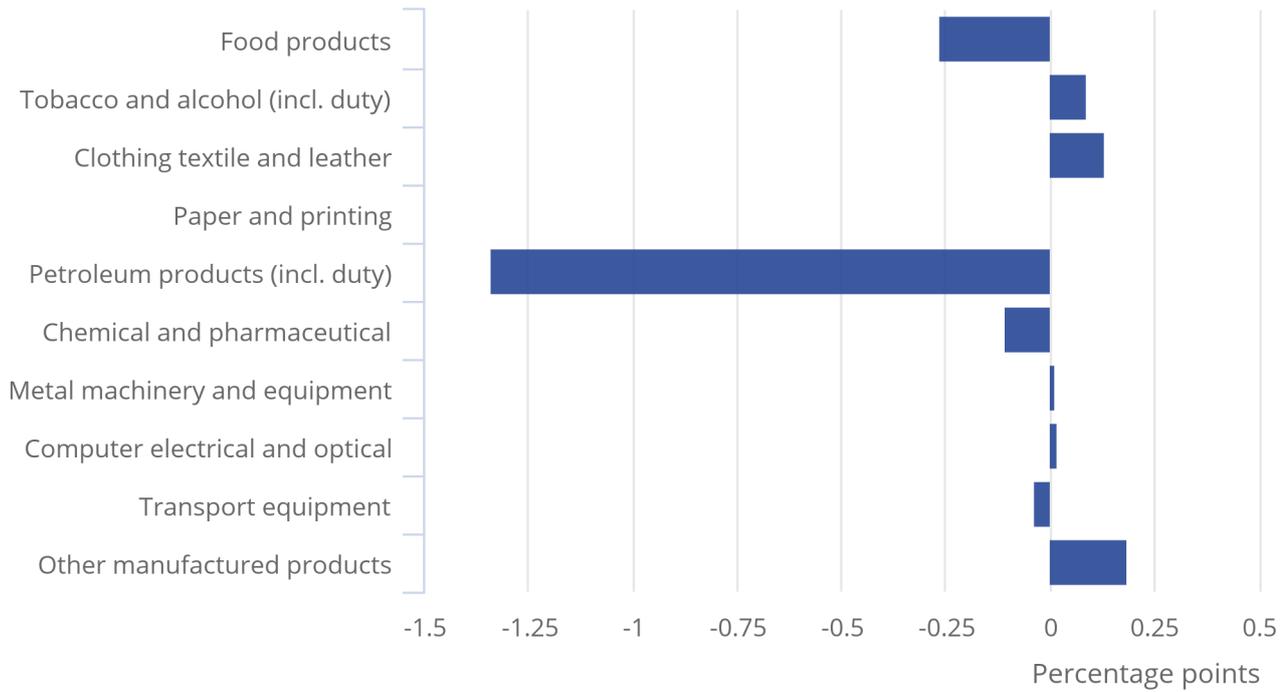
Source: Office for National Statistics

**Figure B: Output prices: Contribution to 12 months growth rate, October 2015**

UK

Figure B: Output prices: Contribution to 12 months growth rate, October 2015

UK



Source: Office for National Statistics

Table C shows the monthly percentage change in price across all product groups and Figure C shows their contribution to the month factory gate inflation rate.

**Table C: Output prices, 1 month change, October 2015**

UK	
Product group	Percentage change
Food products	-0.2
Tobacco and alcohol (incl. duty)	0.5
Clothing, textile and leather	-0.2
Paper and printing	0.0
Petroleum products (incl. duty)	-0.6
Chemical and pharmaceutical	-0.2
Metal, machinery and equipment	-0.1
Computer, electrical and optical	-0.1
Transport equipment	0.1
Other manufactured products	0.0
All manufacturing	0.0

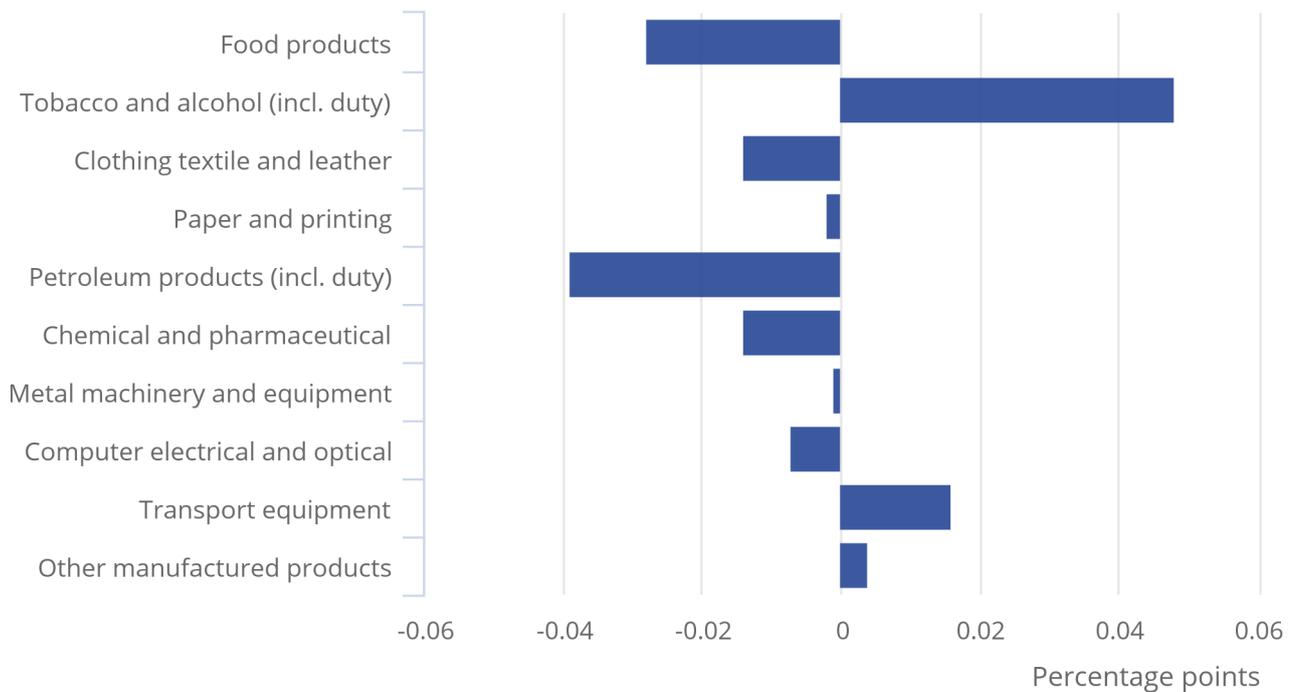
Source: Office for National Statistics

**Figure C: Output prices: Contribution to 1 month growth rate, October 2015**

UK

Figure C: Output prices: Contribution to 1 month growth rate, October 2015

UK



Source: Office for National Statistics

## 5 . Output prices: detailed commentary

Factory gate prices fell 1.3% in the year to October 2015, compared with a fall of 1.8% in the year to September 2015. Prior to August 2014, there had been no fall in the annual rate since October 2009, when it fell 0.1%. The main contribution to the annual rate for October 2015 came from petroleum products, with a small downward contribution from food products (Figure B).

The monthly price index between September and October 2015 saw no movement (0.0%), compared with a fall of 0.1% between August and September 2015. The majority of product groups showed very small movements except for petroleum and food products, which provided the main downward contributions to the monthly rate, offset by a rise in tobacco and alcohol prices (Figure C).

Petroleum product prices fell 17.4% in the year to October 2015, up from a fall of 19.2% in the year to September 2015. The largest decrease seen in this index was in July 2009, when it fell by 21.3%. The main contributions to the fall in the latest annual rate came from diesel and gas oil, motor spirit, and avtur (aviation turbine fuel).

Between September and October 2015, petroleum prices fell 0.6%, up from a fall of 1.2% between August and September 2015. Falling prices of motor spirit provided the only significant contribution to the fall in the monthly index.

Food products fell 1.8% in the year to October 2015, up from a fall of 2.6% in the year to September 2015. The monthly index for food products fell 0.2% between September and October 2015, up from a fall of 0.5% between August and September 2015. The main contribution to the decrease for both annual and monthly indices came from dairy products, falling by 7.0% in the year to October 2015 and 1.1% between September and October 2015.

Tobacco and alcohol prices between September and October 2015 rose 0.5%, compared with no movement (0.0%) between August and September 2015. The main contribution to the rise came from tobacco products, mainly cigarettes.

## **Core factory gate inflation**

Core factory gate prices, which exclude the more volatile food, beverage, tobacco and petroleum product prices, giving a measure of the underlying factory gate inflation, rose 0.3% in the year to October 2015, compared with a rise of 0.2% in the year to September 2015. A rise in other manufactured products, and clothing, textiles and leather was partially offset by falls in chemical and pharmaceuticals, and transport equipment in the annual index, resulting in a small increase.

The monthly index showed a fall of 0.1% between September and October 2015, compared with a rise of 0.1% between August and September 2015. Chemical and pharmaceuticals, and clothing, textiles and leather provided the largest contributions to the fall in the index, slightly offset by a rise in transport equipment.

## **Output producer price index contribution to change in rate**

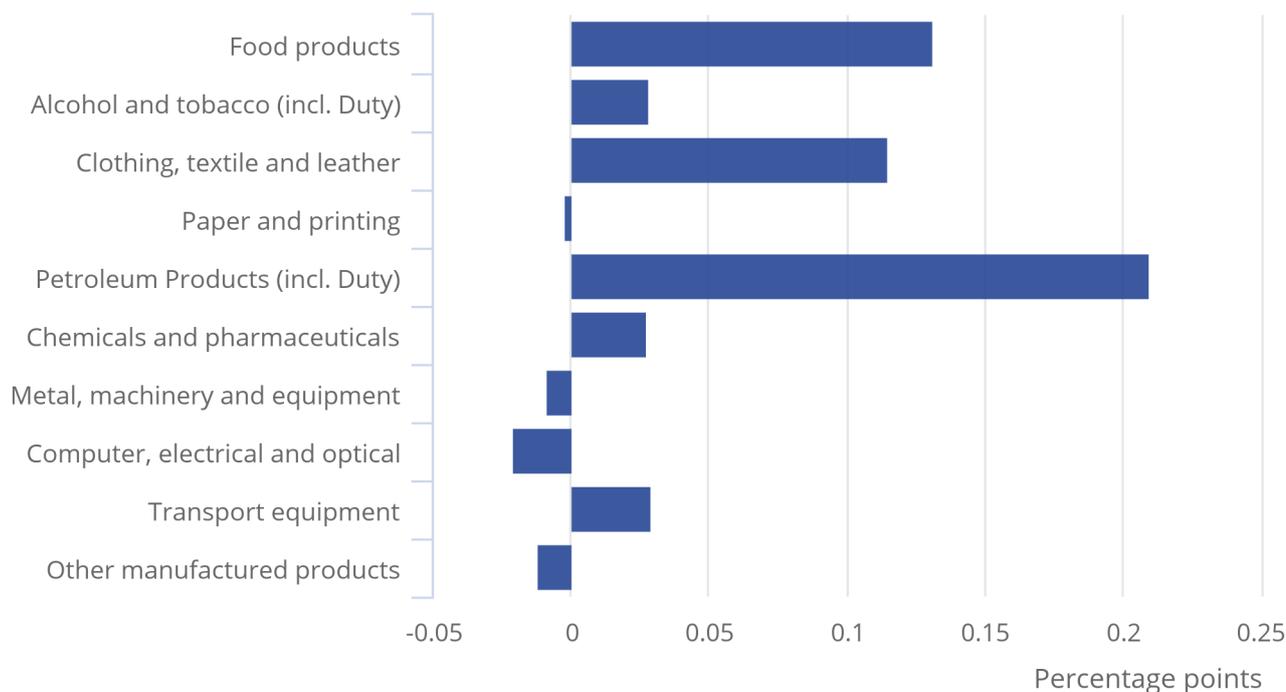
The annual percentage rate for the output PPI in October 2015 fell 1.3%, compared with a fall of 1.8% last month, resulting in an increase in the annual rate of 0.5 percentage points. There is a positive contribution to the change because prices are not falling as much as they were. The main contributions came from refined petroleum products, food products, and clothing, textiles and leather (Figure D).

Figure D Output prices: 12 month contribution to the change in rate between September and October 2015

UK

Figure D Output prices: 12 month contribution to the change in rate between September and October 2015

UK



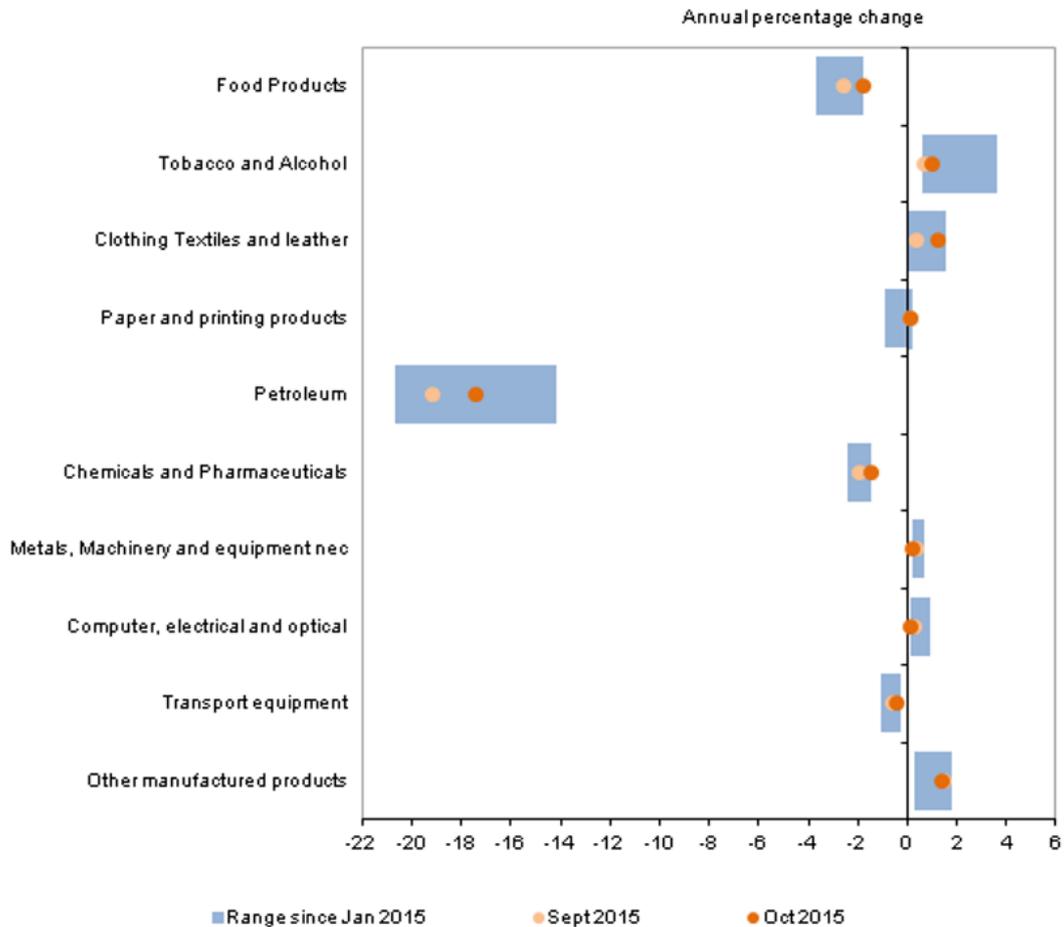
Source: Office for National Statistics

## 6 . Output PPI indices by grouping

Figure E shows the year on year growth in output PPI by grouping for the latest 2 months and the range of the price changes that have been seen in these sections since January 2015. It can be seen that the majority of output PPI indices have experienced little variance in inflation during 2015. Petroleum shows the biggest decrease, ranging from falls of 20.7% in January 2015 to 14.2% in May 2015. Tobacco and alcohol shows the biggest increase, ranging from rises of 3.6% in January 2015 to 1.0% in October 2015.

Figure E: Output prices PPI by grouping, January to October 2015

UK



Source: Office for National Statistics

## 7 . Input prices: summary

The price inflation of materials and fuels purchased by UK manufacturing industry, as measured by input prices, has been falling since November 2013 (Figure F). The movements in the index since February 2014 have shown input prices decreasing rapidly. The largest fall was seen in August 2015 (14.6%) and input prices are currently falling by 12.1%. The core measure of inflation has also decreased through this period, but at a significantly slower rate, currently 6.5%.

Looking at the latest data (Table D), the main movements in the year to October 2015 were as follows:

- the total input price index fell 12.1%, compared with a fall of 13.4% in the year to September 2015
- the core input price index saw a fall of 6.5%, compared with a fall of 5.7% in the year to September 2015
- the price of imported materials as a whole (including crude oil) fell 12.5%, up from a fall of 13.6% in the year to September 2015 ([Reference table 7 \(229.5 Kb Excel sheet\)](#))

Between September and October 2015:

- the total input price index rose 0.2%, compared with a rise of 0.5% last month (Table D)
- in seasonally adjusted terms (see Table D), the input price index for the manufacturing industry excluding the food, beverage, tobacco and petroleum industries fell 0.9%, down from a rise of 0.4% last month

**Table D: Input prices**

	Percentage change				
	Materials and fuels purchased		Excluding purchases from food, beverage, tobacco and petroleum industries		
	1 month (NSA) <sup>1</sup>	12 months (NSA) <sup>1</sup>	1 month (NSA) <sup>1</sup>	12 months (NSA) <sup>1</sup>	1 month (SA) <sup>2</sup>
2015 May	-0.7	-11.9	-0.7	-4.0	-0.2
Jun	-2.2	-13.0	-0.9	-4.5	-0.5
Jul	-1.4	-12.8	-1.0	-4.7	-0.5
Aug	-3.0	-14.6	-1.0	-6.1	-0.9
Sep	0.5	-13.4	0.8	-5.7	0.4
Oct	0.2	-12.1	-0.3	-6.5	-0.9

Source: Office for National Statistics

1. NSA: Not Seasonally Adjusted

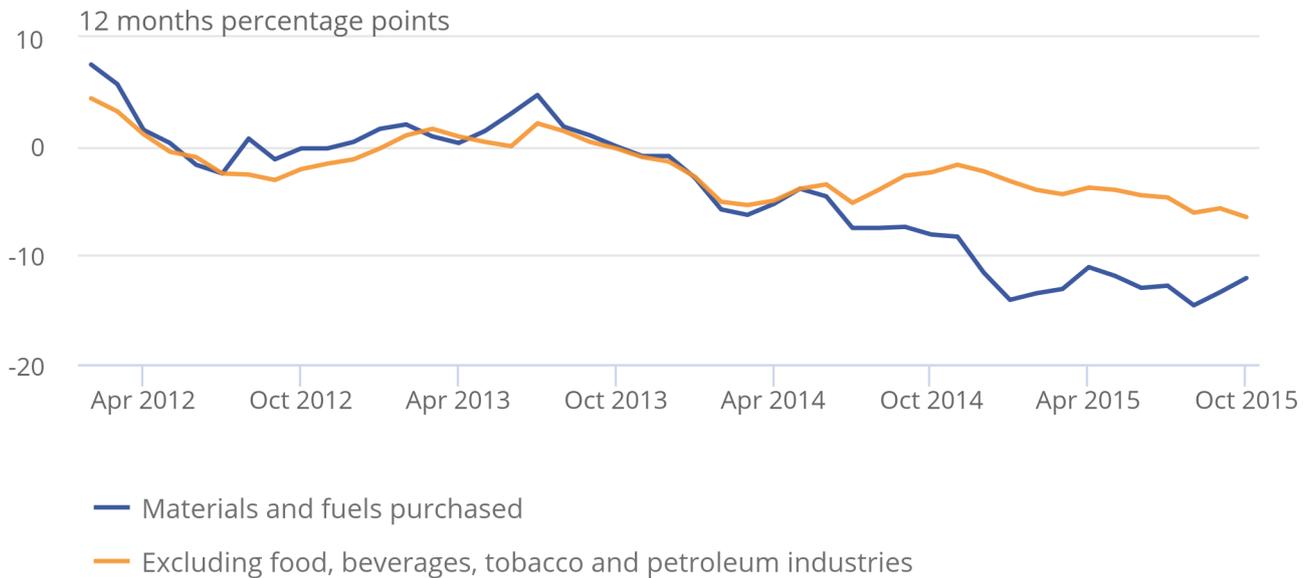
2. SA: Seasonally Adjusted

## Figure F: Input prices (materials and fuel) manufacturing industry

UK, February 2012 to October 2015

### Figure F: Input prices (materials and fuel) manufacturing industry

UK, February 2012 to October 2015



Source: Office for National Statistics

## Notes for Input prices: summary

1. Input price indices include the [Climate Change Levy](#) which was introduced in April 2001
2. Input price indices include the [Aggregate Levy \(13.9 Kb Pdf\)](#) which was introduced in April 2002.

## 8 . Supplementary analysis: Input prices

Table E and Figure G show the percentage change in the price of the main commodities groups over the year and their contributions to the total input index.

**Table E: Input prices: 12 months change, October 2015**

UK	
Product group	Percentage change
Fuel including Climate Change Levy	-5.8
Crude oil	-40.7
Home food materials	-4.2
Imported food materials	-2.7
Other home-produced materials	1.5
Imported metals	-16.7
Imported chemicals	-5.3
Imported parts and equipment	-2.9
Other imported materials	-2.3
All manufacturing	-12.1

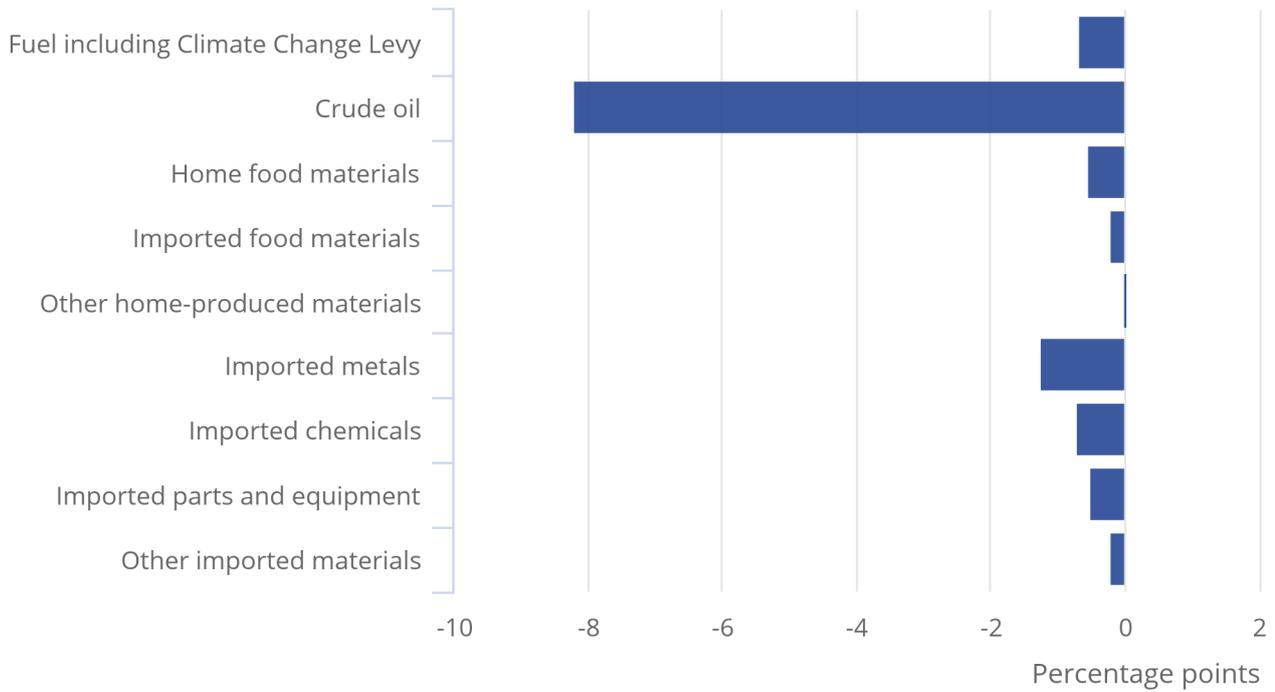
Source: Office for National Statistics

**Figure G: Input prices contribution to the 12 months growth rate, October 2015**

UK

Figure G: Input prices contribution to the 12 months growth rate, October 2015

UK



Source: Office for National Statistics

Table F and Figure H show the percentage change in the price of the main commodities groups over the month and their contributions to the total input index.

**Table F: Input prices, 1 month change, October 2015**

UK

Product group	Percentage change
Fuel including Climate Change Levy	1.6
Crude oil	1.9
Home food materials	0.3
Imported food materials	1.8
Other home-produced materials	-0.1
Imported metals	0.2
Imported chemicals	0.0
Imported parts and equipment	-2.2
Other imported materials	0.0
All manufacturing	0.2

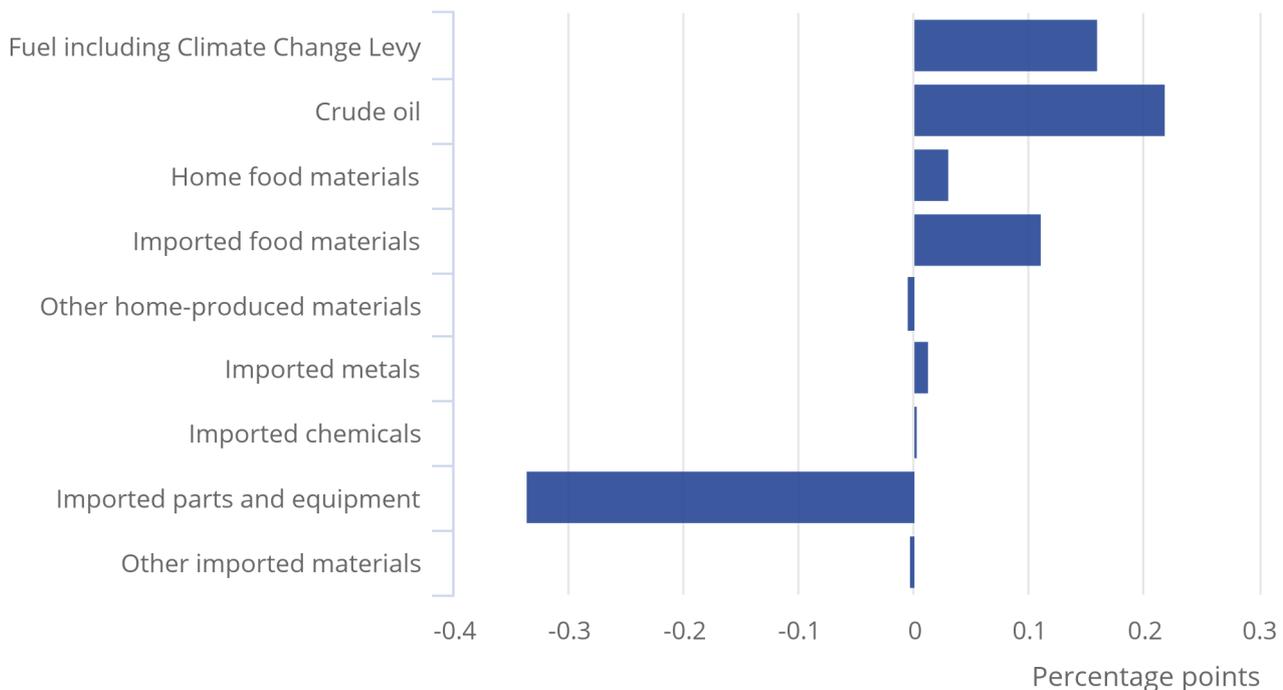
Source: Office for National Statistics

Figure H: Input prices contribution to the 1 month growth rate, October 2015

UK

Figure H: Input prices contribution to the 1 month growth rate, October 2015

UK



Source: Office for National Statistics

## 9 . Input prices: detailed commentary

The overall input index for all manufacturing, which measures changes in the price of materials and fuels purchased by manufacturers, fell 12.1% in the year to October 2015, compared with a fall of 13.4% in the year to September 2015. The main downward contributions to the index came from crude oil with a much smaller, but notable, downward contribution from imported metals.

Imported metal prices fell 16.7% in the year to October 2015, up from a fall of 18.1% (the largest decrease since records began in 1997) in the year to September 2015. The main contribution came from imported products used in the manufacture of other basic metals and casting, which fell 16.3%. The price of the majority of metals measured in the PPI, have fallen significantly due to the recent performance of the Chinese manufacturing sector. Until recently the manufacturing sector in China has seen strong growth resulting in high demand, which pushed up prices. The current downturn in performance has meant a reduced demand for these materials and a sharp fall in their price.

The monthly input index rose 0.2% between September and October 2015, compared with a rise of 0.5% last month. This rise was driven by increases in the price of crude oil and fuels, slightly offset by a decrease in the price of other imported parts and equipment (see Table F and Figure F).

Crude oil annual prices have been falling overall since October 2013. The annual index fell 40.7% in the year to October 2015, up from a fall of 46.7% in the year to September 2015. The monthly index for crude oil rose between September and October 2015 by 1.9%, compared with no movement (0.0%) between August and September 2015. The main contribution to both the annual and monthly indices came from imported crude petroleum and natural gas, which fell 40.3% in the year to October 2015, but rose 2.4% between September and October 2015.

In recent years, factors such as supply disruptions, concerns over the global economic recovery, instability in eurozone countries and the expectation of reduced demand have all affected oil prices. The current year on year drop is being driven by a significantly higher supply, primarily from OPEC countries, than global demand can keep up with. This oversupply in the market has caused prices to tumble and led to a number of American oil rigs temporarily ceasing production. The oversupply is so large that some analysts have suggested that oil prices could be significantly lower if it were not for the current Chinese level of demand for imported crude. This demand does not currently appear to come from their manufacturing sector, which by China's recent standards is struggling, but from the desire to build up a surplus of oil while the price is relatively low.

The monthly index for fuel rose 1.6% between September and October 2015, compared with a rise of 1.7% last month. The increase was primarily due to electricity production and distribution rising by 1.6%.

Other imported parts and equipment prices fell 2.2% between September and October 2015, compared with a rise of 1.2% between August and September 2015. The main contribution came from imported products used in the manufacture of motor vehicles.

## **Core input price index (excluding purchases from the food, beverage, tobacco and petroleum industries)**

The core input price index, in seasonally adjusted terms, fell 0.9% between September and October 2015, compared with a rise of 0.4% last month. This index fell 6.6% in the year to October 2015, down from a fall of 5.9% in the year to September 2015.

The unadjusted index fell 6.5% in the year to October 2015, down from a fall of 5.7% last month. The monthly index fell 0.3% between September and October 2015, compared with a rise of 0.8% last month. The decrease in the annual rate is driven by falls in most of the indices except for other home produced materials, which showed a slight growth. The biggest drops came from imported metals, crude oil and imported chemicals.

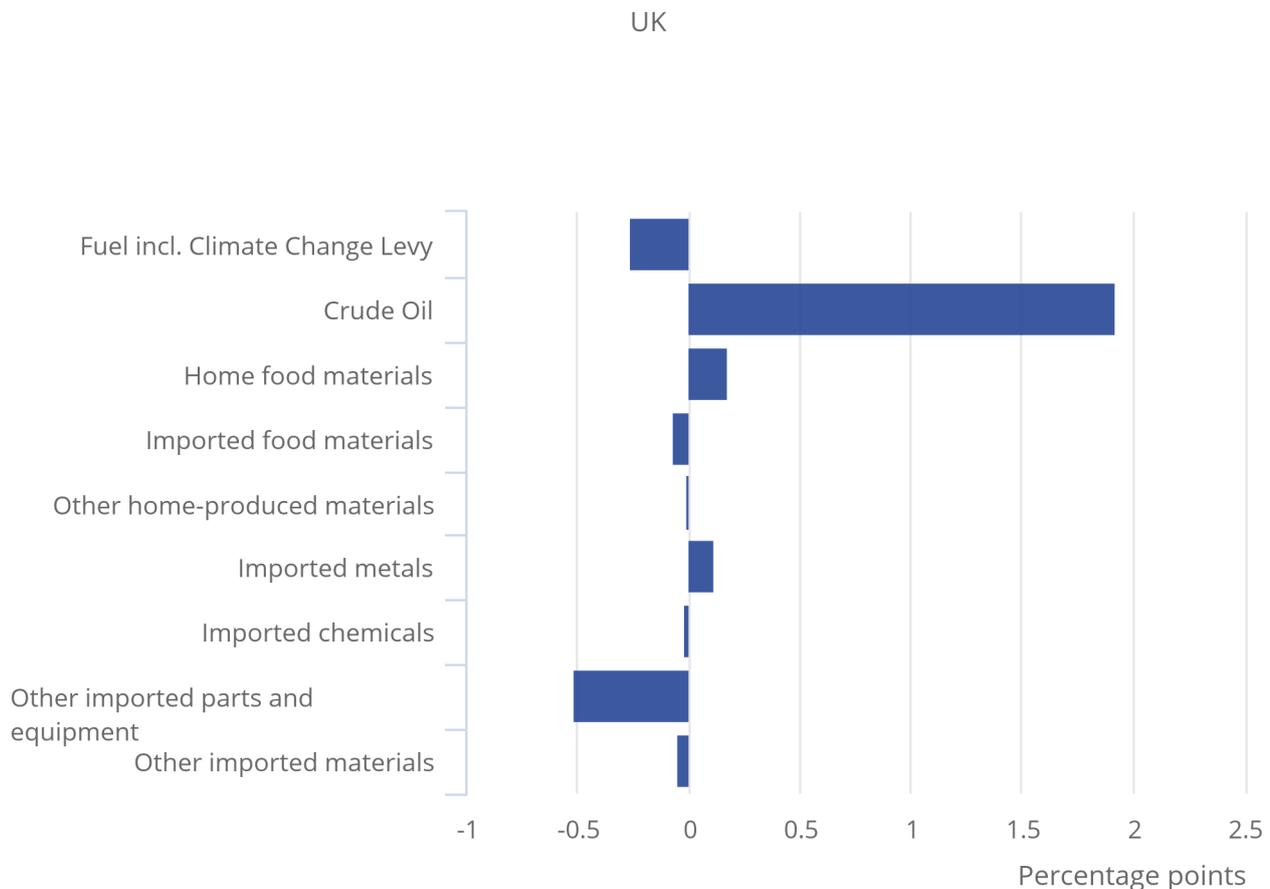
## **Input producer price index contribution to change in rate**

The annual percentage rate for the input PPI in October 2015 fell 12.1%, up from a fall of 13.4% last month, resulting in an increase in the annual rate of 1.3 percentage points. This was mainly due to a rise in the contribution from crude oil (Figure I). This rise is due to the current annual drop being smaller than the one seen in the year to September 2015.

**Figure I: Input 12 month contribution to change in rate between September and October 2015**

UK

**Figure I: Input 12 month contribution to change in rate between September and October 2015**



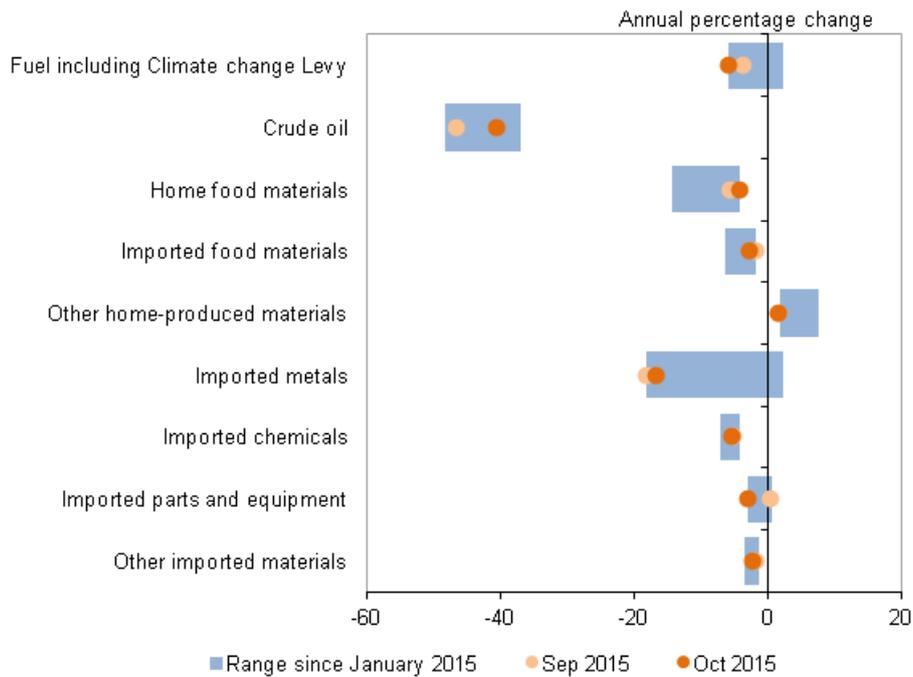
Source: Office for National Statistics

## 10 . Input PPI indices by grouping

Figure J shows the year on year growth in input PPI by grouping for the latest 2 months and the range of the price changes that have been seen in these sections since January 2015. It can be seen that the majority of input PPI indices have experienced little variance in inflation during 2015. The largest variation can be seen in imported metals, which has varied from growth of 2.2% in January through to some large drops in the second half of 2015. The largest of these drops, -18.1%, being seen in August and October 2015. Crude oil shows the biggest decrease, ranging from falls of 48.5% in January 2015 to 37.0% in May 2015. Other home produced materials shows the biggest increase, ranging from rises of 7.7% in March 2015 to 1.5% in October 2015.

**Figure J: Input prices PPI by grouping, January to October 2015**

UK



Source: Office for National Statistics

## 11 . Revisions

For this bulletin ([Reference tables 8R and 9R \(229.5 Kb Excel sheet\)](#)) highlight revisions to movements in price indices previously published in [last month's statistical bulletin](#). These are mainly caused by changes to the most recent estimates, as more price quotes are received, and revisions to seasonal adjustment factors, which are re-estimated every month.

There are some large revisions in both the output and input indices caused by revisions from some data sources with high weights, for example, sugar and fish products. For more information about our revisions policy, see our [website](#).

**Table G: Revisions between first publication and estimates 12 months later**

	Value in latest period	Revisions between first publication and estimates 12 months later		%
		Average over the last 5 years	Average over the last 5 years without regard to sign (average absolute revision)	
Total output (JVZ7) - 12 months	-1.3	-0.15		0.21
Total output (JVZ7) - 1 month	0.0	0.00		0.07
Total input (K646) - 12 months	-12.1	0.06		0.35
Total input (K646) - 1 month	0.2	0.07		0.26

Source: Office for National Statistics

Notes:

1. \*Statistically significant

Revisions to data provide one indication of the reliability of main indicators. Table G shows summary information on the size and direction of the revisions which have been made to the data covering a 5-year period. A statistical test has been applied to the average revision to find out if it is statistically significantly different from zero. An asterisk (\*) shows that the test is significant.

Table G presents a summary of the differences between the first estimates published between 2007 and 2015 and the estimates published 12 months later. These numbers include the effect of the reclassification onto Standard Industrial Classification (SIC) 2007.

Spreadsheets giving revisions triangles of estimates for all months from January 1998 through to September 2015 and the calculations behind the averages in the table are available in the reference table area of our website:

- [revision triangle for total output \(12 months\) \(2.48 Mb Excel sheet\)](#)
- [revision triangle for total output \(1 month\) \(2.44 Mb Excel sheet\)](#)
- [revision triangle for total input \(12 months\) \(2.49 Mb Excel sheet\)](#)
- [revision triangle for total input \(1 month\) \(2.48 Mb Excel sheet\)](#)

## 12. Background notes

### 1. PPI standard errors

We will be publishing an article which will represent the calculations for PPI standard errors along with the next publication on 15 December 2015.

## 2. PPI Guidance

[Guidance on using indices in indexation clauses \(197 Kb Pdf\)](#) has been published on our website. It covers producer prices, services producer prices and consumer prices.

An up-to-date manual for the producer price index, including the import and export index is now available. [PPI methods and guidance \(1.18 Mb Pdf\)](#) provides an outline of the methods used to produce the PPI as well as information about recent PPI developments.

## 3. Changing the way we publish datasets

The 2 producer price datasets called [Aerospace and Electronic Cost Indices \(MM19\)](#) and [Producer Price Indices \(MM22\)](#) are now published on the Producer Price Index webpage with the statistical bulletin reference tables.

## 4. Analysis of producer price indices using standard errors

We have published an article on the [analysis of producer price indices \(PPI\) using standard errors](#) on 17 September 2014. The article presented the calculated standard errors of the PPI during the period February 2013 to January 2014, for both month-on-month and 12-month growth.

## 5. How are we doing?

We are constantly aiming to improve this release and its associated commentary. We would welcome any feedback you might have, and would be particularly interested in knowing how you make use of these data to inform your work. Please contact us via email: [ppi@ons.gsi.gov.uk](mailto:ppi@ons.gsi.gov.uk)

## 6. Article about rebasing the PPI and SPPI onto 2010=100

As previously announced, we have taken forward the rebasing of the PPI onto a 2010=100 basis. The first published data using 2010=100 was released in November 2013. An [article describing the results of this assessment](#) was also published on 12 November 2013.

## 7. Finding PPI data

All of the data included in this statistical bulletin, alongside data for the full range of PPIs, is available in the associated reference tables. Also available are the datasets for the [aerospace and electronic indices](#) and the [producer price indices](#), or these can be downloaded from the time series pages. There are [PPI records \(96.5 Kb Excel sheet\)](#) available which gives the higher, lower and equal to movements for each index. Each 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.

## 8. Quality and methodology information

A [quality and methodology information \(QMI\) \(95.6 Kb Pdf\)](#) paper for the PPI describes in detail the intended uses of the statistics presented in this publication, their general quality and the methods used to produce them.

## 9. European comparability

The UK is required to compile and deliver the output PPI to Eurostat under the [Short-Term Statistics Regulation](#). As a result, all EU countries must produce equivalent series on a comparable basis. Eurostat produce European aggregates for PPI and publish a [monthly press release](#) available on their website. This release uses the gross sector PPI as the headline figure here in the UK, we publish the top level PPI on a net sector basis. [Detailed PPI figures for the UK and the rest of the EU](#) are also published on Eurostat's website.

## 10. Relevance to users

Index numbers shown in the main text of this bulletin are on a net sector basis. The index for any sector relates only to transactions between that sector and other sectors, sales and purchases within sectors are excluded. However, the more detailed figures shown in [Reference tables 4 and 6 \(229.5 Kb Excel sheet\)](#) are on a gross basis; that is, intra industry sales and purchases are included in each of these indices.

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.

All index numbers exclude VAT. Excise duty (on cigarettes, manufactured tobacco, alcoholic liquor and petroleum products) are included, except where labelled otherwise. Since PPIs exclude VAT, they are not affected by the increase in the standard rate of VAT to 20% from 4 January 2011.

The detailed input indices of prices of materials and fuels purchased ([Reference table 6 \(229.5 Kb Excel sheet\)](#)) do not include the climate change levy (CCL). This is because each industry can, in practice, pay its own rate for the various forms of energy, depending on the various negotiated discounts and exemptions that apply.

## 11. Common pitfalls in interpreting series

Expectations of accuracy and reliability in sample surveys are often too high. Revisions and sampling variability are inevitable consequences of the trade off between timeliness, accuracy and the burden on respondents. Details of sampling variability are included elsewhere in this bulletin.

Very few statistical revisions arise as a result of "errors" in the popular sense of the word. All estimates, by definition, are subject to statistical "error" but, in this context, the word refers to the uncertainty in any process or calculation that uses sampling, estimation or modelling. Most revisions reflect either the adoption of new statistical techniques or the incorporation of new information which allows the statistical error of previous estimates to be reduced. Only rarely are there avoidable errors such as human or system failures, and such mistakes are made quite clear when they are discovered and corrected.

## 12. Definitions and explanations

Definitions found within the main statistical bulletin are listed here:

### Index number

A measure of the average level of prices, quantities or other measured characteristics, relative to their level for a defined reference period of location. It is usually expressed as a percentage above or below, but relative to, the base index of 100.

### Seasonally adjusted

Seasonal adjustment aids interpretation by removing effects associated with the time of the year or the arrangement of the calendar, which could obscure movements of interest. Seasonal adjustment removes regular variation from a time series. Regular variation includes effects due to month lengths, different activity near particular events, such as bank holidays and leap years.

### Sampling variability

Very few statistical revisions arise as a result of "errors" in the popular sense of the word. All estimates, by definition, are subject to statistical "error" but in this context the word refers to the uncertainty. Data in the bulletin are based on statistical samples and, as such, are subject to sampling variability. If many samples were drawn, each would give different results.

### Prices

All characteristics that determine the price of the products – including quantity of units sold, transport provided, rebates, service conditions, guarantee conditions and destination – are taken into account.

The appropriate price is the basic price, which excludes VAT and similar deductible taxes directly linked to turnover, as well as all duties and taxes on the goods and services invoiced by the unit, whereas any subsidies on products received by the producer are added.

Transport costs are included but only as part of the product specification.

An actual transaction price and not a list price are given to show the true development of price movements.

The output price index takes into account the quality changes in products.

The price collected in period t refers to orders booked during period t (time of the order), not when the commodities leave the factory gates.

For output prices on the non-domestic market, the price is 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 the factory.

## 13. Accuracy

Figures for the latest two 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.

Every 5 years, producer price indices are rebased, and their weights updated to reflect changes in the industry. The [rebasings article](#) referred to in background note 1, informs users about work underway to rebase PPIs from a 2005=100 basis to a 2010=100 basis, and update the weights. PPIs will move to a 2010=100 basis from autumn 2013. More information about the impact of rebasing will be published as the project progresses and will be drawn to users' attention in the regular statistical bulletin.

## 14. Publication policy

The complete run of data in the tables of this bulletin are also available to view and download in other electronic formats free of charge using [our Datasets and Reference Table service](#) (if you want the data associated with this bulletin click into Download data in this release option). Users can download the

complete release in a choice of zipped formats or view and download their own selections of individual series. There is a list of [publication dates](#) also available up to January 2017.

Details of the policy governing the release of new data are available from our Media Relations Office. A list of the names of those given pre-publication access to the contents of this bulletin is available on the [Producer Price Index: Pre-Release Access List](#).

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Office e-mail: [media.relations@ons.gsi.gov.uk](mailto:media.relations@ons.gsi.gov.uk).

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##### **Media contact:**

Tel: Luke Croydon or David Bradbury on +44 (0)845 6041858

Emergency on-call: +44 (0)7867 906553

e-mail: [media.relations@ons.gsi.gov.uk](mailto:media.relations@ons.gsi.gov.uk).

##### **Statistical contact:**

Tel: Kat Pegler on +44 (0)1633 456468

e-mail: [ppi@ons.gsi.gov.uk](mailto:ppi@ons.gsi.gov.uk).

##### **PPI/SPPI Enquiries:**

Tel +44 (0)1633 455901 or +44 (0)1633 455941

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