

Statistical bulletin

Producer price inflation, UK: October 2016

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).



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Release date:
15 November 2016

Next release:
13 December 2016

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1 . Main points

The price of goods bought and sold by UK manufacturers, as estimated by the Producer Price Index, rose again in the year to October 2016. This is the fourth consecutive increase following 2 years of falls and the largest increase since April 2012. Between September and October, total output prices rose 0.6%, compared with an increase of 0.3% the previous month.

Factory gate prices (output prices) for goods produced by UK manufacturers rose 2.1% in the year to October 2016, compared with a rise of 1.3% in the year to September 2016.

Core factory gate prices, which exclude the more volatile food, beverage, tobacco and petroleum products, rose 1.9% in the year to October 2016, compared with a rise of 1.4% in the year to September 2016.

The overall price of materials and fuels bought by UK manufacturers for processing (total input prices) rose 12.2% in the year to October 2016, compared with a rise of 7.3% in the year to September 2016. Between September and October, total input prices rose by a record 4.6%, compared with an increase of 0.1% the previous month.

Core input prices, which exclude purchases from the more volatile food, beverage, tobacco and petroleum industries, rose 9.9% in the year to October 2016, compared with a rise of 5.1% in the year to September 2016.

2 . Changes to publication schedule for economic statistics

From January 2017 we are improving the way we publish economic statistics, with related data grouped together under new "theme" days. This will increase the coherence of our data releases and involve minor changes to the timing of certain publications. For more information see [Changes to publication schedule for economic statistics](#).

3 . What is the Producer Price Index (PPI)?

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 [Consumer Prices Index \(CPI\)](#) and [Services Producer Price Index \(SPPI\)](#). This statistical bulletin contains a comprehensive selection of data on input and output index series. It contains producer price indices of materials and fuels purchased, and output of manufacturing industry by broad sector.

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.

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 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.

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.

4 . Output prices: summary

Factory gate inflation rose 2.1% in the year to October 2016, compared with a rise of 1.3% in the year to September 2016. This is the fourth consecutive increase following 2 years of falling prices and the largest increase since April 2012.

Between 2014 and 2015, total output inflation remained consistently below core output price inflation. However, in 2016 although both total and core output inflation have been showing an upwards trend, total output inflation has been growing strongly and is now at a higher level than core factory gate inflation (Figure 1).

Looking at the latest estimates (Table 1), movements in factory gate prices on the year to October 2016 were as follows:

- factory gate prices rose 2.1%, compared with a rise of 1.3% in the year to September 2016
- core factory gate prices rose 1.9%, compared with a rise of 1.4% in the year to September 2016
- factory gate inflation excluding excise duty rose 2.2%, compared with a rise of 1.3% in the year to September 2016

Between September and October 2016:

- factory gate prices increased 0.6%, compared with an increase of 0.3% in September 2016
- core factory gate prices increased 0.4%, compared with no movement last month

Table 1: Output prices, May 2016 to October 2016, UK

	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
2016 May	0.1	-0.5	0.1	0.6	0.0	-0.4
Jun	0.3	-0.2	0.1	0.7	0.3	-0.1
Jul	0.4	0.4	0.6	1.2	0.4	0.4
Aug	0.1	0.9	0.2	1.5	0.1	0.9
Sep	0.3	1.3	0.0	1.4	0.3	1.3
Oct	0.6	2.1	0.4	1.9	0.6	2.2

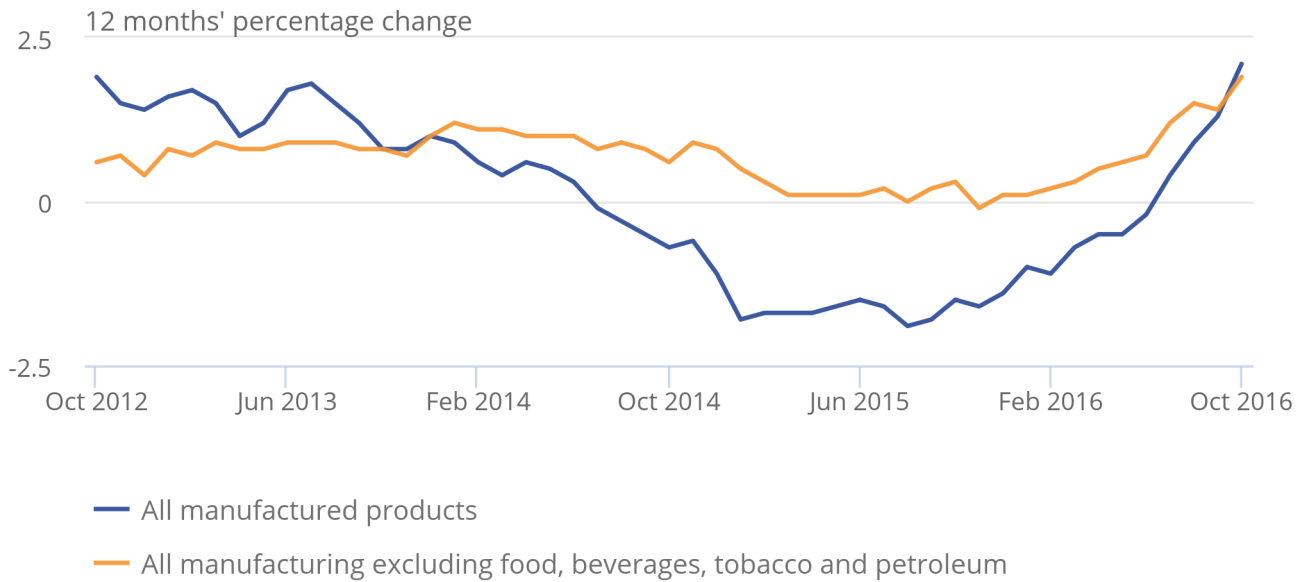
Source: Office for National Statistics

Figure 1: Output prices

UK, October 2012 to October 2016

Figure 1: Output prices

UK, October 2012 to October 2016



Source: Office for National Statistics

5 . Supplementary analysis: Output prices

Table 2 shows the annual percentage change in price across all product groups and Figure 2 shows their contribution to the annual factory gate inflation rate.

Table 2: Output prices, 12 months' change, October 2016, UK

Product group	Percentage change
Food products	0.3
Tobacco and alcohol (incl. duty)	1.7
Clothing, textile and leather	0.8
Paper and printing	0.8
Petroleum products (incl. duty)	7.2
Chemical and pharmaceutical	1.7
Metal, machinery and equipment	2.0
Computer, electrical and optical	1.3
Transport equipment	3.4
Other manufactured products	3.0
All manufacturing	2.1

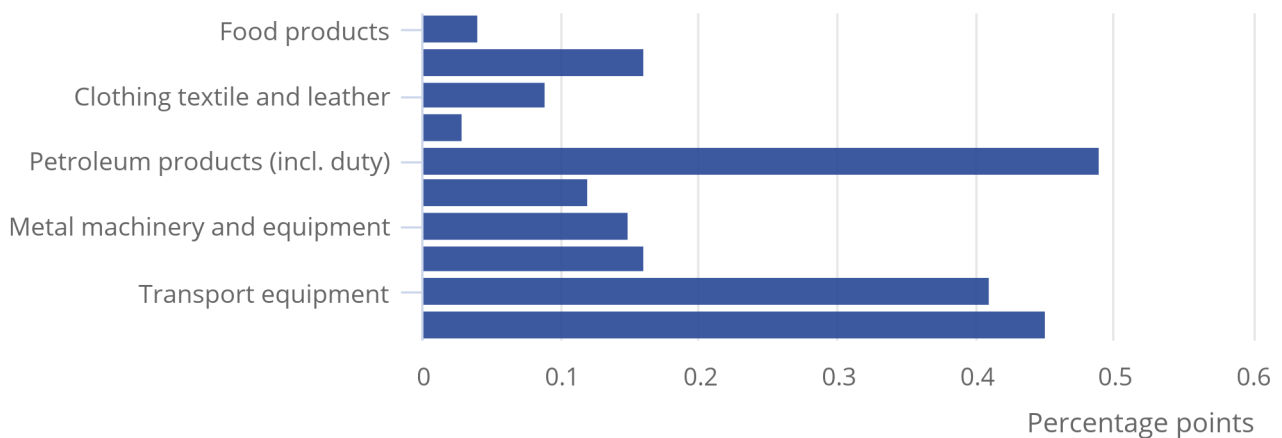
Source: Office for National Statistics

Figure 2: Output prices, contribution to 12 months' growth rate

UK, October 2016

Figure 2: Output prices, contribution to 12 months' growth rate

UK, October 2016



Source: Office for National Statistics

Table 3 shows the monthly percentage change in price across all product groups and Figure 3 shows their contribution to the 1 month factory gate inflation rate.

Table 3: Output prices, 1 month change, October 2016, UK

Product group	Percentage change
Food products	0.6
Tobacco and alcohol (incl. duty)	0.0
Clothing, textile and leather	0.1
Paper and printing	0.4
Petroleum products (incl. duty)	4.2
Chemical and pharmaceutical	0.5
Metal, machinery and equipment	0.3
Computer, electrical and optical	0.3
Transport equipment	0.7
Other manufactured products	0.3
All manufacturing	0.6

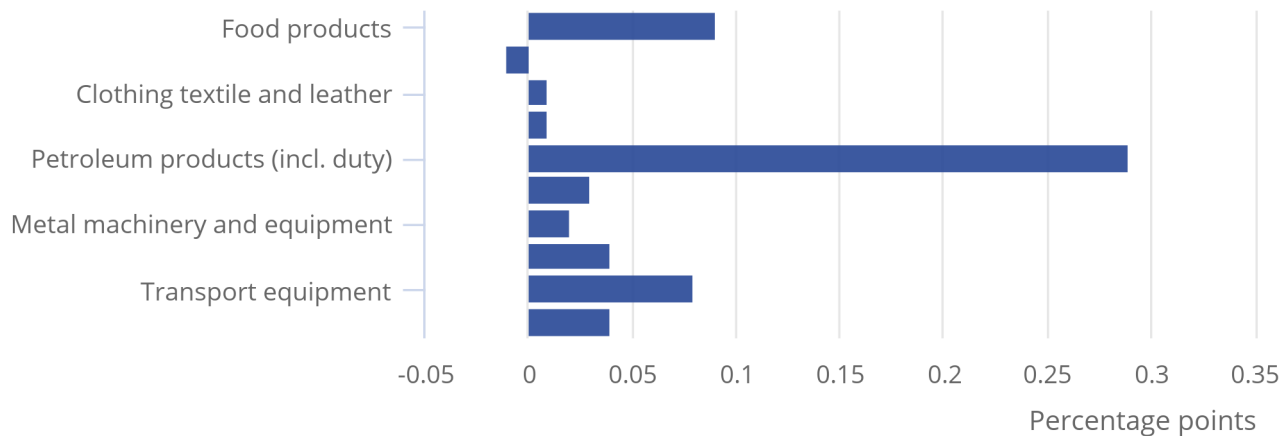
Source: Office for National
Statistics

Figure 3: Output prices, contribution to 1 month growth rate

UK, October 2016

Figure 3: Output prices, contribution to 1 month growth rate

UK, October 2016



Source: Office for National Statistics

6 . Output prices: detailed commentary

Factory gate prices rose 2.1% in the year to October 2016, compared with a rise of 1.3% in the year to September 2016. This is now the fourth annual increase in a row. All product groups showed increases in the year to October 2016 with the main contribution to the increase coming from petroleum products. An increase in the price of other manufactured products and transport equipment also contributed towards the rise in the output price of manufactured products (Figure 2).

Petroleum products rose 7.2% in the year to October 2016, compared with a rise of 1.8% in the year to September 2016. This is the second increase following 3 years of consecutive falls and the largest upwards movement in the index since January 2012. The main contributions to this rise came from diesel and gas oil, motor spirit and aviation turbine fuel (avtur), with prices rising by 8.4%, 4.3% and 14.2% respectively in the year.

Other manufactured product prices rose 3.0% in the year to October 2016, compared with a rise of 2.7% in the year to September 2016. The main contributors to this increase were from soft drinks, mineral water and other bottled waters, other manufactured goods, and repair and installation of service machinery, which increased 10.3%, 2.6% and 7.7% respectively in the year to October 2016.

Transport equipment prices increased 3.4% in the year to October 2016, compared with an increase of 2.8% in the year to September 2016. This is the largest increase seen in this index since April 2009. All sections within transport equipment showed increases in the annual rate with the largest upward contribution from motor vehicles, trailers and semi-trailers, which rose 3.0%. The last time this index rose by 3.0% was in October 2009.

The monthly price index saw an increase of 0.6% between September and October 2016, compared with an increase of 0.3% between August and September 2016. Most sectors showed small monthly movements with petroleum products providing the largest upward contribution. Tobacco and alcohol provided a very small downward contribution to the monthly rate (Figure 3).

Petroleum products prices increased 4.2% between September and October 2016, compared with an increase of 1.3% between August and September 2016. This is the largest monthly upwards movement for this index since March 2011. The main contributor to the increase came from diesel and gas oil, which increased 5.4%.

Between September and October 2016, food product prices rose by 0.6%, compared with an increase of 0.5% between August and September 2016. Increases of 2.1% in the price for dairy products, 1.2% for prepared animal feeds and 1.6% for grain mill products contributed towards this upwards movement.

Transport equipment prices also provided a significant upwards contribution, increasing 0.7% between September and October 2016 compared with an increase of 0.1% between August and September 2016. Within this index, motor vehicles, trailers and semi-trailer prices increased 0.8% and other transport equipment prices increased 0.4%.

Core factory gate inflation

Core factory gate prices, which exclude the more volatile food, beverage, tobacco and petroleum product prices, giving a measure of underlying factory gate inflation, rose 1.9% in the year to October 2016, compared with an increase of 1.4% in the year to September. This increase of 1.9% is the largest annual movement seen in core factory gate prices for more than 4 years. The largest contributors to this rise were transport equipment and other manufactured products.

The monthly core factory gate price index showed a rise of 0.4% between September and October 2016, compared with no movement last month.

Output Producer Price Index contribution to change in rate

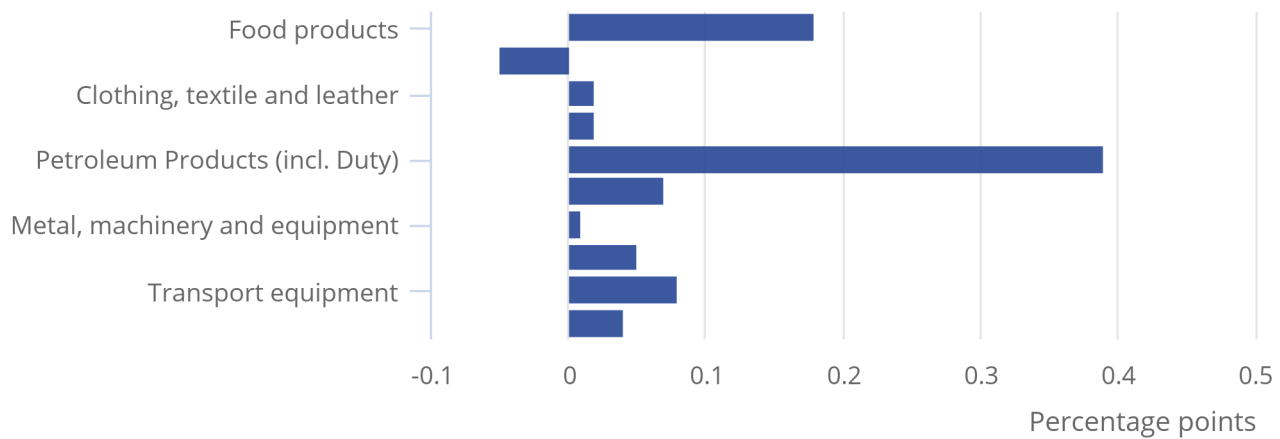
The annual percentage rate for the output Producer Price Index (PPI) in October 2016 increased 2.1%, compared with a rise of 1.3% the previous month resulting in an increase in the annual rate of 0.8 percentage points. Petroleum products and food products were the main contributors to the change in the 12 month rate.

Figure 4: Output PPI 12 month contribution to change in annual rate between September and October 2016

UK

Figure 4: Output PPI 12 month contribution to change in annual rate between September and October 2016

UK



Source: Office for National Statistics

Notes:

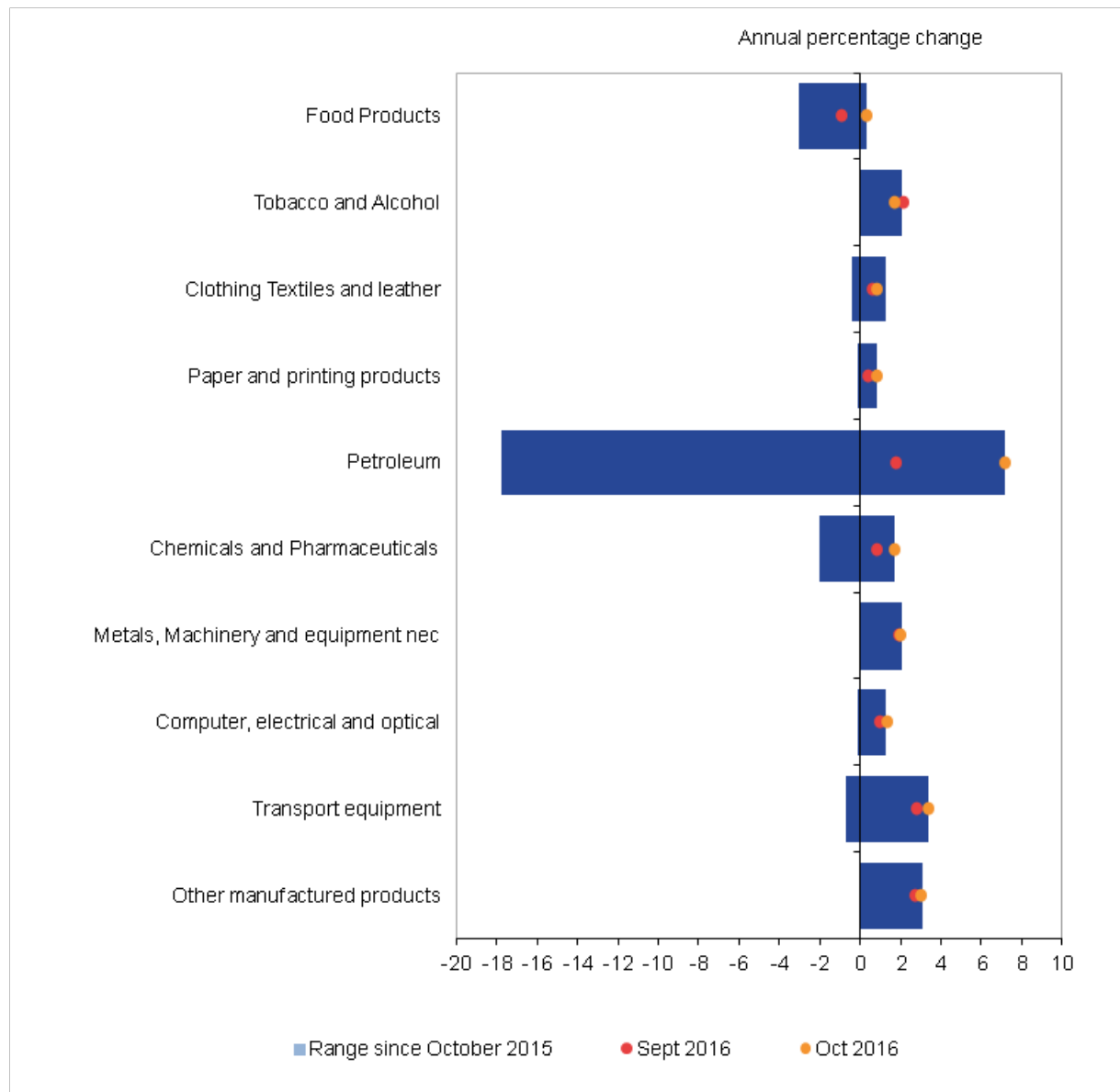
1. The components may not sum exactly to the overall change in the rate due to rounding.

7 . Output Producer Price Index range of movements

Figure 5 shows the year-on-year growth in output Producer Price Index (PPI) by grouping for the latest 2 months and the range of the price changes that have been seen in these sections since October 2015. It can be seen that the majority of output PPI indices have experienced little variance in inflation in the past 12 months. Petroleum shows the biggest decrease and increase, as well as the largest range of movements; ranging from a fall of 17.8% on the year in October 2015 to an increase of 7.2% in October 2016.

Figure 5: Output PPI range of movements

UK, October 2015 to October 2016



Source: Office for National Statistics

Notes:

- 1. nec= not elsewhere classified

8 . Input prices: summary

Between 2014 and 2015, the annual movements in total input prices (including materials and fuels) remained consistently below core input prices (excluding purchases from food, beverage, tobacco and petroleum industries). However, in 2016 although both total and core input inflation have been showing an upwards trend, total input inflation has been growing strongly and is now at a higher level than core input inflation (Figure 6).

The price of imported materials as a whole (including crude oil) rose 14.1%, compared with an increase of 8.8% in the year to September 2016; this is the fifth rise seen in this index since May 2016 and the largest increase on the year since September 2011.

Looking at the latest data (Table 4), the main movements in the year to October 2016 were as follows:

- the total input price index rose 12.2%, compared with a rise of 7.3% in the year to September 2016
- the core input price index saw a rise of 9.9%, compared with a rise of 5.1% in the year to September 2016

Between September and October 2016:

- the total input price index increased 4.6% compared with a rise of 0.1% between August and September, the largest monthly increase since comparable records began
- the seasonally adjusted input price index for the manufacturing industry excluding the food, beverage, tobacco and petroleum industries (Table 4) rose 3.0%, compared with a fall of 0.6% between August and September

Table 4: Input prices, May 2016 to October 2016, UK

		Percentage change				
		Materials and fuels purchased		Excluding purchases from food, beverage, tobacco and petroleum industries		
		1 month	12 months	1 month	12 months	1 month
		(NSA) ¹	(NSA) ¹	(NSA) ¹	(NSA) ¹	(SA) ²
2016	May	2.3	-4.3	-0.4	-1.9	0.1
	Jun	1.7	-0.5	0.7	-0.3	1.0
	Jul	3.2	4.2	4.3	5.1	4.5
	Aug	0.3	7.8	0.3	6.4	0.0
	Sep	0.1	7.3	-0.5	5.1	-0.6
	Oct	4.6	12.2	3.9	9.9	3.0

Source: Office for National Statistics

Notes:

1. NSA: Not Seasonally Adjusted

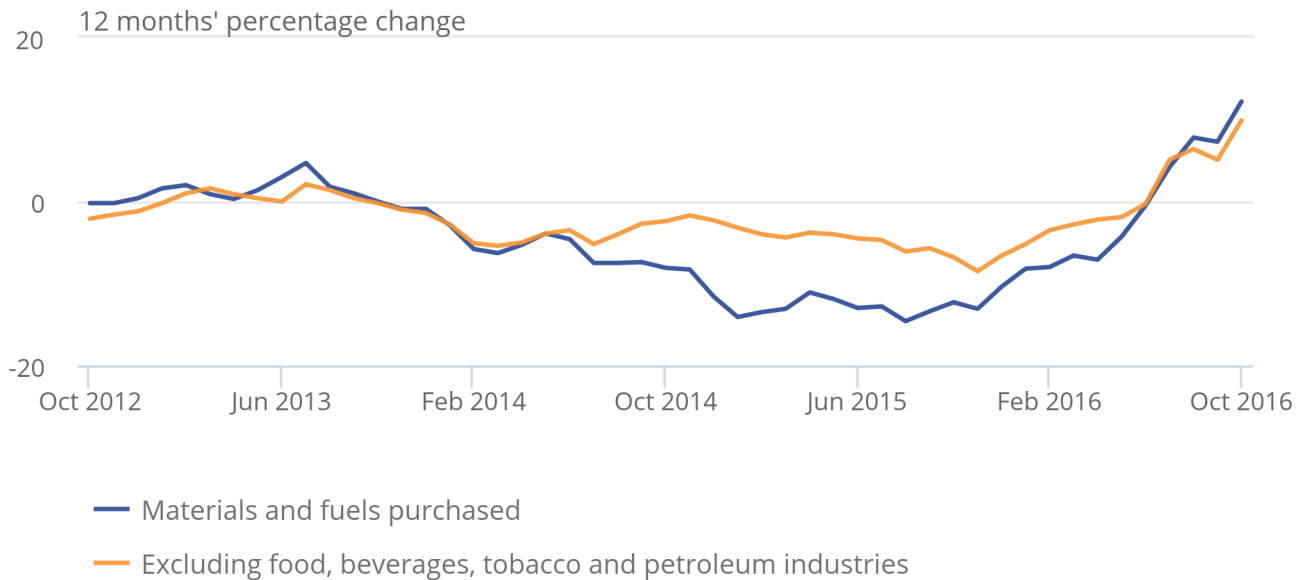
2. SA: Seasonally Adjusted

Figure 6: Input prices (materials and fuel)

UK, October 2012 to October 2016

Figure 6: Input prices (materials and fuel)

UK, October 2012 to October 2016



Source: Office for National Statistics

Notes:

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

9 . Supplementary analysis: input prices

Table 5 and Figure 7 show the percentage change in the price of the main commodities groups over the year and their contributions to the total input index.

Table 5: Input prices, 12 months' percentage change, October 2016, UK

Product group	Percentage change
Fuel including Climate Change Levy	-0.6
Crude oil	26.7
Home food materials	11.9
Imported food materials	10.7
Other home-produced materials	-0.5
Imported metals	25.6
Imported chemicals	7.7
Imported parts and equipment	11.0
Other imported materials	12.8
All manufacturing	12.2

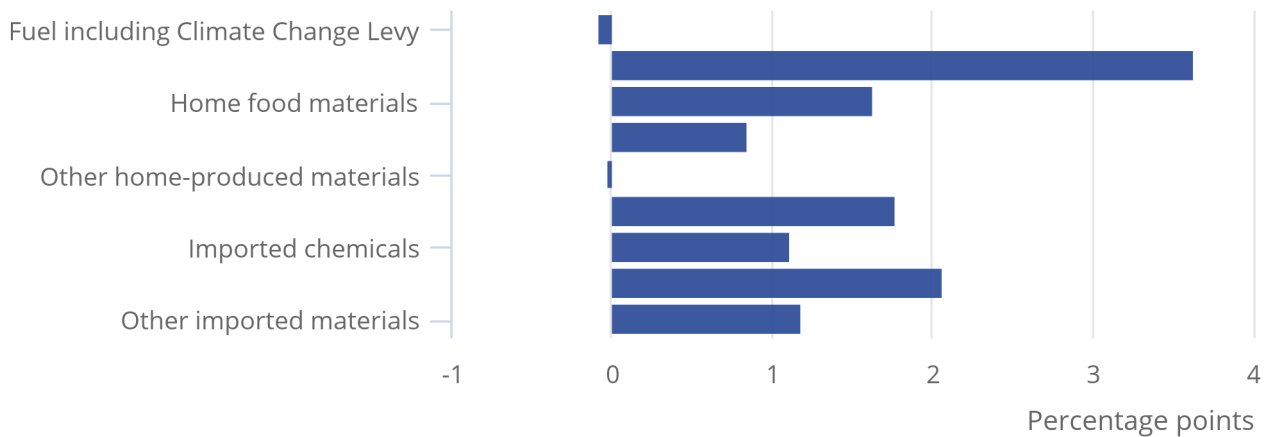
Source: Office for National Statistics

Figure 7: Input prices, contribution to 12 months' growth rate

UK, October 2016

Figure 7: Input prices, contribution to 12 months' growth rate

UK, October 2016



Source: Office for National Statistics

Table 6 and Figure 8 show the percentage change in the price of the main commodities groups over the month and their contributions to the total input index.

Table 6: Input prices, 1 month percentage change, October 2016, UK

Product group	Percentage change
Fuel including Climate Change Levy	5.9
Crude oil	12.8
Home food materials	0.5
Imported food materials	3.9
Other home-produced materials	0.2
Imported metals	4.9
Imported chemicals	2.4
Imported parts and equipment	3.6
Other imported materials	3.2
All manufacturing	4.6

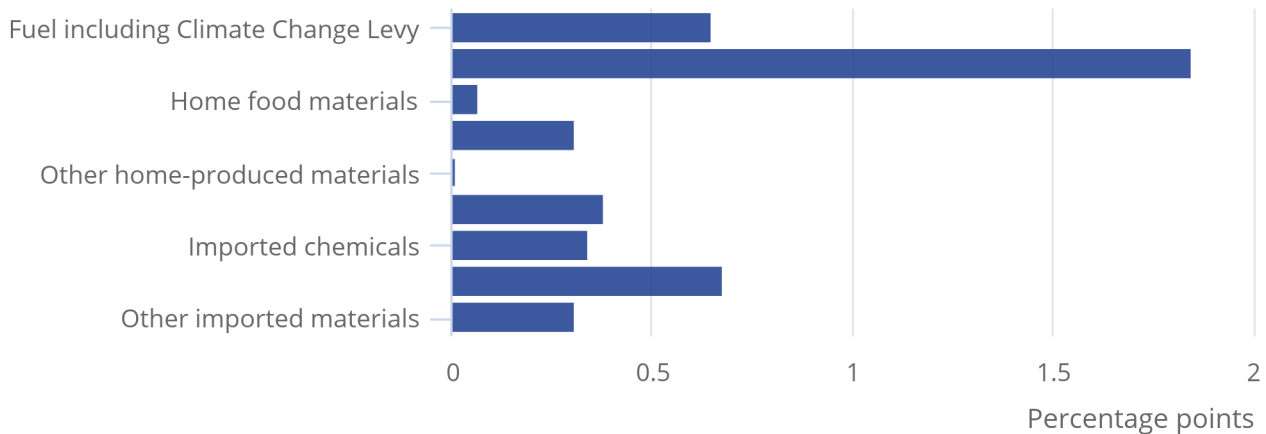
Source: Office for National Statistics

Figure 8: Input prices, contribution to 1 month growth rate

UK, October 2016

Figure 8: Input prices, contribution to 1 month growth rate

UK, October 2016



Source: Office for National Statistics

10 . Input prices: detailed commentary

The overall input index for all manufacturing, which measures changes in the price of materials and fuels purchased by manufacturers, rose 12.2% in the year to October 2016, compared with a rise of 7.3% in the year to September 2016. The main upwards contributions to the index came from crude oil, other imported parts and equipment, and imported metals.

The monthly input index increased 4.6% between September and October 2016, compared with an increase of 0.1% between August and September 2016 and is the largest monthly increase seen in this index since comparable records began (see Table 6 and Figure 8).

Crude oil rose 26.7% in the year to October 2016, compared with an increase of 14.5% in the year to September 2016. This is the third increase in the annual rate of crude oil prices following 34 months of falling prices. Imported crude petroleum and natural gas was the main contributor to this rise, with an increase of 25.4% compared with an increase of 14.9% in the year to September 2016. This is the third increase we have seen in this index in a row and the largest upwards movement since November 2011.

Other imported parts and equipment prices rose 11.0% in the year to October 2016, compared with a rise of 4.8% in the year to September 2016; this is the largest increase on the year since March 2009. The main contribution came from imported parts used in the manufacture of machinery and equipment, and imported parts used in the manufacture of computer, electronic and optical products.

Imported parts used in the manufacture of machinery and equipment increased 16.9% in the year to October 2016, the largest annual increase seen in this index since comparable records began. Imported parts used in the manufacture of computer, electronic and optical products increased 15.3% in the year to October, also the largest annual increase seen in this index since comparable records began.

Imported metals rose 25.6% in the year to October 2016, compared with a rise of 19.2% in the year to September 2016. This is the largest upward movement seen in this index since February 2011. The main contribution to the rise came from imported products used in the manufacturing of other basic metals and casting, which rose 25.7% compared with an increase of 20.6% in the year to September 2016.

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

The seasonally adjusted core input price index rose 9.8% in the year to October 2016, compared with a rise of 5.3% in the year to September 2016, the largest upwards movement on the year since September 2011. Between September and October 2016, the index rose 3.0%, compared with a fall of 0.6% between August and September 2016.

The unadjusted core input price index rose 9.9% in the year to October 2016, compared with a rise of 5.1% in the year to September 2016. This is the fourth month of rising prices in this index following almost 3 years of falling prices. The monthly index rose 3.9% between September and October 2016, compared with a fall of 0.5% between August and September 2016.

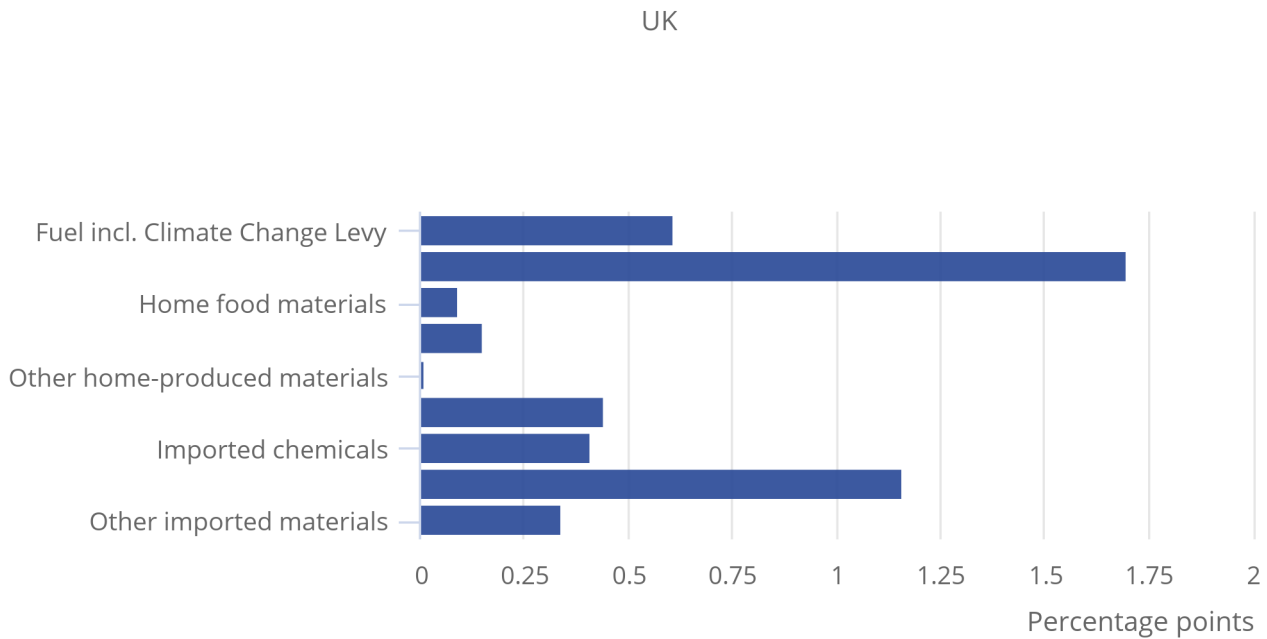
Input Producer Price Index contribution to change in rate

The annual percentage rate for the input Producer Price Index (PPI) in October 2016 rose 12.2% compared with a rise of 7.3% last month, resulting in a change to the annual rate of 4.9 percentage points. All sections contributed to this increase, with the largest contributions from crude oil and other imported parts and equipment (Figure 9).

Figure 9: Input PPI 12 month contribution to change in annual rate between September and October 2016

UK

Figure 9: Input PPI 12 month contribution to change in annual rate between September and October 2016



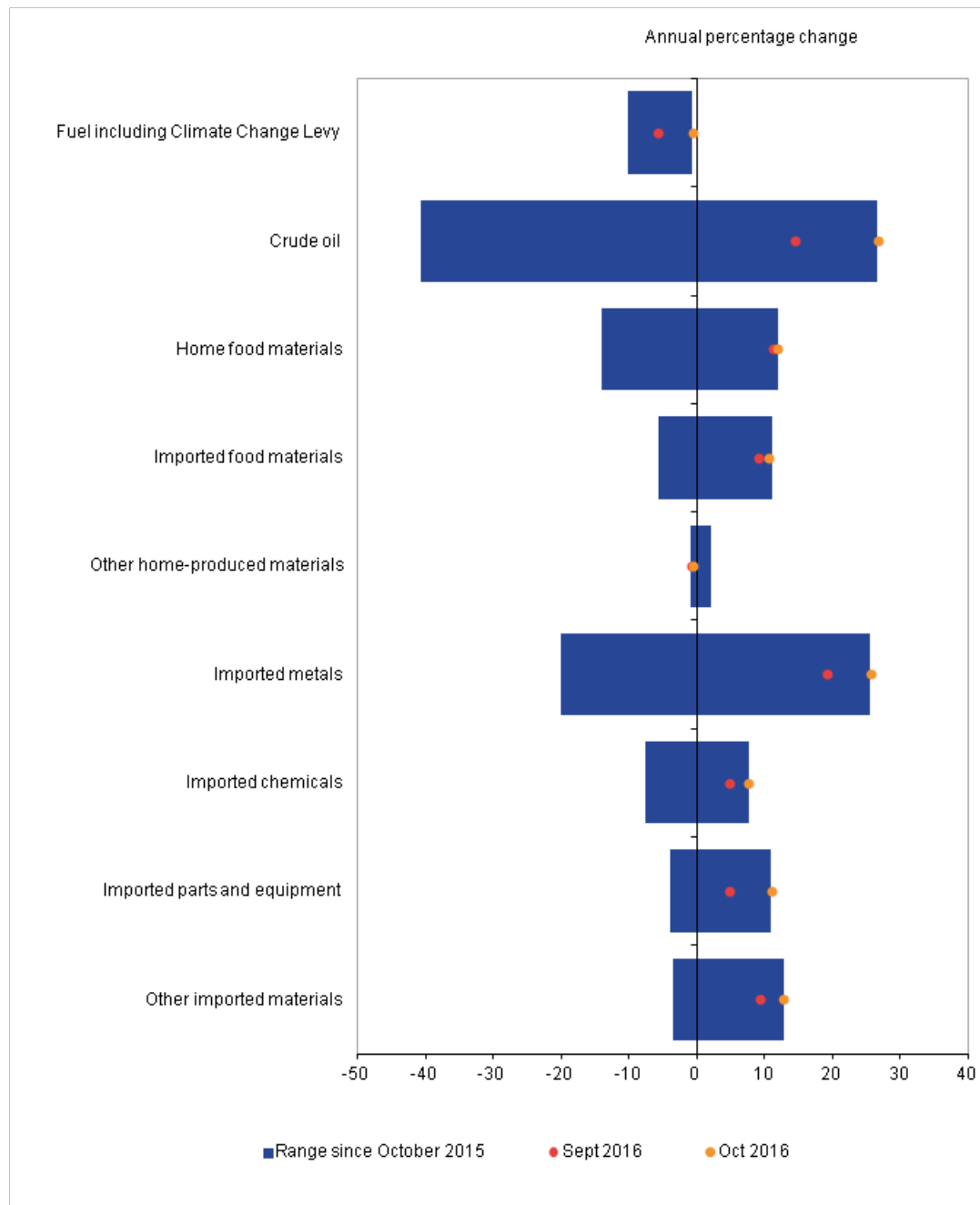
Source: Office for National Statistics

11 . Input PPI indices range of movements

Figure 10 shows the year-on-year growth in input Producer Price Index (PPI) by grouping for the latest 2 months and the range of the price changes that have been seen in these groupings since October 2015. Crude oil shows the biggest decrease in the 12-month period and also the largest range of movements, from a fall of 40.7% in October 2015 to a rise of 26.7% in October 2016.

Figure 10: Input PPI range of movements

UK, October 2015 to October 2016



Source: Office for National Statistics

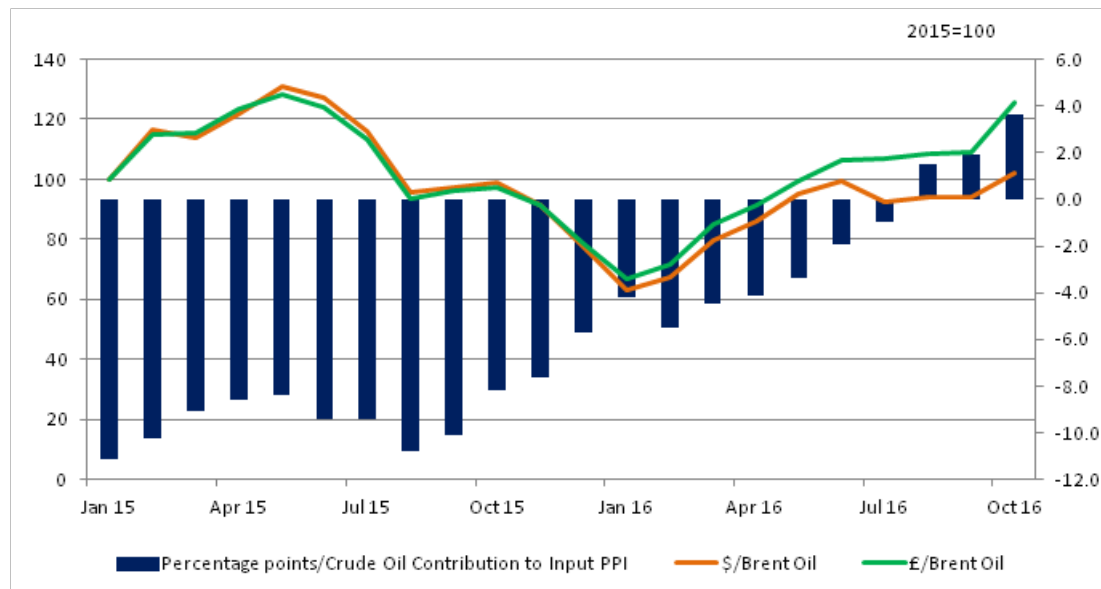
12 . Economic context

Input producer prices increased by 12.2% in the year to October 2016, compared with an increase of 7.3% in the year to September 2016, the fourth consecutive month of positive input price inflation. Output prices also increased in the year to October 2016, by 2.1%, which would suggest higher input costs are feeding into the output prices of manufacturing goods.

The increase in producer price inflation over the past several months can be partly attributed to the changes in the sterling exchange rate. In trade-weighted terms, sterling depreciated by 18.5% in the year to October 2016. All else equal, a depreciation of sterling increases the prices of UK imports, with a corresponding impact on the prices paid by producers for imported inputs. If these producers raise their own prices in response, then movements in the exchange rate can indirectly influence output producer prices. However, movements in the trade-weighted exchange rate can hide differences in the dollar-sterling and euro-sterling exchange rates. Sterling depreciated by 19.6% against the US dollar in the year to October 2016, while also depreciating against the euro by 18.1% over the same period.

Figure 11: Brent crude oil price in US dollars and sterling with crude oil contributions to input PPI

January 2015 to October 2016



Source: Bank of England, Financial Times

The dollar-sterling exchange rate is important when assessing the price of commodity trade on world markets. For example, Figure 11 shows Brent crude oil prices in US dollars and sterling with crude oil contributions to input PPI inflation. Brent crude oil in US dollars and sterling closely tracked each other between January and December 2015, but the 2 indicators started to deviate in 2016. This gap widened further following the EU referendum result and the ensuing depreciation. In October 2016, Brent crude oil priced in sterling increased at a faster rate than Brent crude oil priced in US dollars in October 2016. In the year to October 2016, dollar prices have increased by 3.5% in the year to October 2016, while sterling prices have increased by 28.8% over the same period.

While the exchange rate is likely to have had a large impact on producer prices, the strengthening of the UK labour market may also have provided upward pressure on output prices for manufactured goods. The unemployment rate amongst those aged 16 and over remained stable at 4.9% in the 3 months to August 2016, while the employment rate amongst those aged 16 to 64 remained at 74.5% during the same period – which is the highest employment rate since comparable records began. Average weekly earnings in the manufacturing sector grew by 2.6% in the year and 3 months to August 2016, outpacing wage growth in the whole economy for the fourth consecutive month.

Output across the whole economy increased by 0.5% in Quarter 3 (July to Sept) 2016 compared with growth of 0.7% in Quarter 2 (Apr to June) 2016. Real output in the manufacturing sector increased by 0.4% in the year to Quarter 3 2016 compared with a 1.0% increase in Quarter 2 2016. Increased demand in the manufacturing sector may have made it easier for firms to pass on higher input costs to their customers.

13 . Revisions

For this bulletin, [Producer price index dataset Tables 8R and 9R](#) 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.

For more information about our [revisions policy](#), see our website.

Table 7: Revisions between first publication and estimates 12 months later, UK

	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	2.1	-0.07		0.13
Total output (JVZ7) - 1 month	0.6	-0.01		0.07
Total input (K646) - 12 months	12.2	0.03		0.33
Total input (K646) - 1 month	4.6	0.02		0.28

Source: Office for National Statistics

Notes:

1. *Statistically significant

Revisions to data provide one indication of the reliability of main indicators. Table 7 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. The inclusion of an asterisk (*) would show the test is significant.

Table 7 presents a summary of the differences between the first estimates published between 2011 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 February 1998 through to December 2015 and the calculations behind the averages in the table are available in the producer price inflation datasets.

[Revision triangle for total output \(12 months\)](#)

[Revision triangle for total output \(1 month\)](#)

[Revision triangle for total input \(12 months\)](#)

14 . Quality and methodology

The [PPI Quality and Methodology Information document](#) contains important information on:

- the strengths and limitations of the data and how it compares with related data
- users and uses of the data
- how the output was created
- the quality of the output including the accuracy of the data

15 . Planned changes to methods for Producer Prices Index and Services Producer Prices Index

We will be publishing an article alongside the next Producer Prices Index (PPI) publication on 14 December 2016, notifying users of upcoming changes and improvements due to be delivered to Services Producer Prices Index (SPPI) and PPI (in particular exported outputs and imported inputs) throughout 2017/18.

Firstly, the Short Term Statistics (STS) regulation, under which the aforementioned statistics are currently published, will be replaced by the Framework Regulation Integrating Business Statistics (FRIBS). This is a European regulation aimed at ensuring EU member states report data on a common basis, but will also include important improvements which are vital for improving the UK National Accounts' (NA) ability to calculate economic measures; such as Gross Domestic Product (GDP). It will provide more complete measures of price change in the service sector, primarily by broadening the coverage from 'Business to Business' transactions to 'Business to All', and assist users, such as the Bank of England (BoE), in making assessments of and monitoring the UK economy which is essential for policy making. This change in regulation will come into force in 2019.

The second change will relate to the sample size of SPPI, exported output and imported inputs within PPI and selection methods of SPPI. The number of prices collected will be increased to 6,000 in each survey and the Services Turnover Survey will be used as a sampling frame for the SPPI. Furthermore, new methodology will be used to ensure efficient use of resource and optimum quality for the resources available.

The paper will detail the scheduled dates the changes will take place, as well as the providing details on the nature of the changes. Users will also be invited to provide feedback and ask any questions regarding the changes.

16. Background notes

1. PPI standard errors

We have published an article on the [analysis of Producer Price Indices](#) (PPI) using standard errors with the [November 2015 release](#). The article presented the calculated standard errors of the PPI during the period December 2014 to November 2015, for both month-on-month and 12-month growth.

2. PPI guidance

[Guidance on using indices in indexation clauses](#) 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 (PPI), including the import and export index is now available. [PPI methods and guidance](#) provides an outline of the methods used to produce the PPI as well as information about recent PPI developments.

3. How are we doing?

We aim to constantly improve this release and its associated commentary. We welcome any feedback you might have, and are 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

4. Article about rebasing the PPI 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.

5. 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 datasets. Also available are the datasets for the [Aerospace and Electronic Indices](#) and the [Producer Price Indices](#). There are [PPI records](#) available which give 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.

6. European comparability

The UK is required to compile and deliver the 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. 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.

7. 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 [Producer price index dataset Tables 4 and 6](#) 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 by industry ([Producer price index dataset Table 6](#)) 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.

8. 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.

9. Definitions and explanations

Definitions found within the main statistical bulletin follow.

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.

10. Accuracy

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.

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.

11. Publication policy

There is a list of [publication dates](#) available up to January 2017 on our release calendar.

12. PPI/SPPI enquiries

Tel +44 (0)1633 455723 or +44 (0)1633 456297

13. Code of Practice for Official Statistics

Details of the [policy governing the release of new data](#) can be found on the [UK Statistics Authority website](#).