Office for National Statistics

Statistical bulletin

UK producer price inflation: Sept 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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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 September 2016. This is the third consecutive increase following 2 years of falls and the largest increase since September 2013.

Factory gate prices (output prices) for goods produced by UK manufacturers rose 1.2% in the year to September 2016, compared with a rise of 0.9% in the year to August 2016.

Core factory gate prices, which exclude the more volatile food, beverage, tobacco and petroleum products, rose 1.4% in the year to September 2016, unchanged from last month.

The overall price of materials and fuels bought by UK manufacturers for processing (total input prices) rose 7.2% in the year to September 2016, compared with a rise of 7.8% in the year to August 2016.

Core input prices, which exclude purchases from the more volatile food, beverage, tobacco and petroleum industries, rose 4.9% in the year to September 2016, compared with a rise of 6.3% in the year to August 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 Price 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 1.2% in the year to September 2016, compared with a rise of 0.9% in the year to August 2016. This is the third increase following 2 years of falling prices.

During 2012 and 2013, core factory gate inflation tended to run at a lower rate than total output inflation and showed a smaller degree of volatility. This trend changed in 2014, as total output fell into negative inflation: a result of the downward pressures from petroleum, which is excluded from the core measure of inflation. In 2015, total output inflation has remained consistently below core output price inflation, with total output averaging a fall of 1.7% during 2015 and core output averaging growth of 0.2% in the same period. In 2016, both total and core output inflation have been showing similar upwards trends (Figure 1).

Looking at the latest estimates (Table 1), movements in factory gate prices over the 12 months to September 2016 were as follows:

- factory gate prices rose 1.2%, compared with a rise of 0.9% in the year to August 2016
- core factory gate prices rose 1.4%, unchanged from last month
- factory gate inflation excluding excise duty rose 1.2%, compared with a rise of 0.9% in the year to August 2016

Between August and September 2016:

- factory gate prices increased 0.2%, compared with an increase of 0.1% in August 2016
- core factory gate prices increased 0.1%, unchanged from last month

Table 1: Output prices (home sales), April 2016 to September 2016, UK

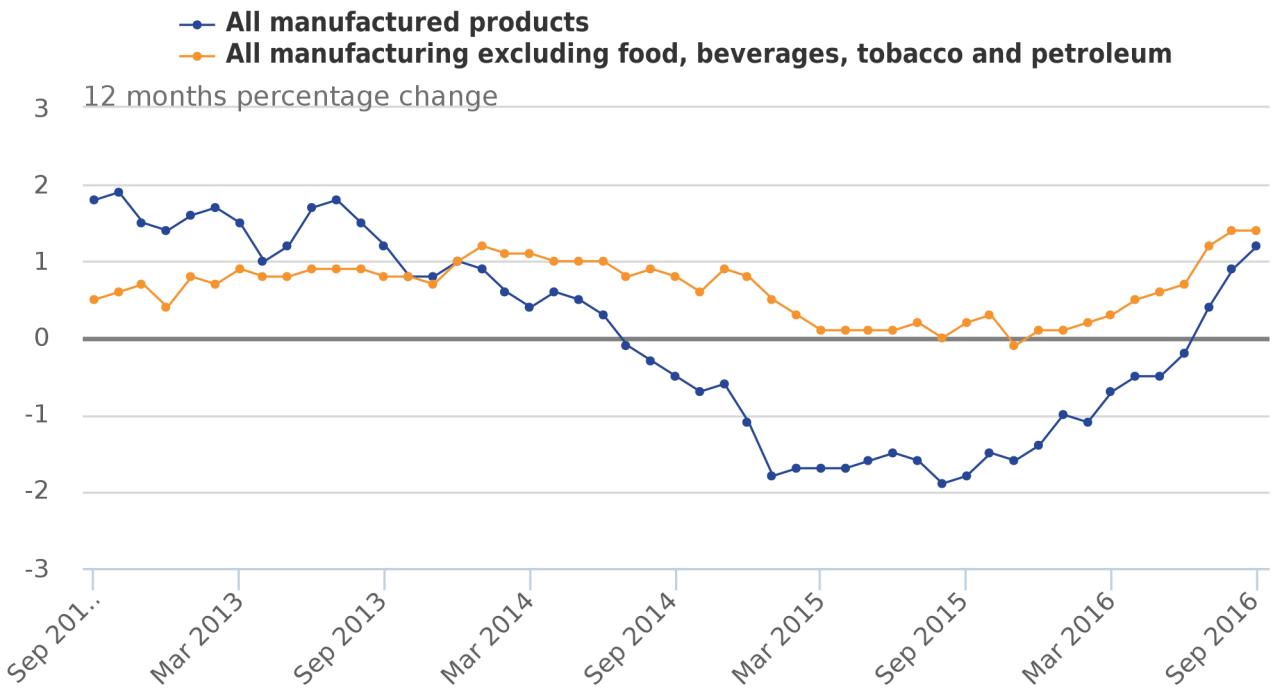
Percentage change

		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	Apr	0.4	-0.5	0.2	0.5	0.4	-0.4
	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	0.1	1.4	0.1	0.9
	Sep	0.2	1.2	0.1	1.4	0.2	1.2

Source: Office for National Statistics

Figure 1: Output prices

UK, September 2012 to September 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.

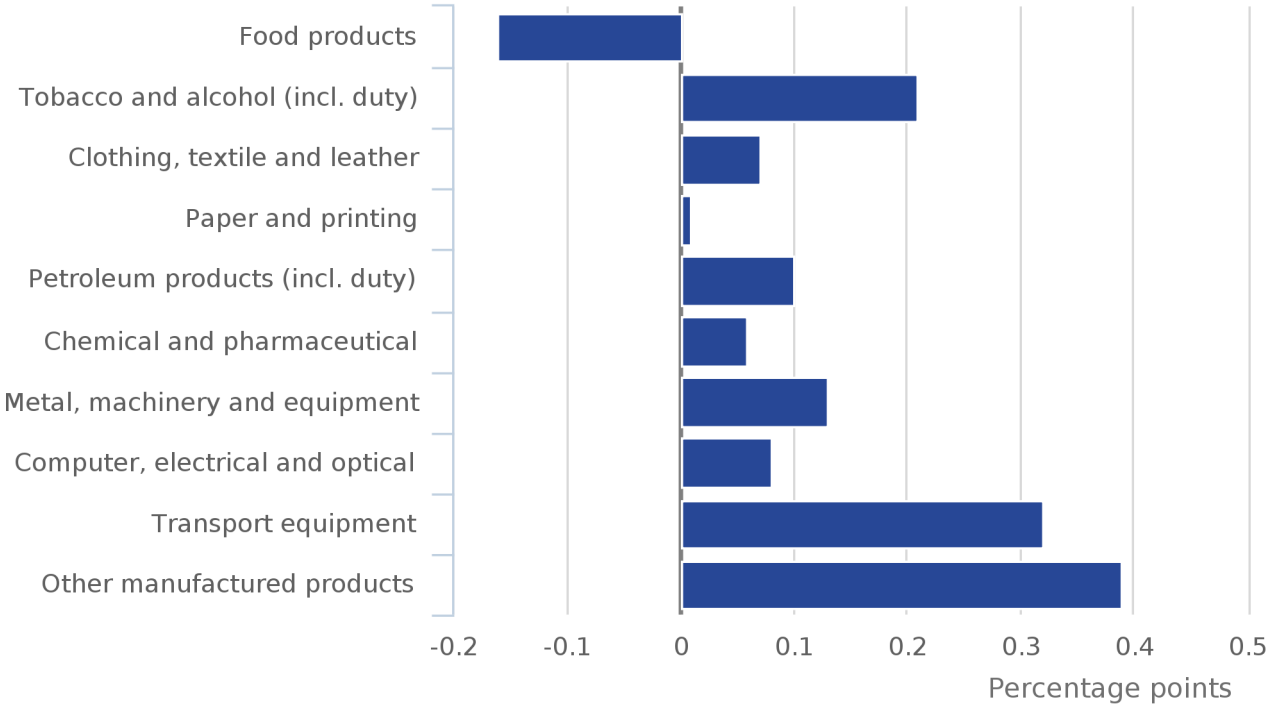
Table 2: Output prices, 12 months change, September 2016, UK

Product group	Percentage change
Food products	-1.1
Tobacco and alcohol (incl. duty)	2.2
Clothing, textile and leather	0.6
Paper and printing	0.2
Petroleum products (incl. duty)	1.6
Chemical and pharmaceutical	0.8
Metal, machinery and equipment	1.9
Computer, electrical and optical	0.7
Transport equipment	2.7
Other manufactured products	2.6
All manufacturing	1.2

Source: Office for National Statistics

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

UK, September 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.

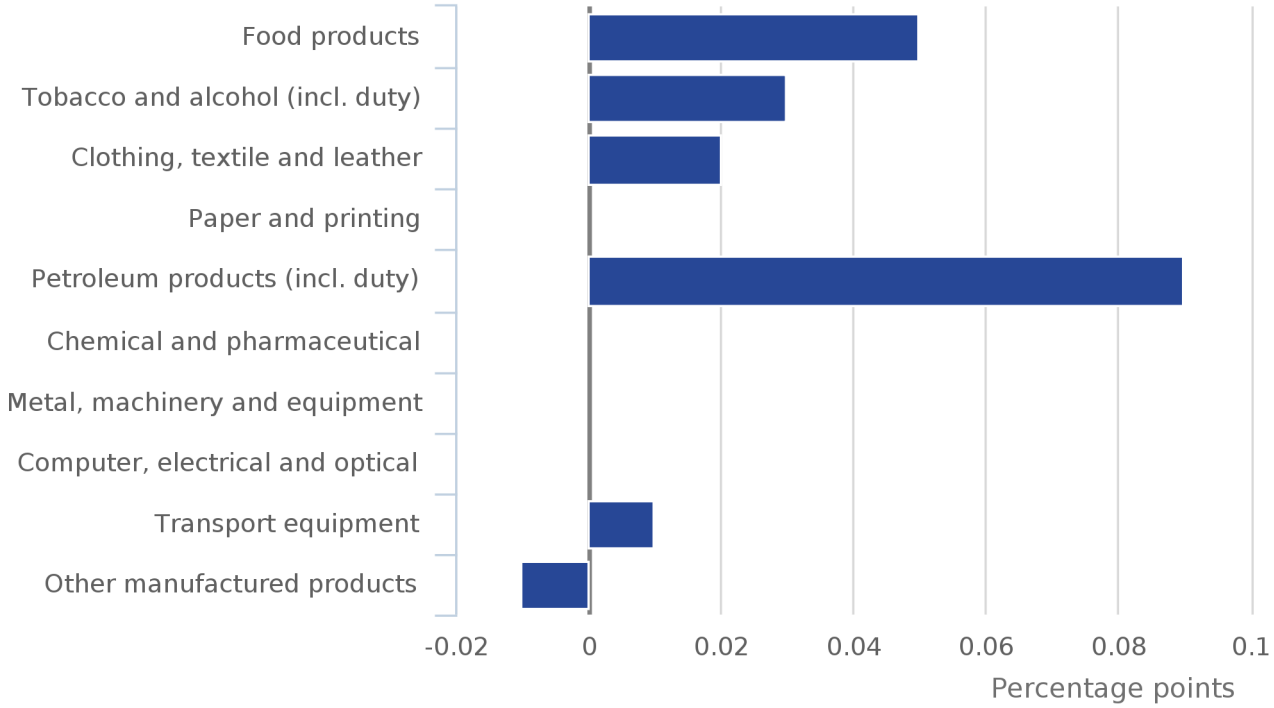
Table 3: Output prices, 1 month change, September 2016, UK

Product group	Percentage change
Food products	0.2
Tobacco and alcohol (incl. duty)	0.2
Clothing, textile and leather	0.2
Paper and printing	0.1
Petroleum products (incl. duty)	1.1
Chemical and pharmaceutical	0.0
Metal, machinery and equipment	0.0
Computer, electrical and optical	0.1
Transport equipment	0.0
Other manufactured products	-0.1
All manufacturing	0.2

Source: Office for National Statistics

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

UK, September 2016



Source: Office for National Statistics

6 . Output prices: detailed commentary

Factory gate prices rose 1.2% in the year to September 2016, compared with a rise of 0.9% in the year to August 2016. This is the third annual increase since June 2014. The main contribution to the increase in the annual rate for September 2016 came from other manufactured products. An increase in the price of transport equipment, and tobacco and alcohol also contributed towards the rise in the output price of manufactured products. These increases were offset slightly by a decrease in the price of food products, the only index to show a decrease (Figure 2).

Other manufactured products rose 2.6% in the year to September 2016, compared with a rise of 2.8% in the year to August 2016. The majority of other manufactured products showed increases, however, the main contributions to this rise came from soft drinks, mineral water and other bottled waters, and other manufactured goods, with prices rising by 11.2% and 2.6% respectively in the year.

Transport equipment prices rose 2.7% in the year to September 2016, compared with a rise of 3.0% in the year to August 2016. This index has now seen increases on the year since January 2016. The main contributor to this increase was from motor vehicles, trailers and semi-trailers which increased 2.3% on the year to September 2016.

Tobacco and alcohol prices increased 2.2% in the year to September 2016, compared with an increase of 1.6% in the year to August 2016. This is the largest increase seen in this index since February 2015. This upward movement was driven by an increase of 5.9% in the prices of tobacco products; this is the largest increase seen in this index since February 2015.

The increases were offset slightly by food products, which decreased 1.1% in the year to September 2016, compared with a fall of 1.8% in the year to August 2016. Decreases in other food products, and dairy products were the largest contributors.

Petroleum products showed an increase of 1.6% in the year to September 2016, which is the first increase seen in this index since August 2013.

The monthly price index saw a rise of 0.2% between August and September 2016, compared with a rise of 0.1% between July and August 2016. Most product groups showed small monthly movements. Petroleum products and food products provided the largest upward contributions, and other manufactured products provided the only downward contribution to the monthly rate (Figure 3).

Petroleum products prices increased 1.1% between August and September 2016 compared with a decrease of 0.7% between July and August 2016. The main contributors to the increase came from avtur, motor spirit, and diesel and gas oil which increased 4.5%, 1.0% and 0.7% respectively.

Between August and September 2016, food product prices rose by 0.2%, compared with an increase of 0.3% between July and August 2016. Increases of 0.4% in the price for preserved meat and meat products, and 0.7% for prepared animal feeds contributed towards this upwards movement.

Other manufactured products was the only group to show a decrease, falling by 0.1% between August and September 2016 compared with an increase of 0.2% between July and August 2016. Falls of 0.1% and 0.2% in the prices of other non-metallic mineral products, and soft drinks, mineral water and other bottled waters contributed to this decrease.

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 1.4% in the year to September 2016, unchanged from the year to August. This increase of 1.4% is the largest annual movement seen in core factory gate prices for more than 4 years. The largest contributors to this rise were other manufactured products and transport equipment.

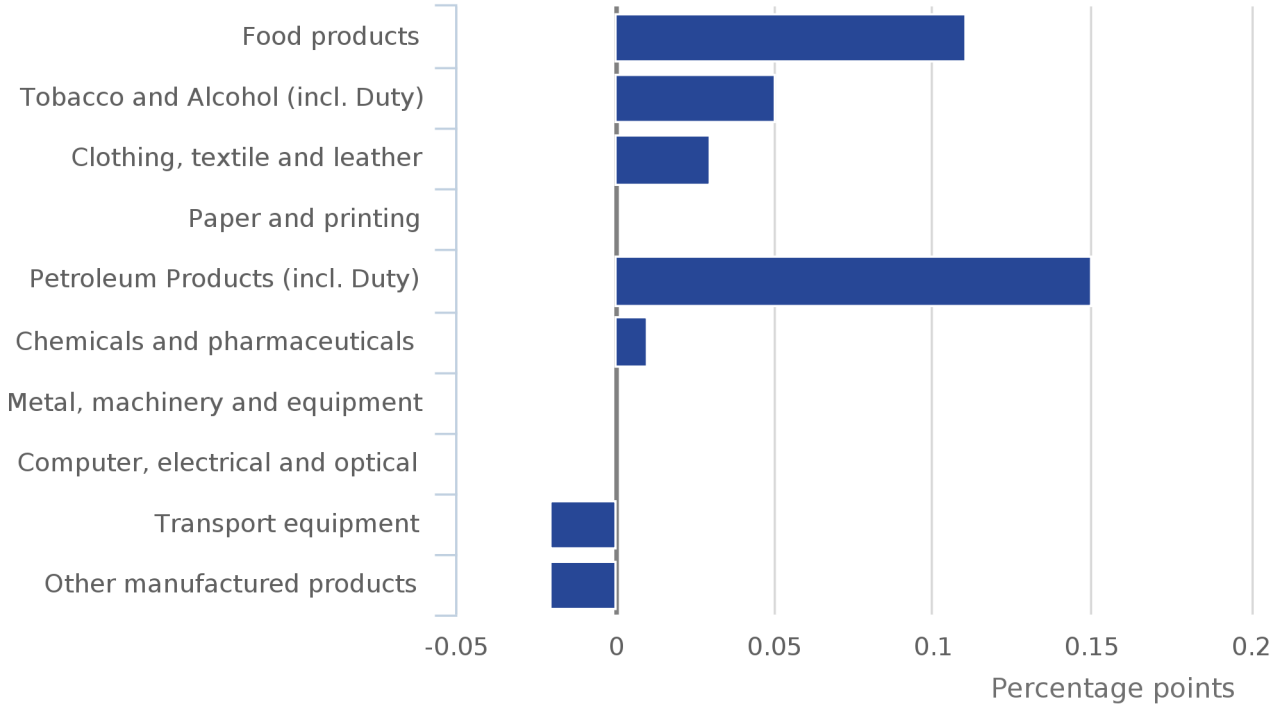
The monthly core factory gate price index showed a rise of 0.1% between August and September 2016, unchanged from last month.

Output producer price index contribution to change in rate

The annual percentage rate for the output PPI in September 2016 increased 1.2%, compared with a rise of 0.9% the previous month resulting in an increase in the annual rate of 0.3 percentage points. Petroleum products was the main contributor to the change in the 12 month rate.

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

UK



Source: Office for National Statistics

Notes:

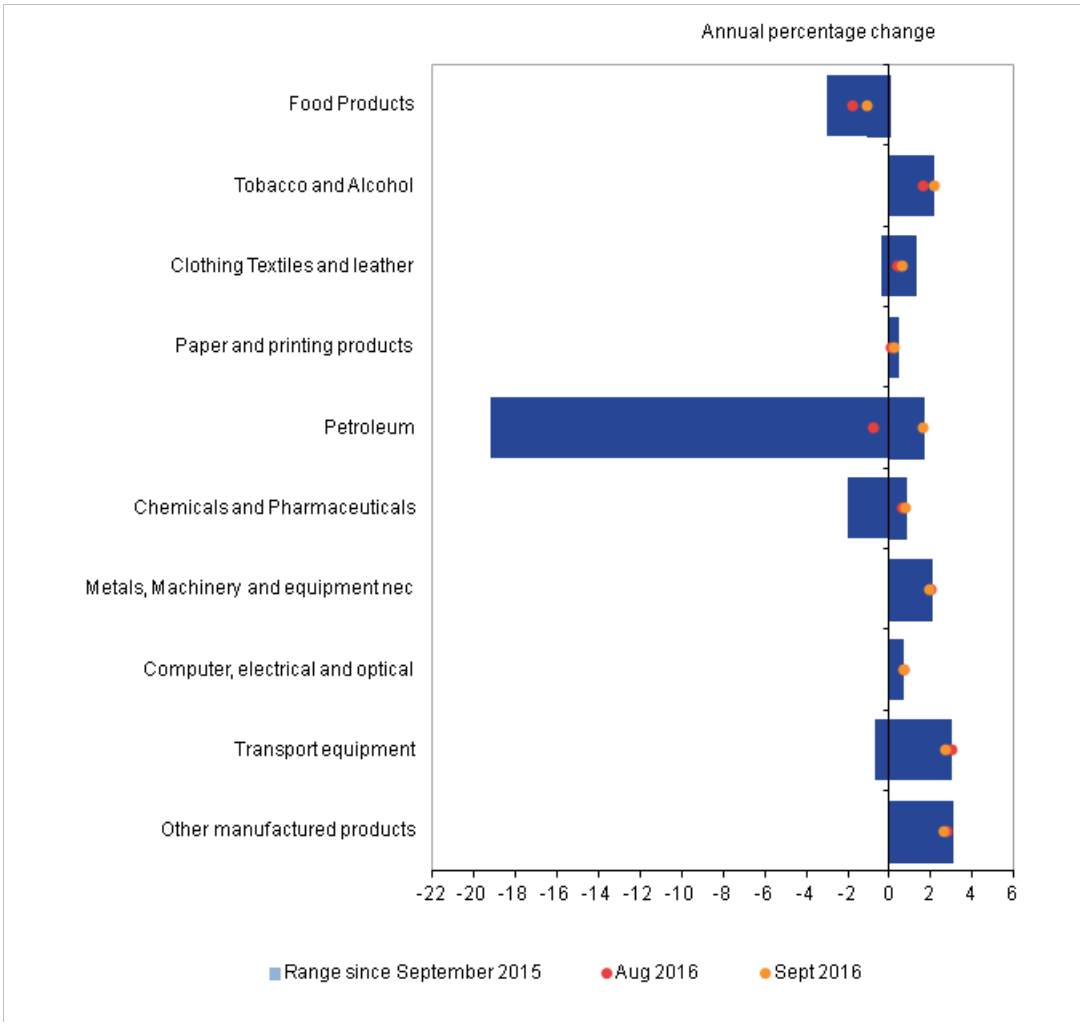
1. The components may not sum exactly to the overall change in the rate due to rounding.

7 . Output PPI range of movements

Figure 5 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 September 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, as well as the largest range of movements; ranging from a fall of 19.2% on the year in September 2015 to an increase of 1.6% in September 2016. Transport equipment shows the biggest increase, ranging from a fall of 0.7% on the year in November 2015 to a rise of 3.0% in August 2016.

Figure 5: Output PPI range of movements

UK, September 2015 to September 2016



8 . Input prices: summary

Figure 6 shows the annual movements in total input prices (including materials and fuels) and core input prices (excluding purchases from food, beverage, tobacco and petroleum industries) of materials and fuels purchased by the UK manufacturing industry. Between September 2012 and June 2014, both series showed relatively similar movements. From November 2013, both series have been showing a downward trend, with total input prices falling more rapidly. There has been a significant gap in the price movements of total input prices and core input prices since July 2014, however, this gap has closed in recent months. Both series have shown increases in the year to September 2016. Currently there is a difference of 2.3 percentage points, compared with a maximum of 10.9 percentage points in January 2015.

The price of imported materials as a whole (including crude oil) rose 9.0%, compared with an increase of 9.6% in the year to August 2016; the fourth rise seen in this index since September 2013.

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

- the total input price index rose 7.2%, compared with a rise of 7.8% in the year to August 2016
- the core input price index saw a rise of 4.9%, compared with a rise of 6.3% in the year to August 2016

Between August and September 2016:

- the total input price index showed no movement, compared with a rise of 0.2% between July and August
- the seasonally adjusted input price index for the manufacturing industry excluding the food, beverage, tobacco and petroleum industries (Table 4) fell 0.8%, compared with a rise of 0.1% between July and August

Table 4: Input prices, April 2016 to September 2016, UK

Percentage change

		Materials and fuels purchased		Excluding purchases from food, beverage, tobacco and petroleum industries		
		1 month (NSA)[1]	12 months (NSA)[1]	1 month (NSA)[1]	12 months (NSA)[1]	1 month (SA)[2]
2016	Apr	0.8	-7.1	0.3	-2.2	0.7
	May	2.3	-4.3	-0.4	-1.9	-0.1
	Jun	1.7	-0.5	0.7	-0.3	0.9
	Jul	3.3	4.3	4.3	5.1	4.4
	Aug	0.2	7.8	0.2	6.3	0.1
	Sep	0.0	7.2	-0.6	4.9	-0.8

Source: Office for National Statistics

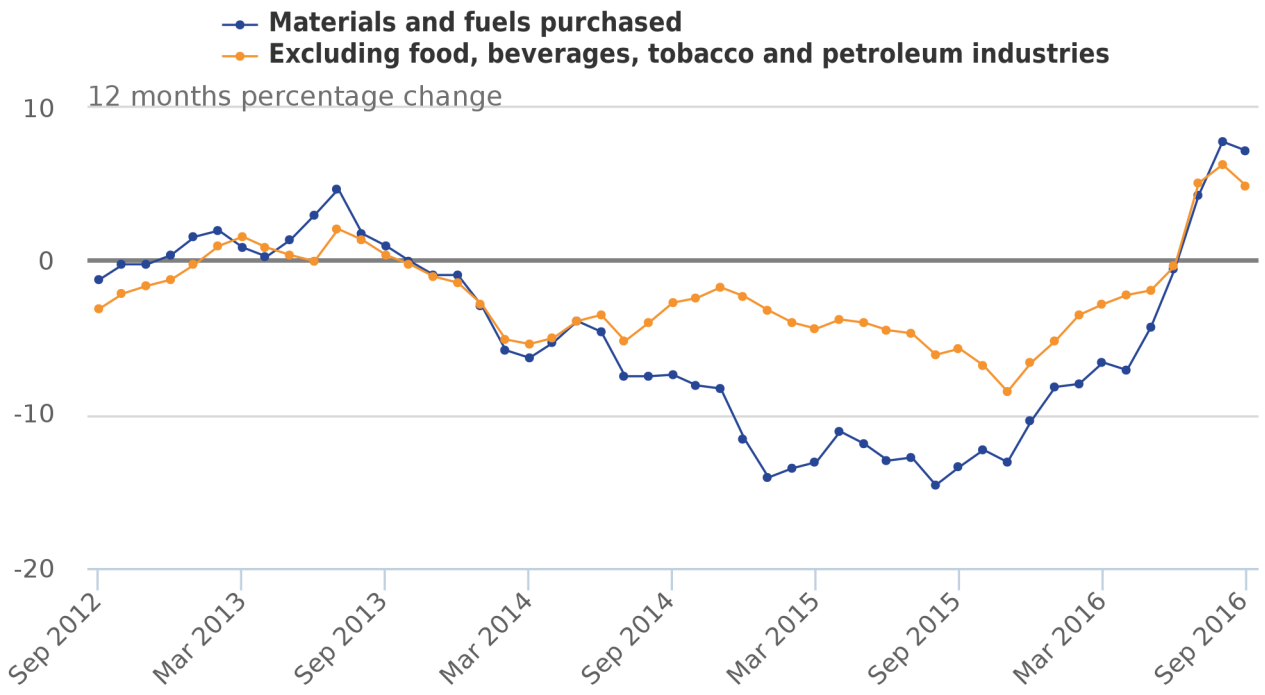
Notes:

1. NSA: Not Seasonally Adjusted

2. SA: Seasonally Adjusted

Figure 6: Input prices (materials and fuel)

UK, September 2012 to September 2016



Source: Office for National Statistics

Notes:

1.Input price indices include the Climate Change Levy which was introduced in April 2001.

1. 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.

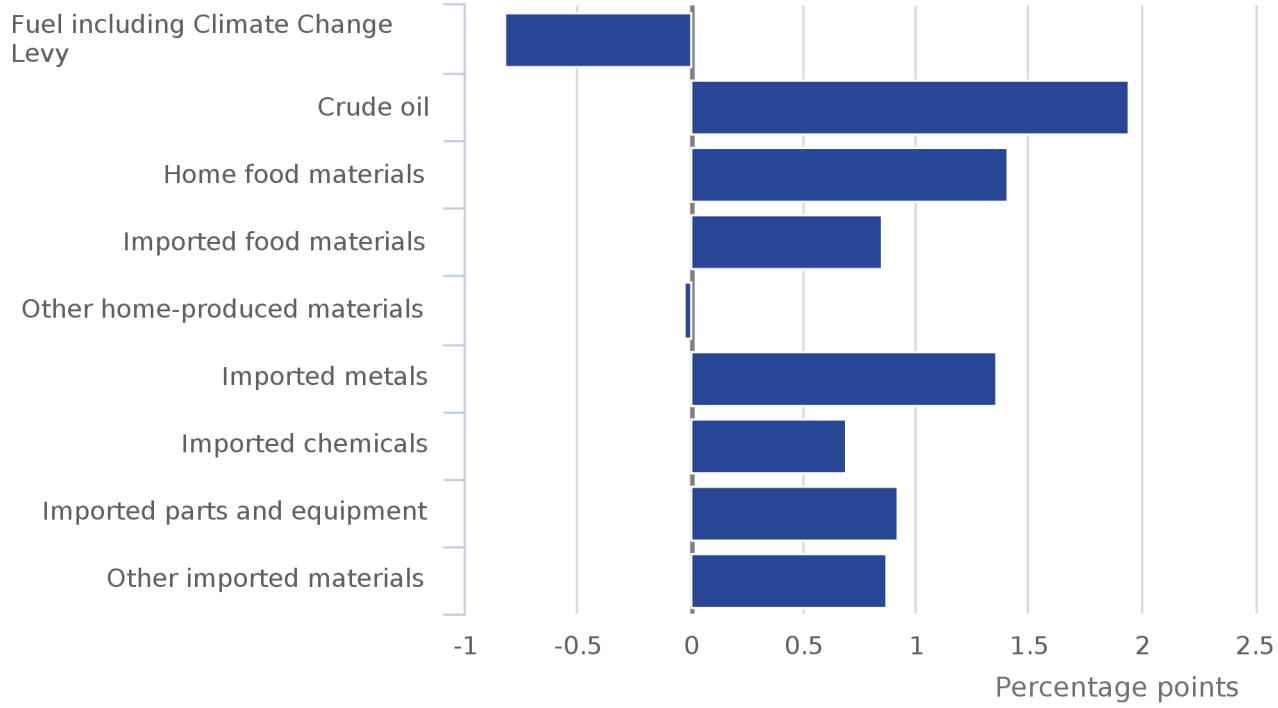
Table 5: Input prices, 12 months change, September 2016, UK

Product group	Percentage change
Fuel including Climate Change Levy	-6.7
Crude oil	14.2
Home food materials	10.2
Imported food materials	10.9
Other home-produced materials	-0.7
Imported metals	19.3
Imported chemicals	4.8
Imported parts and equipment	4.8
Other imported materials	9.4
All manufacturing	7.2

Source: Office for National Statistics

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

UK, September 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.

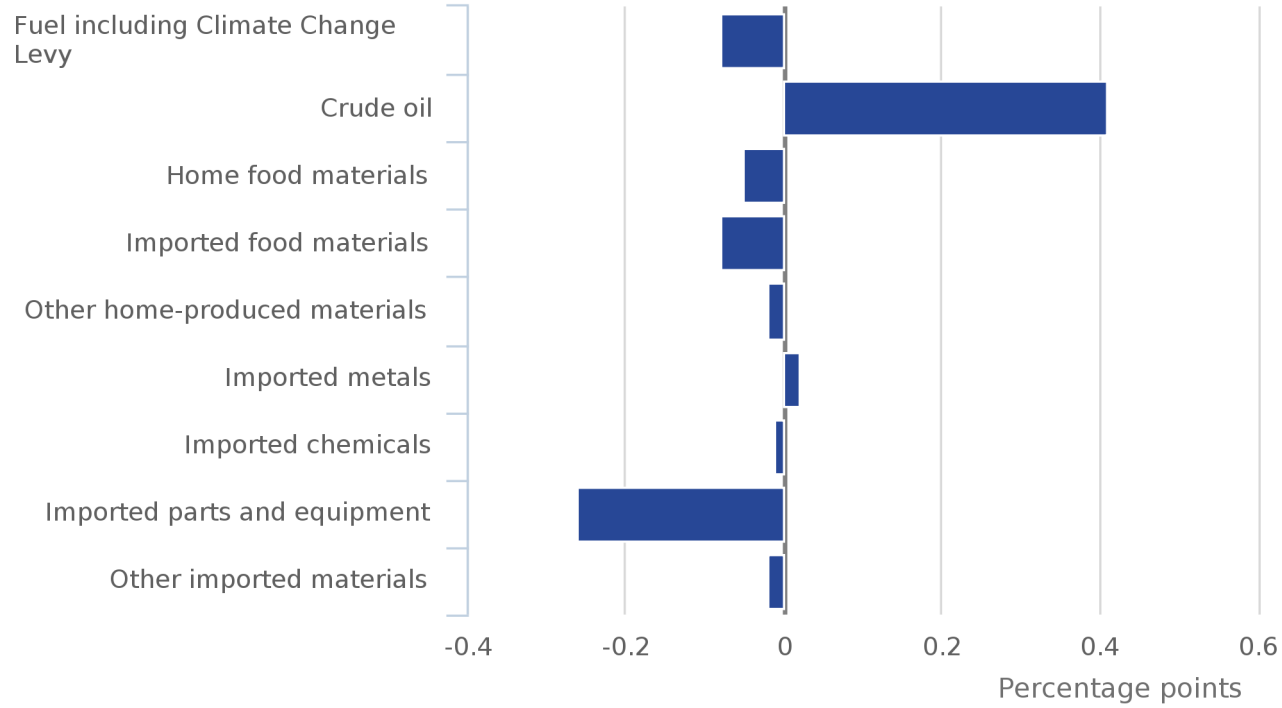
Table 6: Input prices, 1 month change, September 2016, UK

Product group	Percentage change
Fuel including Climate Change Levy	-0.8
Crude oil	2.9
Home food materials	-0.3
Imported food materials	-1.0
Other home-produced materials	-0.7
Imported metals	0.3
Imported chemicals	0.0
Imported parts and equipment	-1.4
Other imported materials	-0.2
All manufacturing	0.0

Source: Office for National Statistics

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

UK, September 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 7.2% in the year to September 2016, compared with a rise of 7.8% in the year to August 2016. The main upwards contributions to the index came from crude oil, home-produced food, and imported metals.

The monthly input index showed no movement between August and September 2016, compared with an increase of 0.2% between July and August 2016 (see Table 6 and Figure 8).

Crude oil rose 14.2% in the year to September 2016, compared with an increase of 11.0% in the year to August 2016. This is the second increase in a row for 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 14.8% compared with an increase of 9.2% in the year to August 2016. This is the second consecutive increase seen in this index and the largest upwards movement since March 2012.

Home-produced food prices rose 10.2% in the year to September 2016, compared with a rise of 10.3% in the year to August 2016. The main contribution came from crop and animal production; hunting and related services which rose 9.4% on the year. A smaller but notable contribution came from fishing and aquaculture, with prices increasing 23.3% in the year to September 2016, the largest increase seen in this index since June 2012.

Imported metals rose 19.3% in the year to September 2016, compared with a rise of 19.1% in the year to August 2016. This is the largest upward movement seen in this index since August 2011. The main contribution to the rise came from imported products used in the manufacturing of other basic metals and casting, which rose 20.7% compared with an increase of 21.2% in the year to August 2016.

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

The seasonally adjusted core input price index rose 4.7% in the year to September 2016, compared with a rise of 6.2% in the year to August 2016. Between August and September 2016, the index fell 0.8%, compared with a rise of 0.1% between July and August 2016.

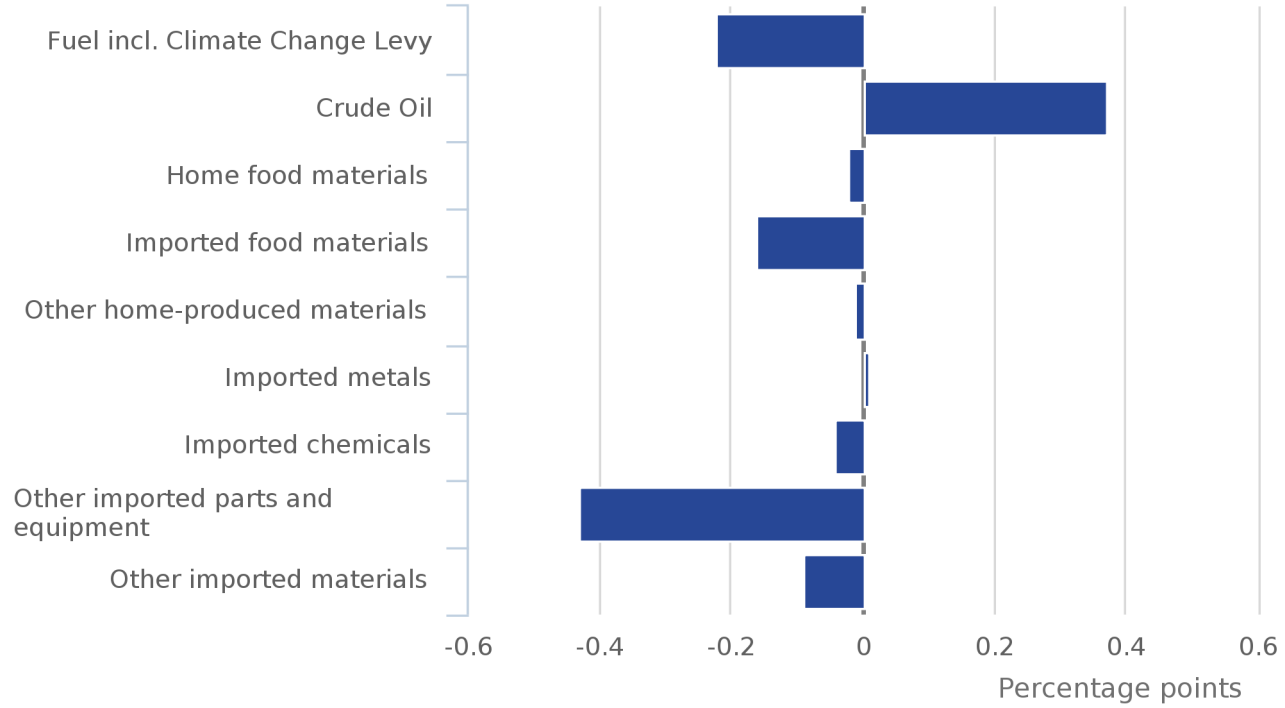
The unadjusted core input price index rose 4.9% in the year to September 2016, compared with a rise of 6.3% in the year to August 2016. This is the third month of rising prices in this index following 3 years of falling prices. The monthly index fell 0.6% between August and September 2016, compared with an increase of 0.2% between July and August 2016.

Input producer price index contribution to change in rate

The annual percentage rate for the input PPI in September 2016 rose 7.2% compared with a rise of 7.8% last month, resulting in a decrease in the annual rate of 0.6 percentage points. With the exception of crude oil and imported metals, all sections contributed to this decrease (Figure 9).

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

UK



Source: Office for National Statistics

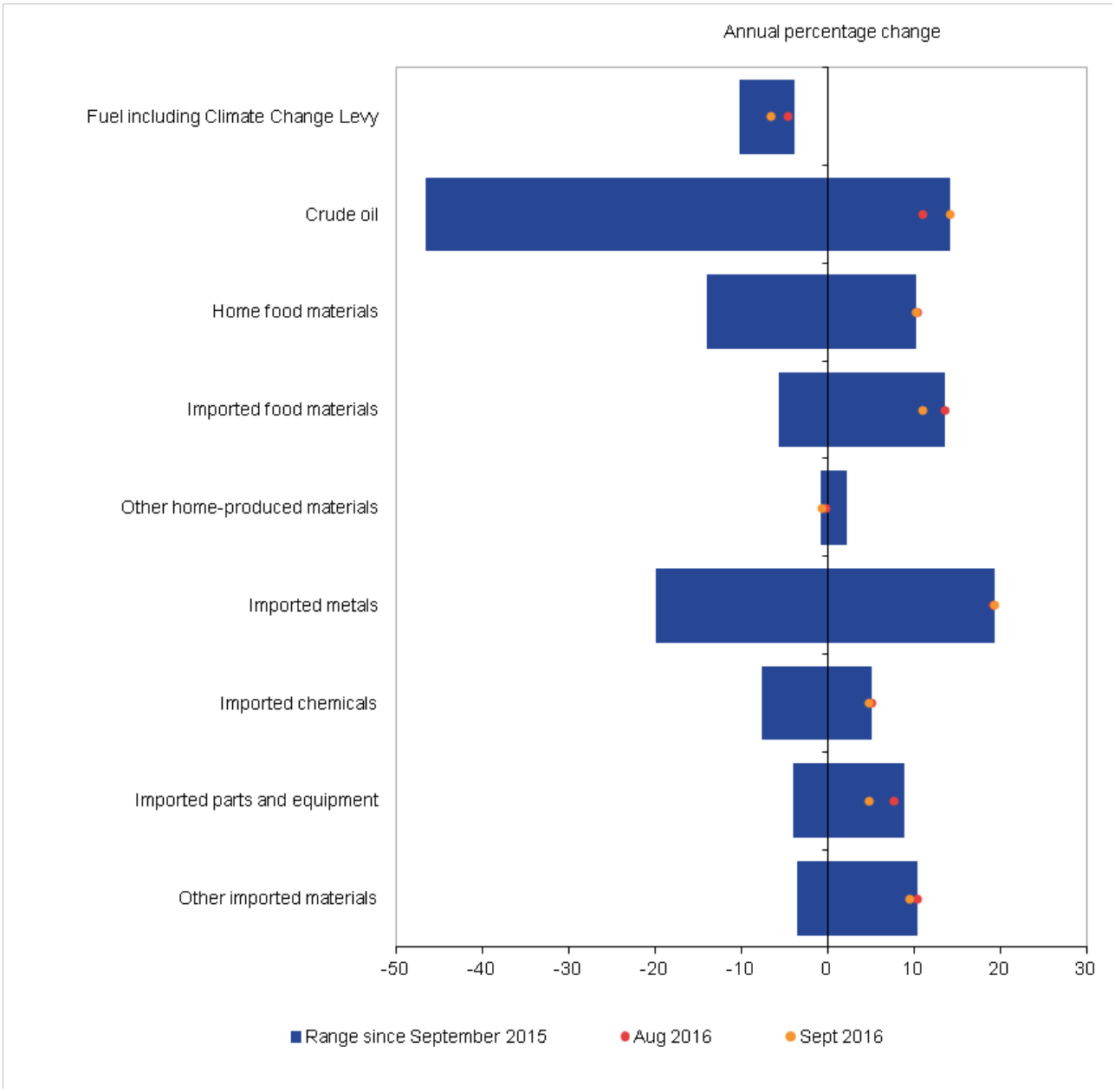
11 . Input PPI indices range of movements

Figure 10 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 groupings since September 2015. Crude oil shows the biggest decrease in the 12-month period and also the largest range of movements, from a fall of 46.7% in September 2015 to a rise of 14.2% in September 2016.

Imported metals shows the biggest increase, ranging from a fall of 20.0% in December 2015 to a rise of 19.3% in September 2016.

Figure 10: Input PPI range of movements

UK, September 2015 to September 2016



12 . Economic context

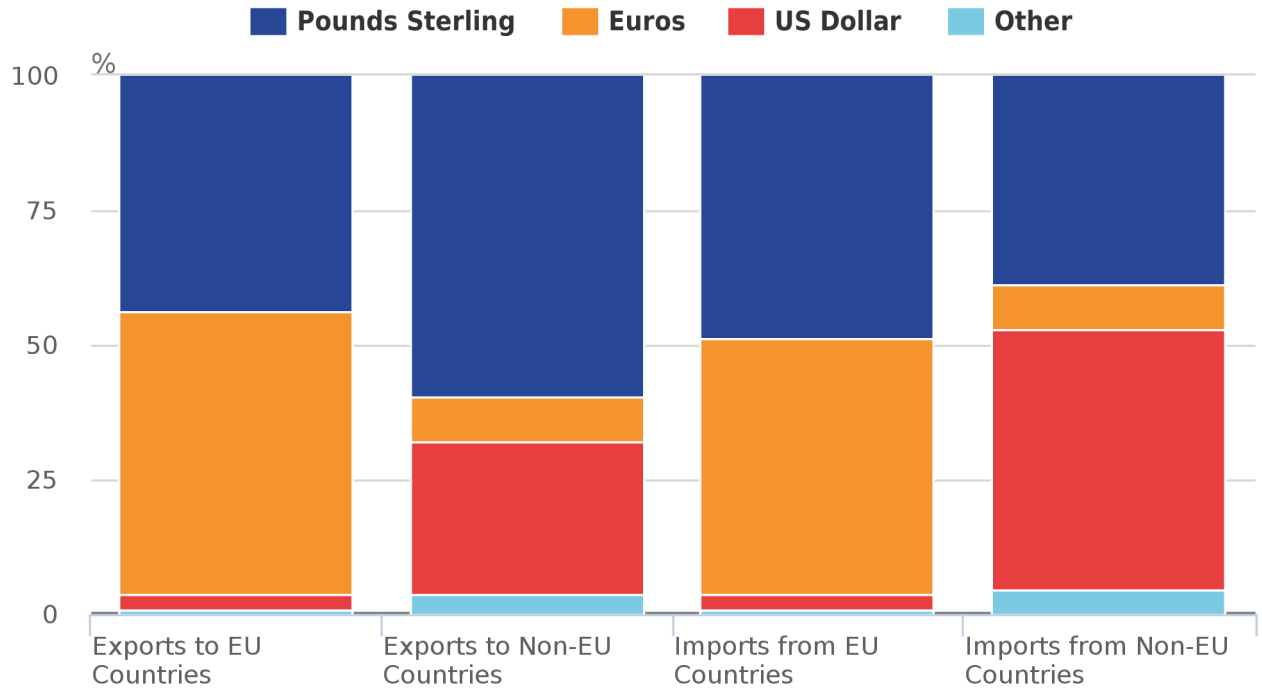
Input producer prices increased by 7.2% in the year to September 2016, compared with an increase of 7.8% in the year to August 2016, the third month of positive input price inflation in a row. Output producer prices also increased in the year to September 2016, by 1.2% which would suggest higher input costs are feeding into the output prices of manufacturing goods.

The increase in producer price inflation over the past several months could be partly attributed to the changes in the sterling exchange rate. In trade weighted-terms, sterling depreciated by 14.4% in the year to September 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 prices in response, then movements in the exchange rate can indirectly influence output producer prices. In the year to September 2016, imported goods and crude oil contributed 6.5 percentage points of the 7.2% increase in input producer prices.

However, movements in the trade-weighted exchange rate can hide the differences in the dollar-sterling and euro-sterling exchange rates. Figure 11 shows the unweighted shares of transactions of UK exports and imports in the main traded currencies. As sterling depreciated to a greater extent against the US dollar (14.3%) than the euro (14.2%) in the year to September 2016 and a higher proportion of import transactions with non-EU countries are conducted in dollars compared with EU countries, this would indicate that prices of imports from non-EU countries have been slightly more responsive to the sterling fall than the prices of imports from EU countries.

Figure 11: Proportion of export and import transactions completed by currency EU and non-EU

August 2016



Source: Office for National Statistics

Notes:

1. Currency shares are unweighted

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 produced 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 July 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 records began. However, unit labour costs in the manufacturing sector, the labour cost per unit of output produced, fell by 0.2% in Quarter 2 (April to June) 2016 following a 0.5% increase in Quarter 1 (January to March) 2016.

Output across the whole economy increased by 0.7% in Quarter 2 2016 compared with Quarter 1 2016. Output in the manufacturing sector also increased by 1.6% in Quarter 2 2016, following a 0.3% decrease in Quarter 1 2016. Growth in the manufacturing sector this quarter may have made it easier for firms to pass on higher 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	1.2	-0.07	0.13
Total output (JVZ7) - 1 month	0.2	-0.01	0.06
Total input (K646) - 12 months	7.2	0.04	0.34
Total input (K646) - 1 month	0.0	0.03	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)

Revision triangle for total input (1 month)

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. 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, 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 rebasing 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

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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.