

Statistical bulletin

Producer price inflation, UK: November 2017

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:
Martina Portanti
ppi@ons.gsi.gov.uk
+44 (0) 1633 456907

Release date:
12 December 2017

Next release:
16 January 2018

Table of contents

1. [Main points](#)
2. [Things you need to know about this release](#)
3. [Producer price inflation summary](#)
4. [The annual rate of inflation for materials and fuels purchased rose for the first time in three months](#)
5. [Annual rate of output inflation rose, but only five industries displayed a positive contribution to the change in the rate.](#)
6. [Annual inflation for imported metals has slowed](#)
7. [Links to related statistics](#)
8. [Quality and methodology](#)

1 . Main points

- The headline rate of inflation for goods leaving the factory gate (output prices) rose 3.0% on the year to November 2017, up from 2.8% in October 2017.
- Prices for materials and fuels (input prices) rose 7.3% on the year to November 2017, up from 4.8% in October 2017.
- All industries provided upward contributions to both input and output annual inflation; the largest contributors to the change in the annual rates were crude oil and petroleum products respectively.
- Core input inflation was 4.6% on the year to November 2017, up from 3.4% in October 2017.

2 . Things you need to know about this release

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

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

The use of core input inflation removes the more volatile indices of food, tobacco, beverages and petrol from our price values.

Index numbers shown in the main text of this bulletin are on a net sector basis. The index for any industry relates only to transactions between that industry and other industries; sales and purchases within industries are excluded.

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 Value Added Tax (VAT). Excise duty (on cigarettes, manufactured tobacco, alcoholic liquor and petroleum products) is included, except where labelled otherwise.

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

Every five years, producer price indices are rebased and weights updated to reflect industry changes.

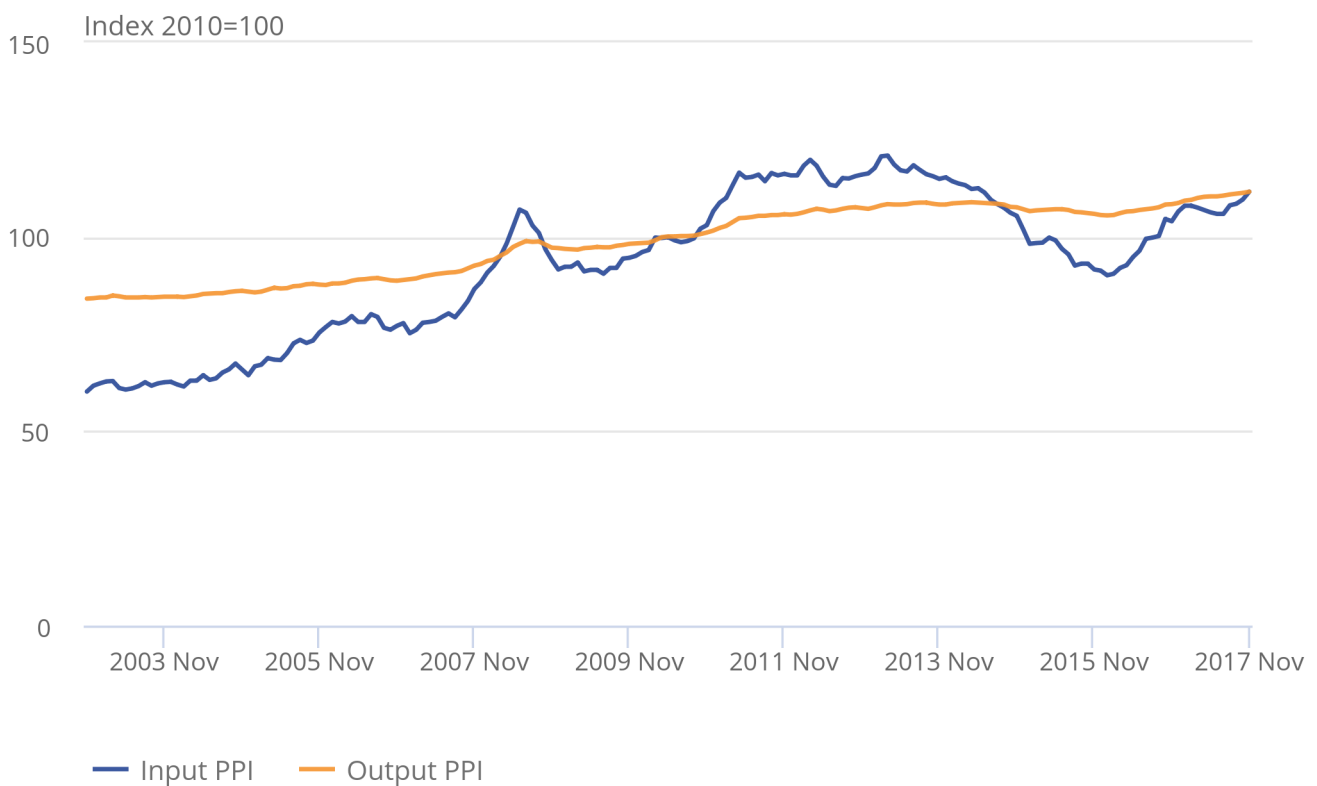
Figures for the latest two months are provisional and the latest five months are subject to revisions in light of late and revised respondent data and, for the seasonally adjusted series, revisions to seasonal adjustment factors are re-estimated every month. A routine seasonal adjustment review is normally conducted in the autumn each year.

3 . Producer price inflation summary

Figure 1 shows input and output Producer Price Indices (PPI) across the past 15 years. Input PPI is driven mostly by commodity prices, which tend to be more volatile over time compared with prices for finished goods. Input PPI is also sensitive to exchange rate movements as roughly two-thirds of inputs into the UK manufacturing sector are imported.

Figure 1: Input and output PPI, November 2002 to November 2017, UK

Figure 1: Input and output PPI, November 2002 to November 2017, UK



Source: Office for National Statistics

4 . The annual rate of inflation for materials and fuels purchased rose for the first time in three months

The annual rate of inflation for materials and fuels purchased by manufacturers (input prices) rose to 7.3% in November 2017, which is up 2.5 percentage points from October 2017.

The one-month rate for materials and fuels rose 1.8% in November 2017 (Table 3), which is a 0.8 percentage points increase from 1.0% in October 2017, driven by inputs of crude oil, which was up 7.6% on the month.

The input Producer Price Index (PPI) reached 111.6 in November 2017, after steadily rising since July 2017. The index is now at its highest level since May 2014 when it stood at 112.5.

Table 1: Input prices, index values, growth rates and percentage point change to the 12-month rate, UK, November 2016 to November 2017

UK				
All materials and fuels purchased (K646)				
	PPI Index	1-	12-	Change in the
	(2010=100)	month	month	12-month rate
		rate	rate (percentage points)	
2016	104.0	-0.6	13.5	1.1
Nov				
Dec	106.5	2.4	16.6	3.1
2017				
Jan	108.0	1.4	19.9	3.3
Feb	108.0	0.0	19.3	-0.6
Mar	107.5	-0.5	16.8	-2.5
Apr	106.9	-0.6	15.3	-1.5
May	106.3	-0.6	12.1	-3.2
June	105.9	-0.4	9.9	-2.2
July	105.9	0.0	6.4	-3.5
Aug	108.1	2.1	8.3	1.9
Sept	108.5	0.4	8.3	0.0
Oct	109.6	1.0	4.8	-3.5
Nov	111.6	1.8	7.3	2.5

Source: Office for National Statistics

Notes:

1. Series are not seasonally adjusted.

The annual rate of inflation for imported materials and fuels was 7.4% in November 2017 (Table 2), which is up from October 2017 when the annual rate stood at 4.1%. Imported materials and fuels represent roughly two-thirds of overall materials and fuels (input prices) in terms of index weight.

The sterling effective exchange rate index (ERI) rose to 77.7 in November 2017. On the year, the ERI was up 1.3% in November 2017 and was the second consecutive month where the ERI has shown positive growth. This follows 21 consecutive months of negative growth between January 2016 and September 2017, and may be helping to slow the rate of inflation on imported materials, making imports of raw materials less expensive.

Table 2: Imported materials and fuels purchased and sterling effective exchange rate, index values, growth rates and percentage point change to the 12-month rate, UK, November 2016 to November 2017

UK

	Imported materials and fuels purchased (K64F)				Sterling effective exchange rate - month average		
	PPI Index (2010=100)	1- month rate	12- month rate	Change in the	Sterling		
				12-month rate (percentage points)	Index (Jan 2005=100)	1-month rate	12-month rate
2016 Nov	101.9	-1.5	14.6	0.6	76.7	2.7	-17.9
Dec	103.7	1.8	17.4	2.8	78.3	2.1	-14.5
2017 Jan	106.0	2.2	20.2	2.8	77.0	-1.6	-13.0
Feb	105.5	-0.5	19.2	-1.0	77.6	0.8	-10.5
Mar	105.9	0.4	16.8	-2.4	76.6	-1.3	-10.7
Apr	105.0	-0.8	14.3	-2.5	78.3	2.2	-7.8
May	104.3	-0.7	12.3	-2.0	78.7	0.5	-9.2
June	104.4	0.1	10.2	-2.1	77.1	-2.0	-9.2
July	104.2	-0.2	5.8	-4.4	77.0	-0.1	-3.0
Aug	106.6	2.3	7.9	2.1	75.6	-1.9	-3.6
Sept	106.6	0.0	7.7	-0.2	77.2	2.1	-1.9
Oct	107.7	1.0	4.1	-3.6	77.3	0.1	3.5
Nov	109.4	1.6	7.4	3.3	77.7	0.5	1.3

Source: Office for National Statistics

The sterling effective exchange rate source: Bank of England

Notes:

1. Series are not seasonally adjusted.
2. The sterling effective exchange rate measures changes in the strength of sterling relative to a basket of other currencies
3. The sterling effective exchange rate is only indicative of the rates applied to producer prices. This is because the sterling effective exchange rate is a trade weighted index that represents all UK trade, whereas producer prices reflect transactions in the manufacturing sector.

Table 3 shows monthly and annual growth rates for input prices by industry and Figure 2 shows contributions by those industries to the monthly and annual rate of input price inflation.

The largest upward contribution to the annual rate in November 2017 came from crude oil, which contributed 3.87 percentage points (Figure 2) on the back of annual price growth of 27.5% (Table 3), up from 10.2% last month. The upward contribution from crude oil was driven mainly by imported crude petroleum and natural gas, which rose by 27.2% on the year.

Imported metals and home food materials provided the second- and third-largest contributions to the annual rate, with 0.88 and 0.85 percentage points respectively. Prices for imported metals rose 11.1% on the year, while prices for home food materials rose 5.8%.

Crude oil also provided the largest upward contribution to the monthly rate at 1.20 percentage points, which was driven by price growth of 7.6% between October and November 2017. This is the highest the monthly rate has been for crude oil in 2017.

Table 3: Input prices, growth rates, UK, November 2017

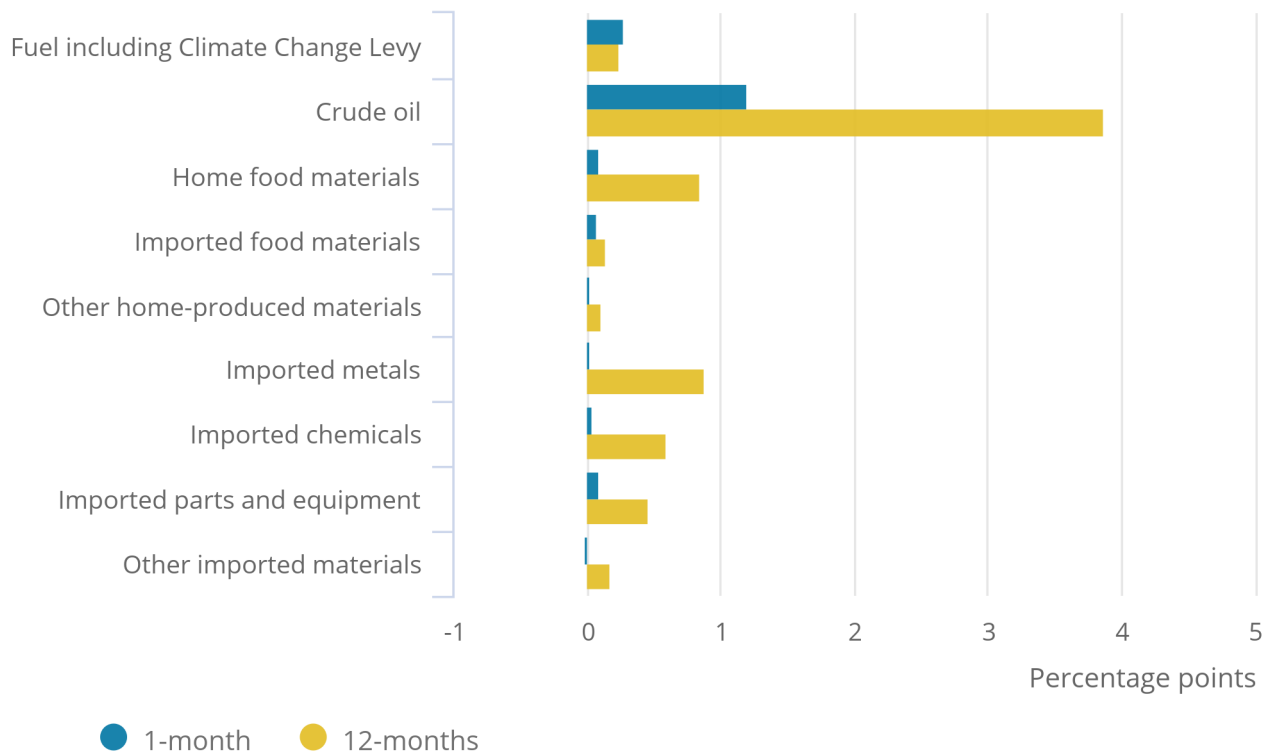
UK

Product group	Percentage change	
	1-month rate	12-month rate
Fuel including Climate Change Levy	2.5	2.2
Crude oil	7.6	27.5
Home food materials	0.6	5.8
Imported food materials	1.0	1.9
Other home-produced materials	0.7	3.4
Imported metals	0.3	11.1
Imported chemicals	0.3	4.3
Imported parts and equipment	0.5	2.6
Other imported materials	-0.2	1.8
All manufacturing	1.8	7.3

Source: Office for National Statistics

Figure 2: Input PPI, contribution to 1-month and 12-month growth rate, November 2017, UK

Figure 2: Input PPI, contribution to 1-month and 12-month growth rate, November 2017, UK

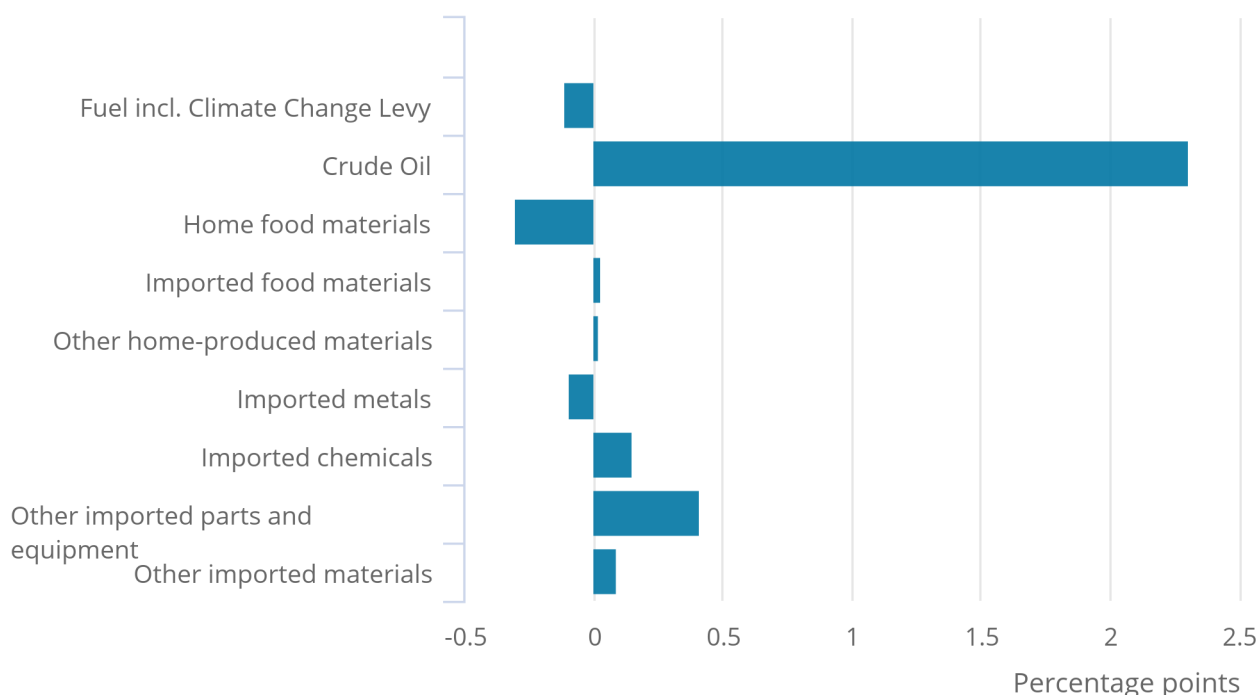


Source: Office for National Statistics

Figure 3 shows contributions to the change in the annual rate of inflation for fuels and materials purchased by manufacturers (input prices). Six of the nine industries showed upward contributions in November 2017, with only home food materials, fuel and imported metals applying a downward effect. Crude oil provided the largest upward contribution of 2.31 percentage points, followed by other imported parts and equipment at 0.41 percentage points.

Figure 3: Input PPI, contribution to change in the annual rate, November 2017, UK

Figure 3: Input PPI, contribution to change in the annual rate, November 2017, UK



Source: Office for National Statistics

5 . Annual rate of output inflation rose, but only five industries displayed a positive contribution to the change in the rate.

The annual rate of inflation for goods leaving the factory gate (output prices) rose by 0.2 percentage points to 3.0% in November 2017 (Table 4). This is the 17th consecutive month of positive inflation. Petroleum displayed the largest annual growth, increasing from 4.1% in October 2017 to 6.0% in November 2017 (Table 5).

The one-month rate rose to 0.3% in November 2017 from 0.2% in October 2017. The one-month rate has shown positive growth for all but one month since February 2016; in June 2017 the rate was flat.

Table 4: Output prices, index values, growth rates and percentage point change to the 12-month rate, UK, November 2016 to November 2017

UK				
All manufactured products (JVZ7)				
	PPI Index	1- month	12-month	Change in the 12-month rate
	(2010=100)	rate	rate (percentage points)	
2016 Nov	108.4	0.1	2.4	0.3
Dec	108.7	0.3	2.9	0.5
2017 Jan	109.3	0.6	3.6	0.7
Feb	109.5	0.2	3.7	0.1
Mar	110.0	0.5	3.7	0.0
Apr	110.3	0.3	3.6	-0.1
May	110.4	0.1	3.6	0.0
June	110.4	0.0	3.3	-0.3
July	110.6	0.2	3.3	0.0
Aug	110.9	0.3	3.4	0.1
Sept	111.1	0.2	3.3	-0.1
Oct	111.3	0.2	2.8	-0.5
Nov	111.6	0.3	3.0	0.2

Source: Office for National Statistics

Notes:

1. Series is not seasonally adjusted

Table 5 shows monthly and annual growth rates for output prices by industry and Figure 4 shows contributions by those industries to the monthly and annual rate of inflation at the factory gate.

Food products provided the largest upward contribution of 0.78 percentage points to the annual rate (Figure 4) driven by price growth of 5.0% on the year to November 2017 (Table 5). Growth was driven mostly by prices for dairy products, which rose 19.7% on the year, down from the peak of 21.6% last month, and continues a sequence of 14 months of upward inflation.

Petroleum products and computer, electrical and optical products show the second- and third-largest upward contributions to the annual rate, with 0.44 and 0.38 percentage points respectively. Petroleum products increased 6.0% on the year, while prices for computer, electrical and optical products grew by 3.3%.

Petroleum products provided the largest upward contribution to the monthly rate at 0.12 percentage points.

Table 5: Output prices, growth rates, UK, November 2017

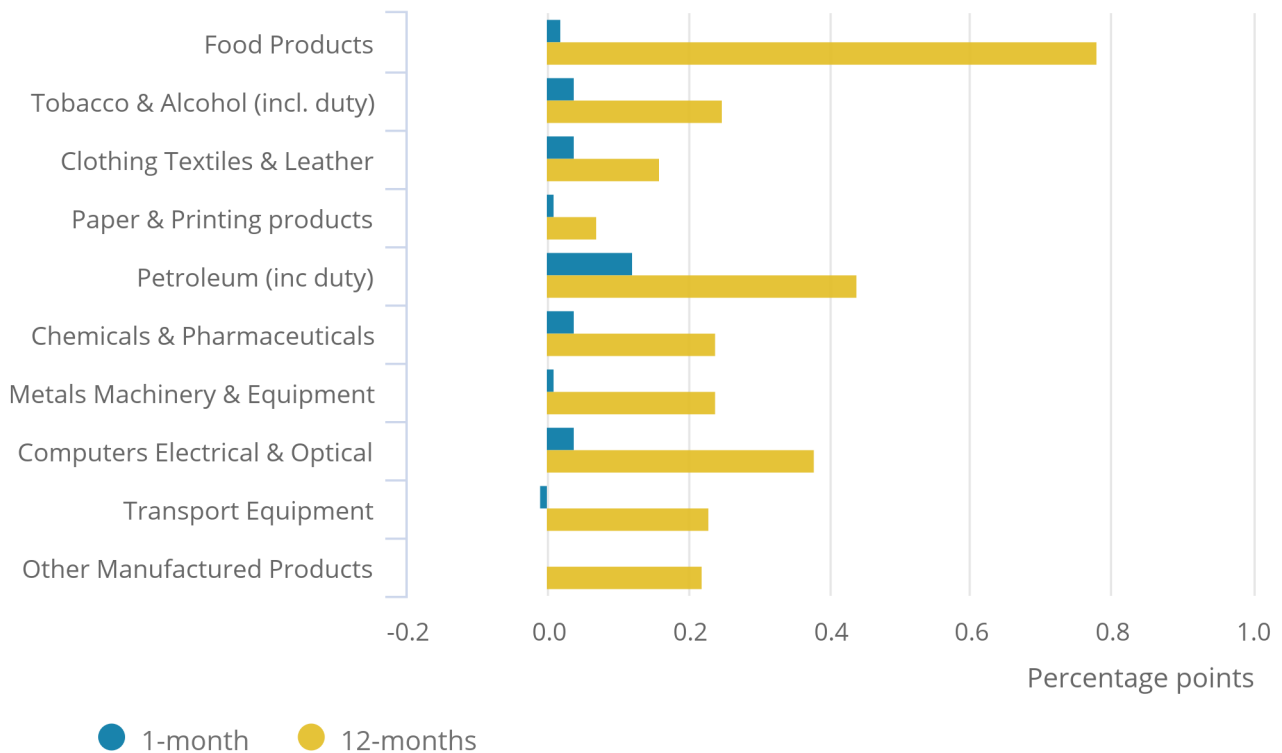
UK

Product group	Percentage Change	
	1-month	12-month
	rate	rate
Food products	0.1	5.0
Tobacco and alcohol (incl. duty)	0.3	2.5
Clothing, textile and leather	0.3	1.3
Paper and printing	0.2	1.9
Petroleum products (incl. duty)	1.3	6.0
Chemical and pharmaceutical	0.5	3.2
Metal, machinery and equipment	0.1	3.3
Computer, electrical and optical	0.3	3.3
Transport equipment	-0.1	1.9
Other manufactured products	0.0	1.4
All manufacturing	0.3	3.0

Source: Office for National Statistics

Figure 4: Output PPI, contribution to 1-month and 12-month growth rate, November 2017, UK

Figure 4: Output PPI, contribution to 1-month and 12-month growth rate, November 2017, UK



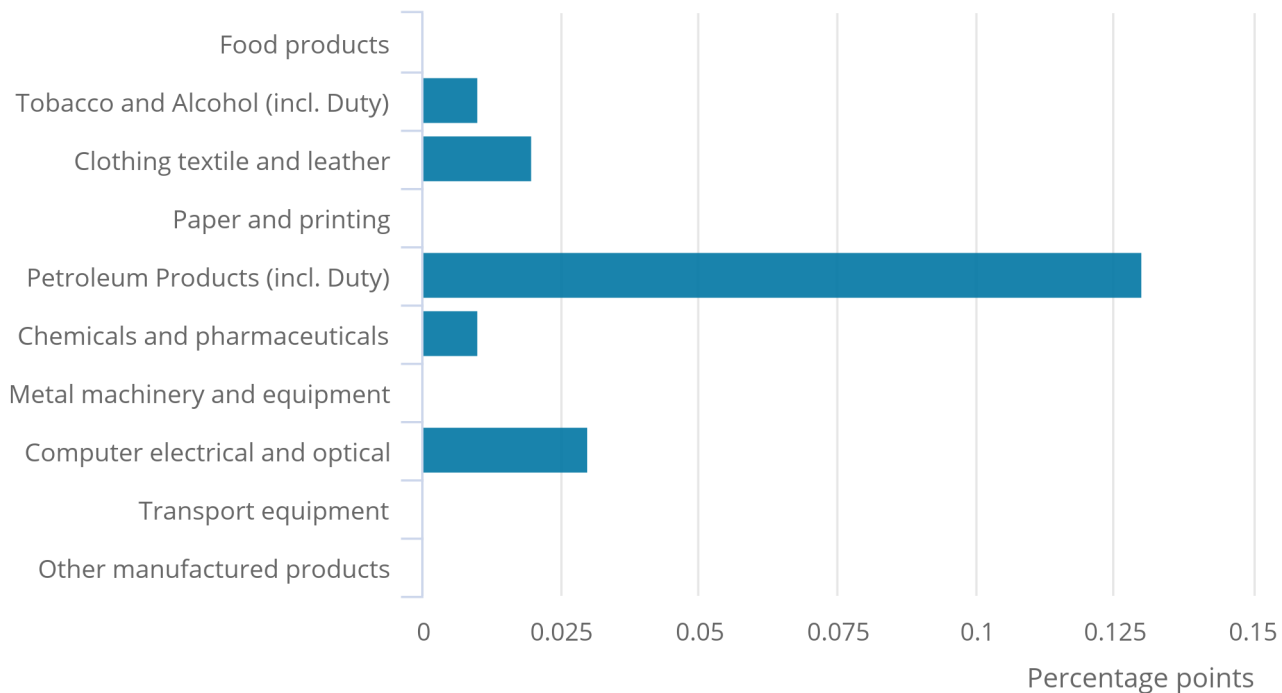
Source: Office for National Statistics

Figure 5 shows contributions to the change in the annual rate for factory gate prices (output prices).

The 0.2 percentage points rise in the annual rate between October 2017 and November 2017 was a result of upward contributions from five industries: petroleum, computer, electrical and optical, clothing textile and leather, tobacco and alcohol, and chemicals and pharmaceutical products. The other industries had no impact on the change. The largest upward contribution of 0.13 percentage points came from petroleum products.

Figure 5: Output PPI, 12-months' contribution to change in the annual rate, November 2017, UK

Figure 5: Output PPI, 12-months' contribution to change in the annual rate, November 2017, UK



Source: Office for National Statistics

6 . Annual inflation for imported metals has slowed

In [February 2017's statistical bulletin](#) we analysed trends in the price of imported metals over a five-year period. In this section we will look at how prices have reacted since and the effect this has had on prices for metals leaving the factory.

Figure 6 shows the annual rate of imported metals, contributions to the annual rate by type of product and the sterling effective exchange rate. From November 2012 through to June 2016, prices for imported metals remained largely in a period of deflation, despite displaying positive annual growth between September 2014 and January 2015. Throughout the period of deflation, we have generally seen the sterling effective exchange rate appreciating. All else equal, an appreciation of sterling leads to a decrease in the price of UK imports when transactions are carried out in a foreign currency.

Since July 2016 we have witnessed positive annual inflation for imported metals, peaking at 37.2% in January 2017, its highest annual growth since records began in 1996. For more information on the reasons behind this growth, see section 4 of [February 2017's statistical bulletin](#).

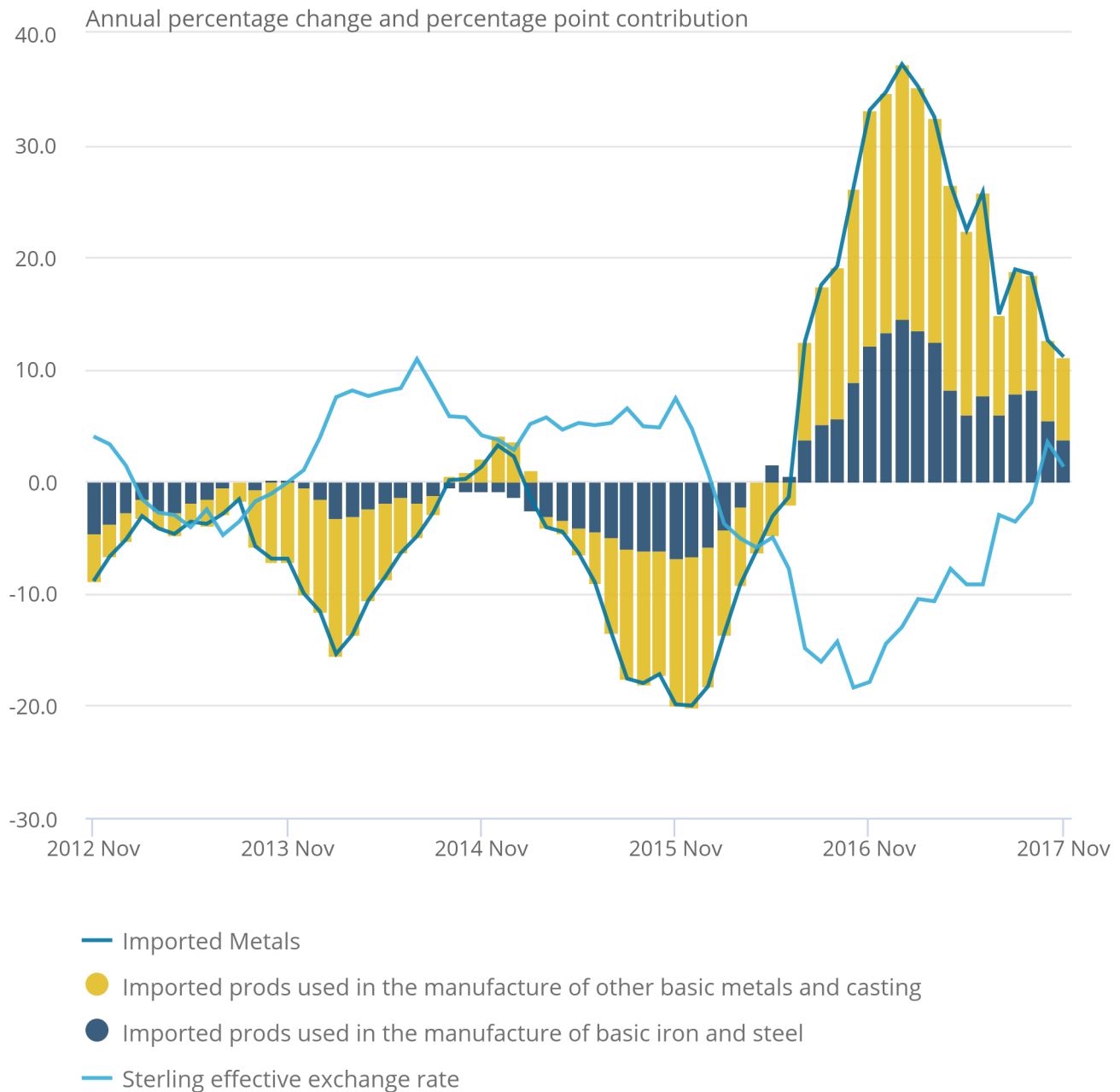
In the 10 months since this analysis was published, we have witnessed a decline in the annual rate for imported metals. The annual rate of inflation stands at 11.1% in November 2017, which is 26.1 percentage points below the peak in January 2017. A proportion of this decline can be linked to an appreciation of sterling. The sterling effective exchange rate has appreciated from an annual decline of 18.4% in October 2016 to an increase of 1.3% on the year to November 2017. The rate has also shown positive annual change in the latest two months, the first time this has been the case since January 2016.

Figure 6: 12-month rate for imported metals, contributions to the rate by type of product and the sterling effective exchange rate, UK

November 2012 to November 2017

Figure 6: 12-month rate for imported metals, contributions to the rate by type of product and the sterling effective exchange rate, UK

November 2012 to November 2017



Source: Office for National Statistics

Notes:

1. Sterling effective exchange rate source: The Bank of England.
2. Contributions may not always add up to the annual rate due to rounding.

The decline in the annual inflation rate for imported metals can also be partly attributed to a base period effect. By November 2016, the index had already started growing to its peak in January 2017. As a result, the annual comparison is now beginning to feel the effect of this growth, as it compares the current month against a month that is above average for the period.

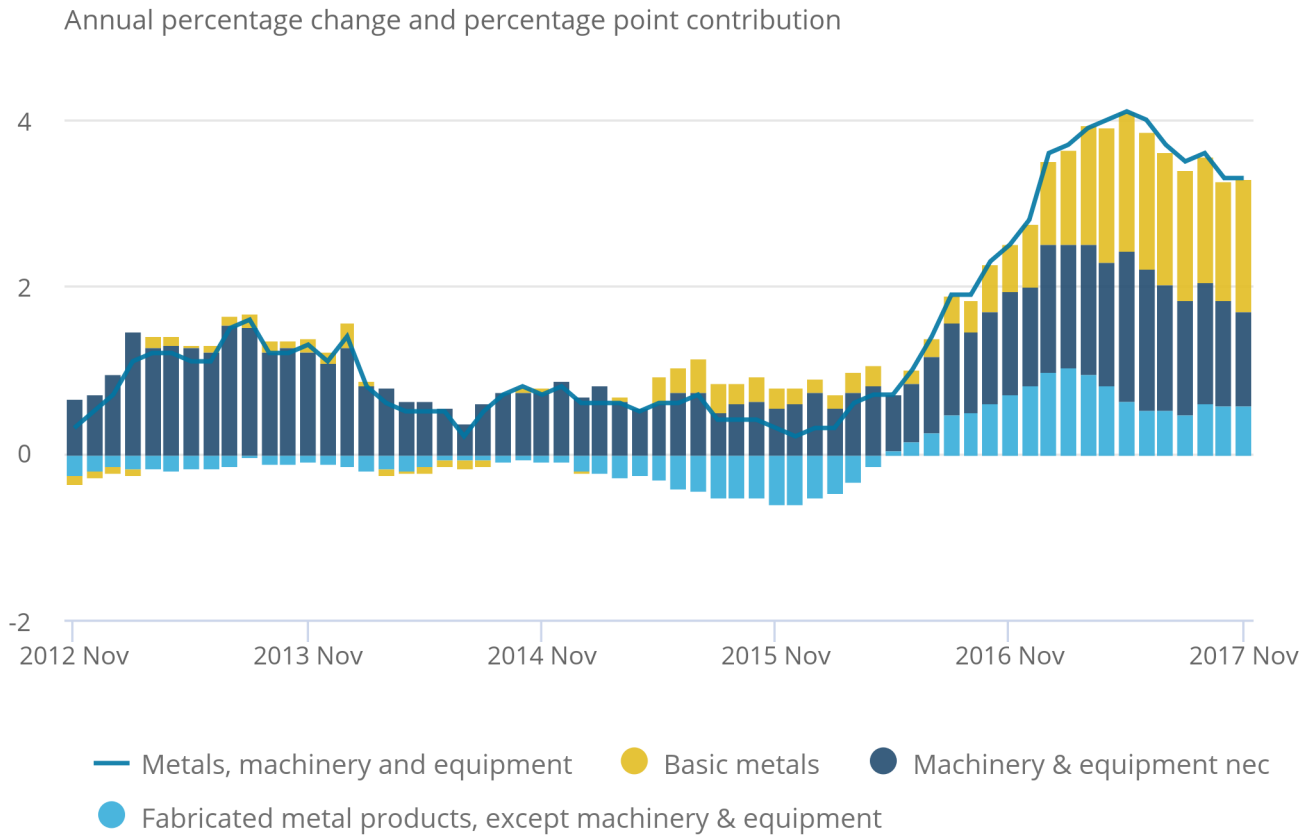
Figure 7 shows the annual rate of inflation for metals, machinery and equipment leaving the factory, broken down by type of metal product. Since May 2016, all types have had an upward effect to the annual rate. For analysis on factory gate prices for metals and the types of products influencing the annual rate, see section 4 of [February 2017's statistical bulletin](#).

Over the last five years the annual rate has remained positive; however, between mid-2016 and mid-2017, we can see a period of rising annual growth. This period can be aligned with a period of exceptional growth in the price of raw materials, namely imported metals (Figure 6), used in the manufacturing process of metals, machinery and equipment.

Post mid-2017, we can also see a levelling off and decline in the annual rate of inflation for metals leaving the factory gate. This corresponds with a similar decline in the rate for imported metals and is likely a result of cheaper raw materials, an appreciation of sterling, and a base period effect.

Figure 7: 12-month inflation rate for metals, machinery and equipment and contributions to the rate by type of product, UK, November 2012 to November 2017

Figure 7: 12-month inflation rate for metals, machinery and equipment and contributions to the rate by type of product, UK, November 2012 to November 2017



Source: Office for National Statistics

Notes:

1. nec = not elsewhere classified.

7 . Links to related statistics

In addition to the data included within this statistical bulletin, the following detailed datasets are available: [Aerospace and electronic cost indices time series data](#)

[Producer Price Index time series data](#)

Higher, lower and equal movements for each Producer Price Index are shown in the [Producer price inflation records: monthly figures](#).

A summary of the revisions to PPI data are available in the PPI revision triangles:

[Producer price inflation revision triangle: total output 12-month \(JVZ7\)](#)

[Producer price inflation revision triangle: total output 1-month \(JVZ7\)](#)

[Producer price inflation revision triangle: total input 12-months \(K646\)](#)

[Producer price inflation revision triangle: total input 1-month \(K646\)](#)

Other important measures of inflation and prices include the [Consumer Prices Index \(CPI\)](#) and the [Services Producer Price Index \(SPPI\)](#).

8 . Quality and methodology

The [Producer Price Index \(PPI\) Quality and Methodology Information report](#) contains important information on:

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

If you would like more information about the reliability of the data, a [PPI standard errors article](#) was published on 20 March 2017. The article presented the calculated standard errors of the PPI during the period January 2016 to December 2016, for both month-on-month and 12-month growth.

[Guidance on using indices in indexation clauses](#) covers producer prices, services producer prices and consumer prices.

An up-to-date manual for the 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.

Gross sector basis figures, which include intra-industry sales and purchases, are shown in [PPI dataset Tables 4 and 6](#).

The detailed input indices of prices of materials and fuels purchased by industry ([PPI 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.