Office for National Statistics

Statistical bulletin

UK producer price inflation: Mar 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).

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1 . Main points

- The annual rate of producer price inflation fell back slightly in March 2017.
- Factory gate prices (output prices) rose 3.6% on the year to March 2017, from 3.7% in February 2017, which is the ninth consecutive period of annual price growth.
- Prices for materials and fuels which are paid by UK manufacturers for processing (input prices) rose 17.9% on the year, which is a slight decrease from February 2017; this is the ninth consecutive period of annual price growth.
- Prices of imported materials and fuels increased 17.1% on the year to March 2017, which is the second consecutive month inflation from imported materials and fuels has been lower than total inputs.
- A recent spike in export prices following the depreciation of sterling resulted in a boost to export turnover for manufacturers of motor vehicles, trailers and semi-trailers.

2 . Things you need to know about this release

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

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

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.

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) is included, except where labelled otherwise.

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

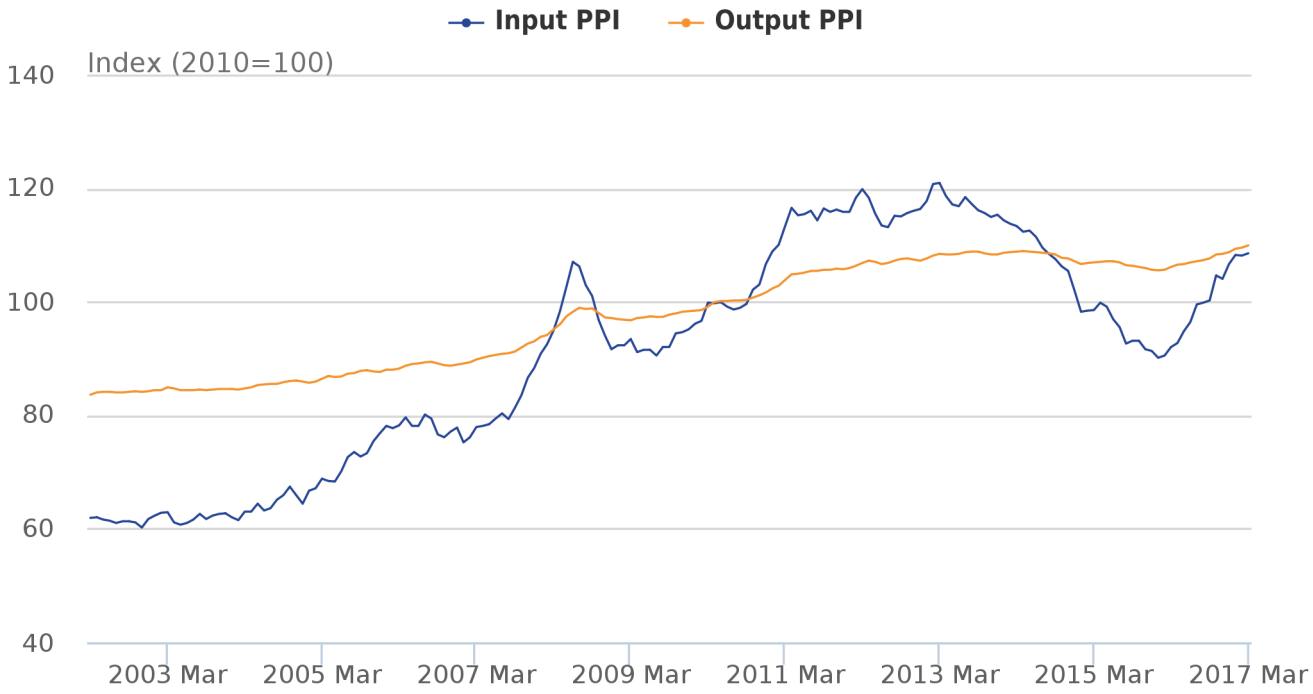
Every 5 years, producer price indices are rebased and their weights updated to reflect changes in the industry.

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.

Full definitions of the terms used within this analysis can be found in the Quality and methodology section within this bulletin.

3 . Producer price inflation summary

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



Source: Office for National Statistics

Over the past 15 years, input Producer Price Index (PPI) has experienced large peaks and troughs and strong overall growth, driven by global movements in prices for crude oil and commodities (Figure 1). Between March 2002 and March 2017, input prices increased 75%, which was mainly fuelled by crude oil prices which rose 166% over the period. Output prices increased 31% across the same period.

More recently we have seen input prices move out of a period of deflation between November 2013 and June 2016. Since June 2016 the annual rate of input inflation has steadily grown, reaching a peak of 20.1% in January 2017. Output prices also moved out of a period of deflation in July 2016 following 24 months of falling prices.

Since the pre-downturn peak in mid-2008, output prices have grown 11.1%, while input prices are only slightly higher in March 2017 than they were back in June 2008. This suggests that while the UK production sector is currently bearing the same overall cost for materials and fuels that it was in mid-2008, the amount it receives for goods at the factory gate is 11.1% higher.

Table 1: Input prices

UK, October 2016 to March 2017

Percentage change

		All materials and fuels purchased		Imported materials and fuels purchased	
		1 month	12 months	1 month	12 months
2016	Oct	4.4	12.4	4.5	14.0
	Nov	-0.6	13.5	-1.5	14.6
	Dec	2.5	16.8	1.7	17.3
2017	Jan	1.5	20.1	2.3	20.2
	Feb	-0.1	19.4	-0.6	19.1
	Mar	0.4	17.9	0.8	17.1

Source: Office for National Statistics

Notes:

1. Both series are not seasonally adjusted.

Manufacturers have seen a steep rise in input costs over the past 12 months. The main drivers of this are higher prices for crude oil and the lower value of sterling, which has led to higher input costs associated with imported materials and fuels.

The annual rate of inflation for all materials and fuels has fallen back slightly in the past 2 months however, from a peak of 20.1% in January 2017 (Table 1). This could be down to the combined effect of a stronger sterling in recent months, following the sharp depreciation after June 2016, and base period effects.

While sterling was down 10.7% on the year in March 2017, it has been moving in an upward direction since its peak fall of 18.4% in October 2016. All else equal, when sterling appreciates in value, as it has since October 2016, prices for imports fall. This is likely to be the main reason why the annual rate of imported materials and fuels has fallen below the rate for all materials and fuels in the past 2 months (Table 1).

In terms of the base period effect, in January 2016 input PPI reached its lowest level following a long period of consecutive falls. After January 2016 prices steadily moved in an upward direction, meaning growth in 2017 needs to exceed growth in 2016 for the annual rate to grow, which has not been the case in February and March.

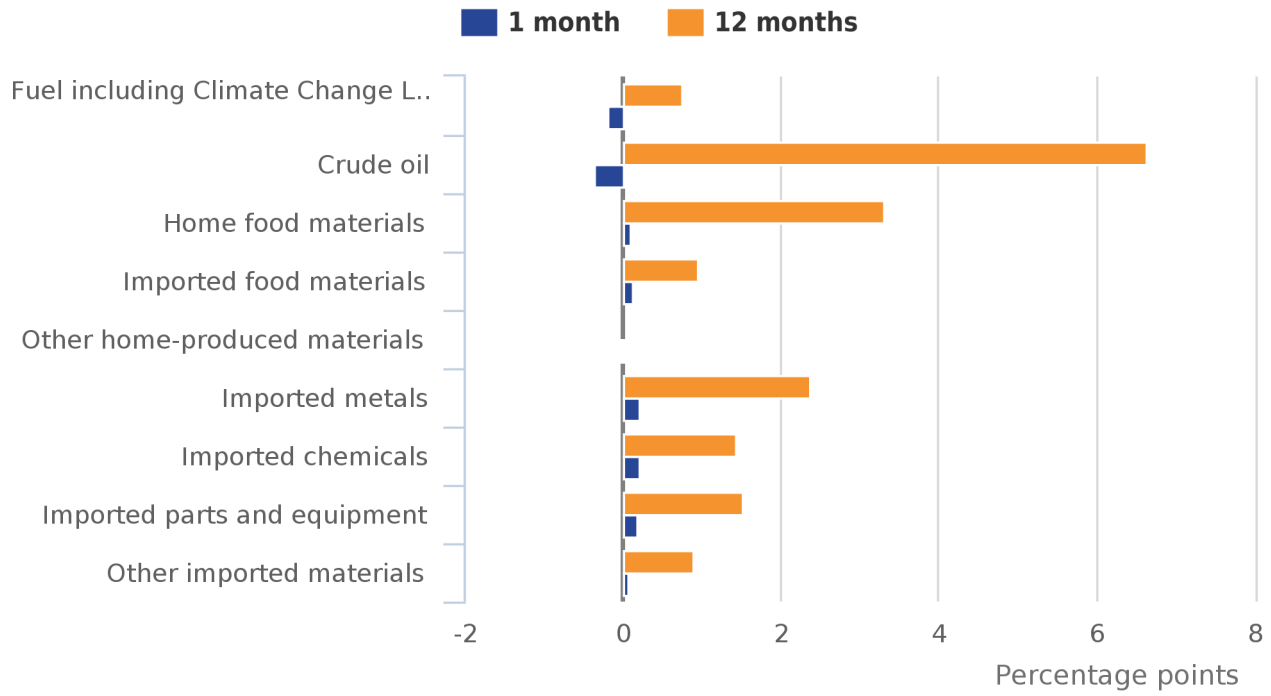
Table 2: Input prices, 1-month and 12-month percentage change to March 2017

	UK	
Product group	Percentage change	
	1 month	12 month
Fuel including Climate Change Levy	-1.5	6.1
Crude oil	-1.8	56.1
Home food materials	0.6	24.4
Imported food materials	1.5	11.9
Other home-produced materials	0.1	0.7
Imported metals	2.5	33.1
Imported chemicals	1.5	9.8
Imported parts and equipment	1.0	7.7
Other imported materials	0.8	9.4
All manufacturing	0.4	17.9

Source: Office for National Statistics

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

UK



Source: Office for National Statistics

Figure 2 shows the contributions by sector to the monthly and annual input price inflation rate. Crude oil provided the largest contribution of 6.64 percentage points to the annual rate, although on the month it provided a downward contribution of 0.34 percentage points. Inputs of crude oil increased 56.1% on the year to March 2017 and decreased by 1.8% on the month, which has reduced from the February figure.

Home food materials and imported metals prices provided the second- and third-largest contributions to the annual rate, with 3.31 and 2.38 percentage points respectively.

The annual rate for home food materials has been growing for the past 11 months, with the March figure being the highest annual increase seen since July 2008 when it was 25.7%. The main contributor to the rise in home food materials was crop and animal production, which increased due to a rise in the price of wheat.

The annual rate of inflation for imported metals has now seen 9 months of consecutive growth following 17 months of falling prices. The annual growth rate of 33.1% has fallen back slightly versus February 2017, but is consistent with increases of more than 30% since November 2016. For further analysis on metal prices refer to section 4 of the February Producer Price Inflation release.

Table 3: Output prices

UK, October 2016 to March 2017

		Percentage change	
		All manufactured products	
		1 month	12 months
2016	Oct	0.7	2.1
	Nov	0.1	2.4
	Dec	0.3	2.9
2017	Jan	0.6	3.6
	Feb	0.2	3.7
	Mar	0.4	3.6

Source: Office for National Statistics

Notes:

1. Series is not seasonally adjusted.

The annual rate of inflation for factory gate prices continued to show positive growth on the year to March 2017 with prices increasing 3.6%. This is the ninth consecutive rise in factory gate prices.

On the month prices increased 0.4%. Monthly inflation has now been growing since February 2016, which is the longest continuous period of growth since November 2011.

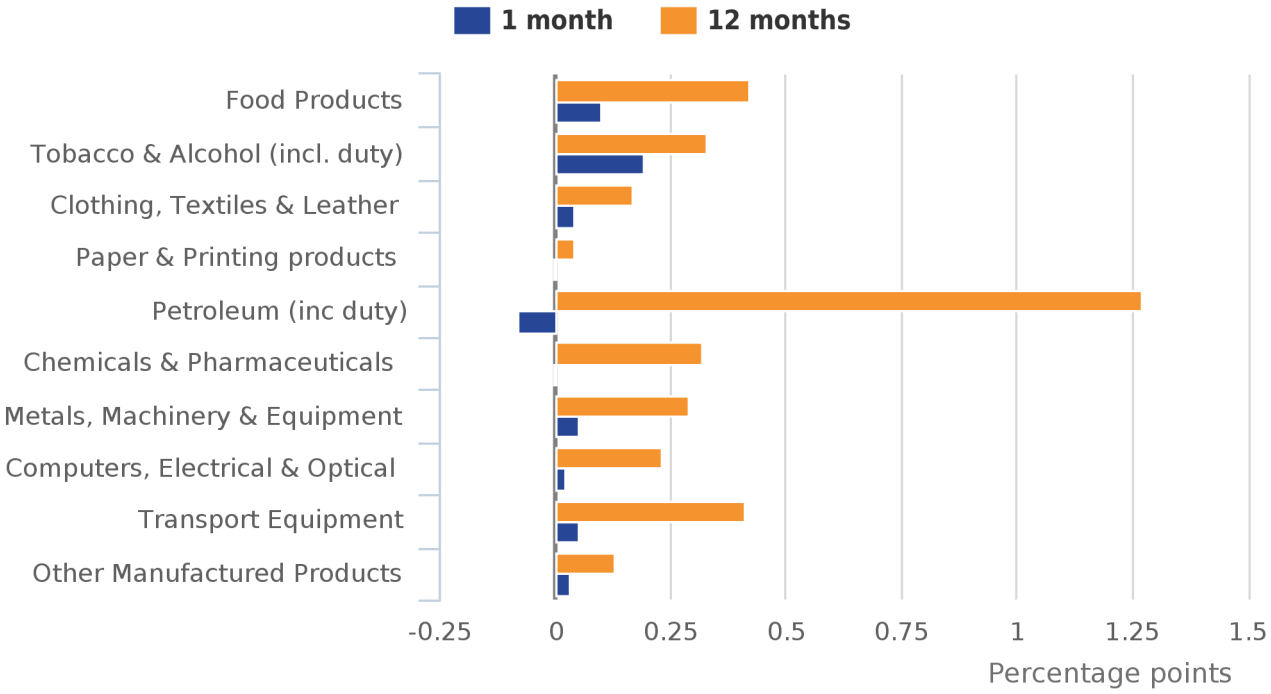
Table 4: Output prices, 1-month and 12-month percentage change to March 2017

		UK
Product group	Percentage Change	
	1month	12 month
Food products	0.6	2.8
Tobacco and alcohol (incl. duty)	1.6	3.3
Clothing, textile and leather	0.3	1.4
Paper and printing	0.0	1.1
Petroleum products (incl. duty)	-0.9	19.9
Chemical and pharmaceutical	0.1	4.3
Metal, machinery and equipment	0.5	3.9
Computer, electrical and optical	0.1	1.9
Transport equipment	0.4	3.4
Other manufactured products	0.1	0.8
All manufacturing	0.4	3.6

Source: Office for National Statistics

Figure 3: Output PPI, contribution to 1-month and 12-month growth rate

UK, March 2017



Source: Office for National Statistics

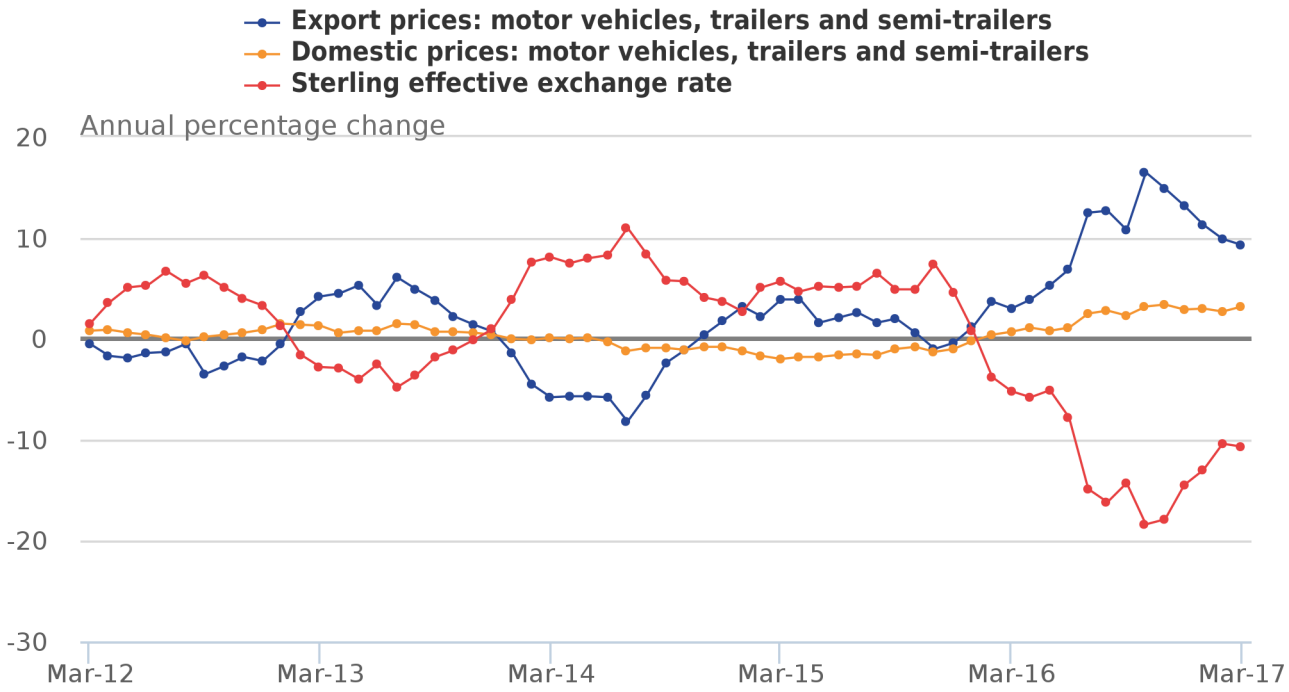
Petroleum products had an annual growth rate of 19.9% and showed an upward contribution of 1.27 percentage points to the PPI output annual rate (Figure 3). This was driven by diesel and gas oil which increased 17.5% on the year. The rate of increase for petroleum products has slowed versus the previous 2 months of 2017, but is the seventh consecutive increase after 3 years of falling prices.

All sectors showed upward contributions to the annual rate, with food products being the second largest with an annual growth rate of 2.8%, driven by an increase in prices of dairy products. For analysis on food prices please refer to section 4 of the January Producer Price Inflation release. Transport equipment also showed a large annual increase of 3.4% driven by the manufacture of motor vehicles, trailers and semi-trailers (see section 4 for further analysis).

4 . What has led to a rise in factory gate prices and turnover for the manufacture of motor vehicles, trailers and semi-trailers?

Figure 4: Annual price inflation for motor vehicles, trailers and semi-trailers, by domestic and export transactions

UK March 2012 to March 2017



Source: Office for National Statistics

Notes:

1. Sterling effective exchange rate source: Bank of England.

2. 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 production sector.

Figure 4 shows the impact the recent devaluation of sterling had on domestic and export price inflation for motor vehicles, trailers and semi-trailers. Since December 2015 manufacturers have seen a steep rise in the prices they receive for exported goods and to a lesser extent for goods sold domestically. This was largely down to the falling value of sterling across the period, though it is worth noting the different way currency devaluation passes through to domestic and export prices.

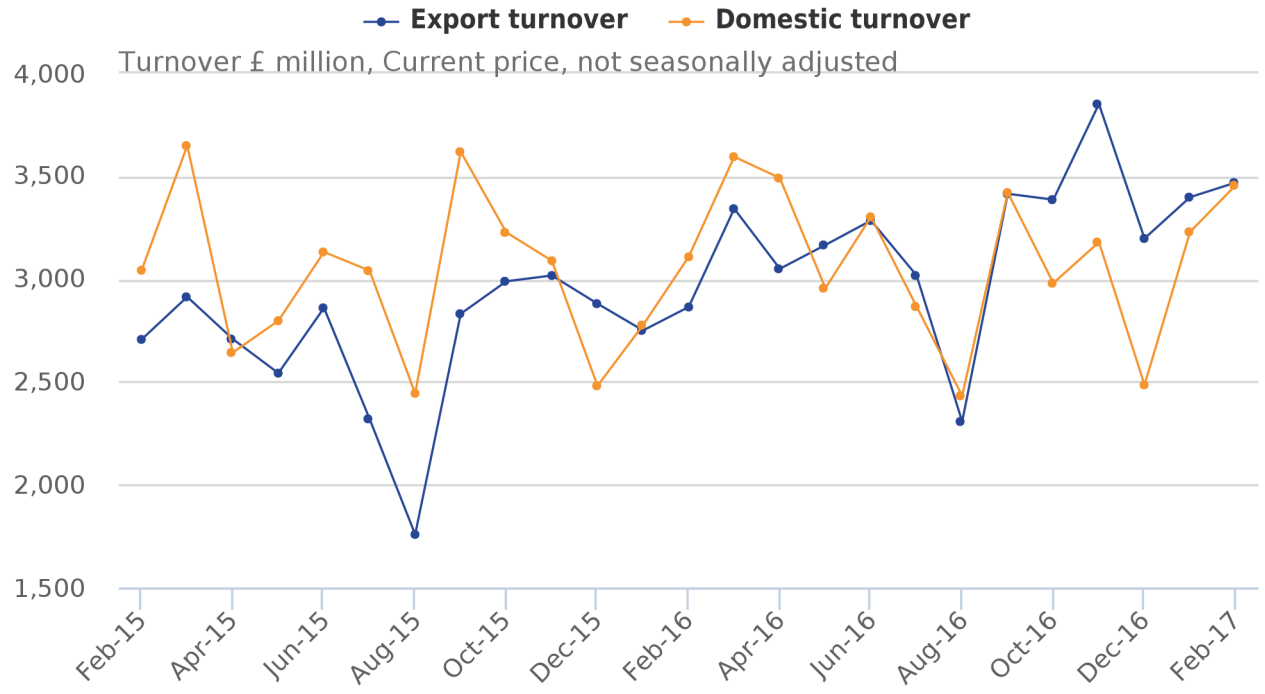
Export prices are directly influenced by exchange rate movements, particularly when transactions are carried out in foreign currency. All else equal, a depreciation of sterling leads to an increase in UK export prices when currency is exchanged into sterling, with the opposite being true when sterling appreciates.

Domestic prices can also be influenced by exchange rate movements, though this would be an indirect result of manufacturers passing on changes to input costs associated with imported fuels and materials. The recent increase in domestic prices may therefore be the result of manufacturers raising their domestic prices to compensate for rising input costs over the past year.

Over the past year motor vehicles, trailers and semi-trailers has been the main contributor to domestic inflation for the transport equipment sector, which in turn has been a key contributor to growth in the domestic PPI headline rate. The transport equipment sector also provided the largest contribution to the manufacturing increase seen in February Index of Production (IOP) growth, which has continued its strongest growth since May 2010.

Figure 5: Turnover from domestic and export sales for the manufacture of motor vehicles, trailers and semi-trailers

UK February 2015 to February 2017



Source: Office for National Statistics

Notes:

1. Turnover comprises the totals invoiced during the reference period, and this corresponds to market sales of goods supplied to third parties. It does not take into account any inputs costs.

2. Turnover data source: TOPSI: Manufacturing export turnover.

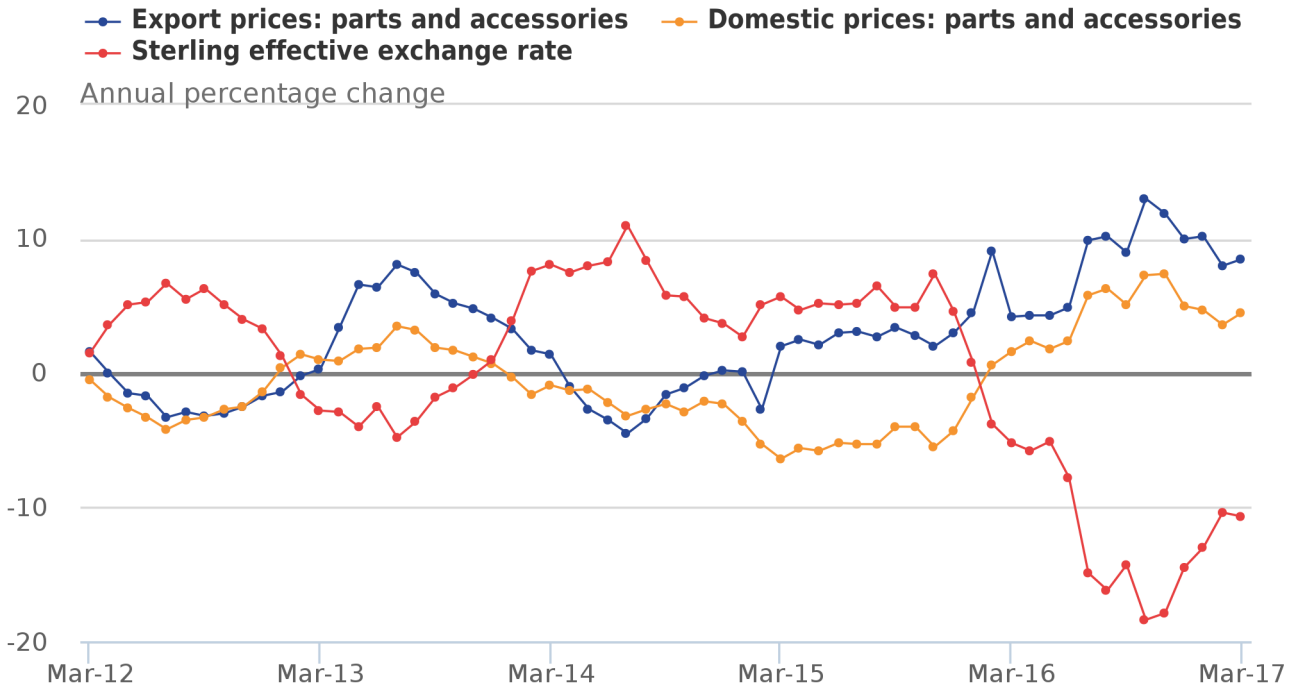
Figure 5 presents domestic and export turnover for the manufacture of motor vehicles, trailers and semi-trailers. The figures show that since September 2016 the spike in export prices (Figure 4) has led to a period where the balance of turnover changed in favour of exports. The figures also suggest the rise in export turnover has helped lift total turnover for this period.

For most of the past 2 years turnover from domestic sales was higher than that from exports. Up until September 2016 turnover from exports was only higher than domestic turnover on 4 separate occasions. However, between October 2016 and January 2017 turnover from export sales exceeded domestic turnover for 4 consecutive periods. In February 2017 the balance of domestic and export turnover reached parity, which is likely down to sterling appreciating in recent months (Figure 4).

According to TOPSI: Manufacturing export turnover average total turnover was up 14.1% in the 3 months to February 2017 compared to the same period in 2016. Average turnover from exports increased 18.5% across the same period, while turnover from domestic sales was up 9.6%.

Figure 6: Annual price inflation for parts and accessories, by domestic and export transactions

UK March 2012 to March 2017



Source: Office for National Statistics Sterling effective exchange rate source: Bank of England

Notes:

1. Sterling effective exchange rate source: Bank of England.

2. 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 production sector.

Figure 6 provides annual price inflation for parts and accessories, which is a contributor to motor vehicles, trailers and semi-trailers. The figures show that movements in the value of sterling have had a larger influence on domestic prices for parts and accessories over the past 5 years compared to domestic prices for motor vehicles, trailers and semi-trailers (Figure 4).

The reason for this is likely to be twofold. Supply chains in the manufacture of parts and accessories tend to be long and complex. Additionally, while parts and accessories are used in the manufacture of motor vehicles, trailers and semi-trailers, the final overall cost for manufacturing motor vehicles, trailers and semi-trailers will include a higher proportion of domestic inputs, such as labour. Exchange rate movements therefore tend to have a lesser influence on the overall price, compared to parts and accessories.

While domestic and export prices for parts and accessories have not tracked each other perfectly over the past 5 years, prices have tended to move more closely together compared to prices for motor vehicles, trailers and semi-trailers (Figure 4). Since December 2015 when the value of sterling started to fall, both domestic and export prices have increased, although domestic prices have seen the steepest rise.

5 . Links to related statistics

In addition to the data included within this statistical bulletin, the following detailed datasets are available:

PPI Aerospace and Electronic Indices
PPI MM22 Producer Price Indices

Higher, lower and equal movements for each Producer Price Index are shown in the PPI records.

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

PPI Revision triangle for total output (12 months)
PPI Revision triangle for total output (1 month)
PPI Revision triangle for total input (12 months)
PPI Revision triangle for total input (1 month)

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

6 . 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

If you would like more information about the reliability of the data, a PPI standard errors article was published March 20 2017. The article presented the calculated standard errors of the Producer Price Index (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 has been published on our website. It 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.