

Article

# Coronavirus and the impact on output in the UK economy: March 2020

Analysis of monthly growth for the production, services and construction industries in the UK economy between February 2020 and March 2020, highlighting the early impact from the coronavirus (COVID-19) pandemic.



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# 1 . Main points

- The economy experienced a significant shock since the start of the coronavirus (COVID-19) pandemic; GDP has fallen dramatically, with large broad-based falls in output for production, services and construction.
- Analysis of our Monthly Business Survey (MBS) returns and external data, including comments from over 10,000 businesses, demonstrated that the coronavirus (COVID-19) had a significant and wide-ranging negative impact on output during March 2020.
- The first [government advice on social distancing](#) was published on 12 March 2020, before a formal “lockdown” was announced on 23 March 2020, which led to a fall in consumer demand and business and factory closures, as well as supply chain disruptions.
- In contrast, there was an increase in consumer demand for some goods, mainly because of the effects of retail “panic buying”, that led to growth in a small number of manufacturing industries.

## 2 . The UK economy during the coronavirus (COVID-19)

This article analyses the overall impact of the coronavirus (COVID-19) pandemic on the output measure of gross domestic product (GDP) during March 2020, providing a more in-depth insight of the early impacts of COVID-19 on the UK economy. GDP fell by 5.8% in the month, the largest fall since monthly records began in 1997, reflecting record widespread falls in services, production and construction output<sup>1</sup>. For more details please see [GDP monthly estimate, UK: March 2020](#).

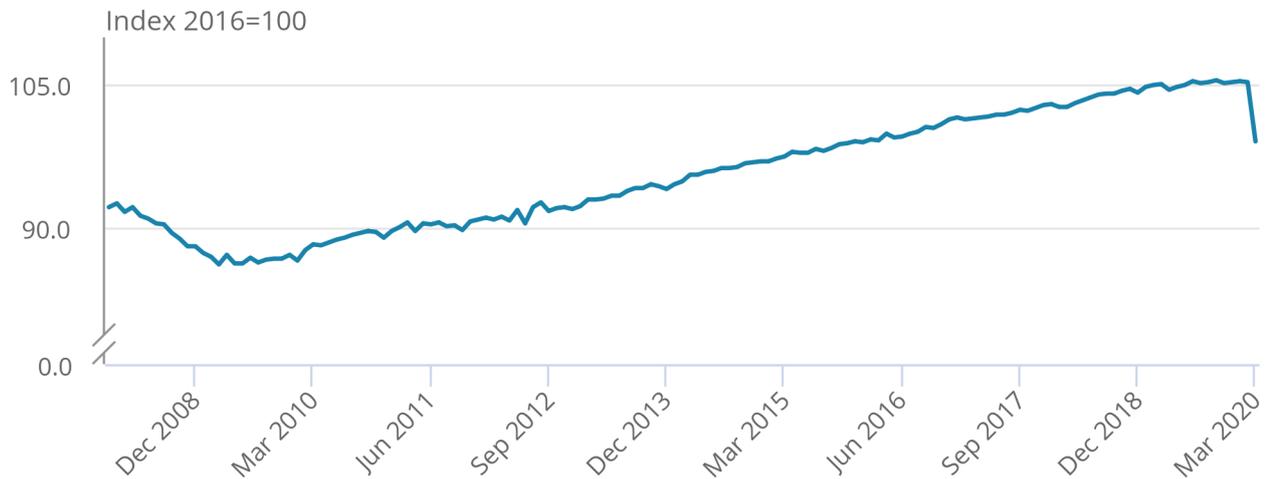
The decline in GDP in March 2020 of 5.8% occurred within a single month. During the global financial crisis, from the peak in February 2008 to lowest point of March 2009, a total of 13 months, GDP contracted 6.9%.

## Figure 1: There was a sharp contraction of GDP in March 2020

Monthly GDP, seasonally adjusted, UK, January 2017 to March 2020

### Figure 1: There was a sharp contraction of GDP in March 2020

Monthly GDP, seasonally adjusted, UK, January 2017 to March 2020



Source: Office for National Statistics – Monthly GDP

Analysis of our Monthly Business Survey (MBS) returns and external data, including comments from over 10,000 businesses, demonstrated that the arrival of the coronavirus (COVID-19) pandemic had a significant and broad-based negative impact on output during March 2020, though some industries did see a positive impact. This was caused by a complex mix of factors, including the effects of social distancing, which led to a fall in consumer demand, business and factory closures and supply chain disruptions.

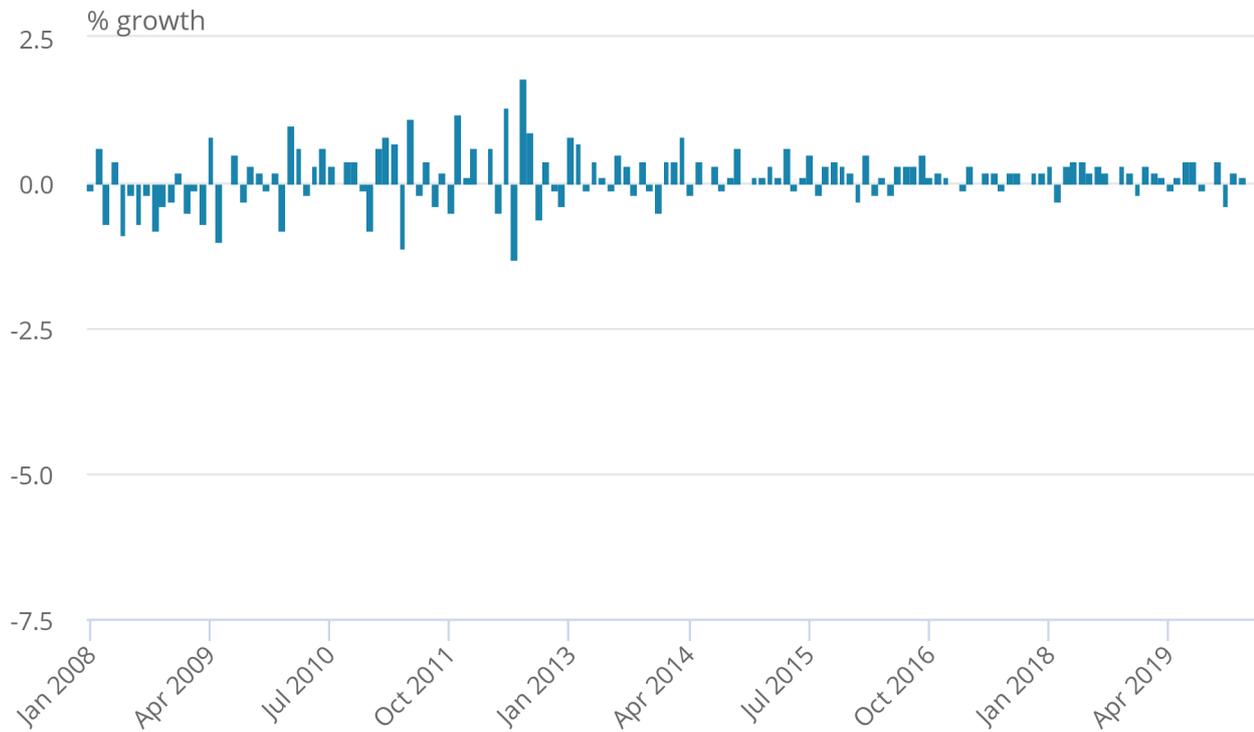
The output of services industries fell by 6.2% in March 2020, the largest monthly fall since records began in January 1997.

## Figure 2: Services output fell at its sharpest rate in March 2020

Index of services, month-on-month growth, seasonally adjusted, UK, January 2008 to March 2020

### Figure 2: Services output fell at its sharpest rate in March 2020

Index of services, month-on-month growth, seasonally adjusted, UK, January 2008 to March 2020



Source: Office for National Statistics – Index of Services

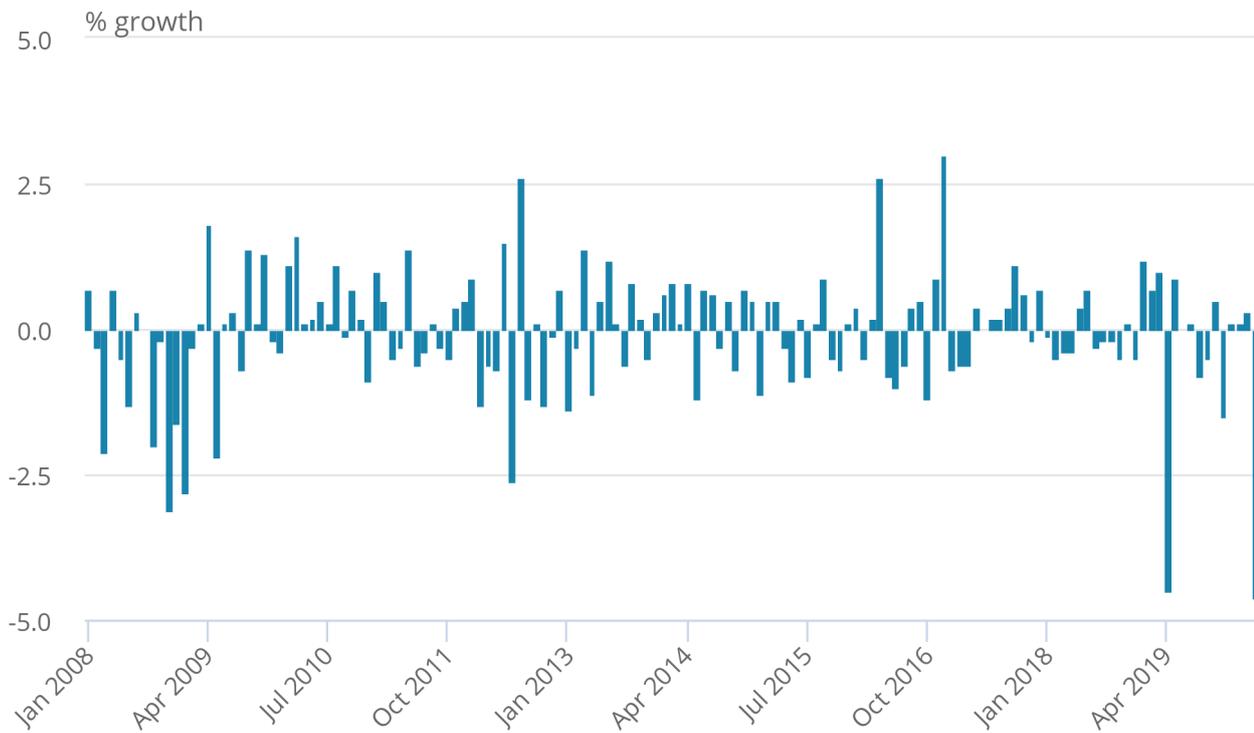
Production industries had a strong decline in output of 4.2% during March 2020 (Figure 3). This was the fourth largest monthly fall since records for production output began in January 1968. Significant falls previously occurred in February 1972 and January 1974 (7.9% and 7.2% respectively, because of the miners' strikes), and January 1979 (6.9% because of the "winter of discontent").

**Figure 3: The fall in total production output during March 2020 is the largest monthly fall since January 1979**

Index of Production, month-on-month growth, seasonally adjusted, UK, January 2008 to March 2020

**Figure 3: The fall in total production output during March 2020 is the largest monthly fall since January 1979**

Index of Production, month-on-month growth, seasonally adjusted, UK, January 2008 to March 2020



Source: Office for National Statistics – Index of Production

#### More about coronavirus

- Find the latest on [coronavirus \(COVID-19\) in the UK](#).
- All ONS analysis, summarised in our [coronavirus roundup](#).
- View [all coronavirus data](#).
- Find out how our studies and surveys are [serving public need](#).

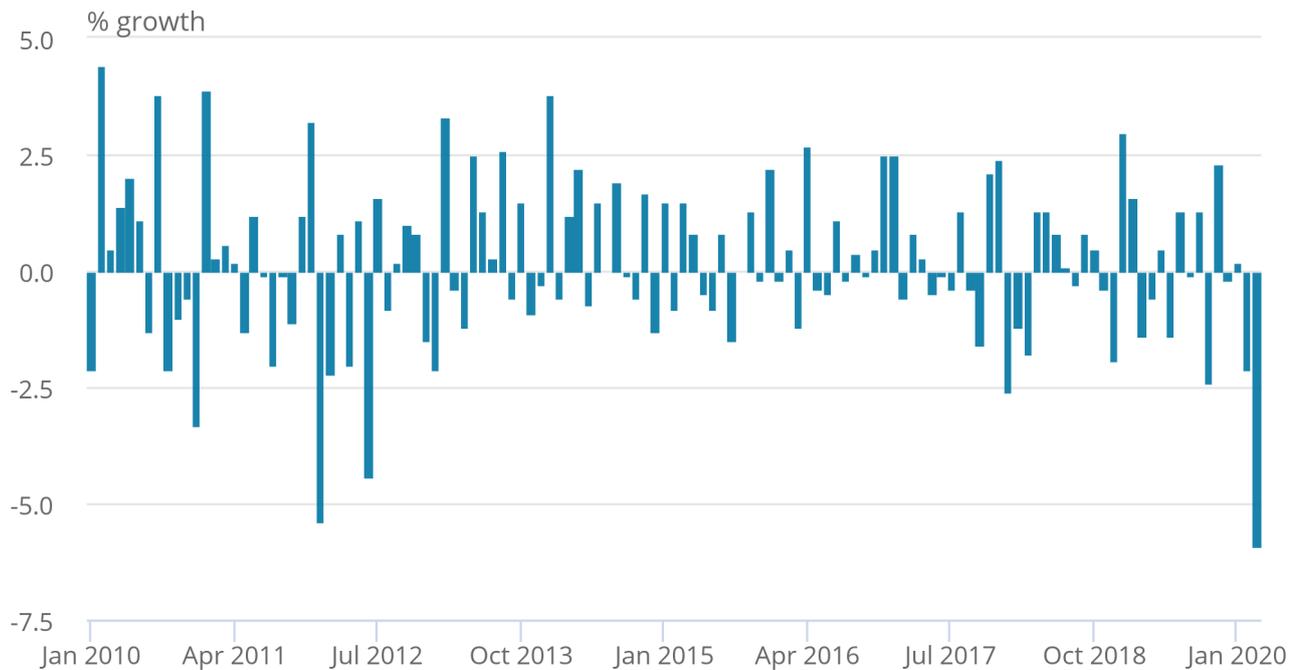
The construction industry experienced a strong decline in output of 5.9% during March 2020 (Figure 4). This is the largest fall since monthly records began in January 2010. The coronavirus (COVID-19) pandemic had a significant and broad-based negative impact on construction output during March 2020.

## Figure 4: Monthly growth in construction output is the lowest since monthly records began in January 2010

Total construction output, month-on-month growth, chained volume measure seasonally adjusted, Great Britain, January 2010 to March 2020

### Figure 4: Monthly growth in construction output is the lowest since monthly records began in January 2010

Total construction output, month-on-month growth, chained volume measure seasonally adjusted, Great Britain, January 2010 to March 2020



Source: Office for National Statistics – Index of Construction

The decline in growth was driven by record falls of 6.2% in new work and 5.1% in repair and maintenance, as the COVID-19 pandemic caused construction activities to cease or slow down during March. Further detail on the performance in the construction industry is given in [Construction output in Great Britain: March 2020](#).

### Notes for: The UK economy during the coronavirus (COVID-19) pandemic

1. Services comprise 79.6% of the UK economy, while production and construction comprise 13.6% and 6.1% respectively.

### 3 . Services industries

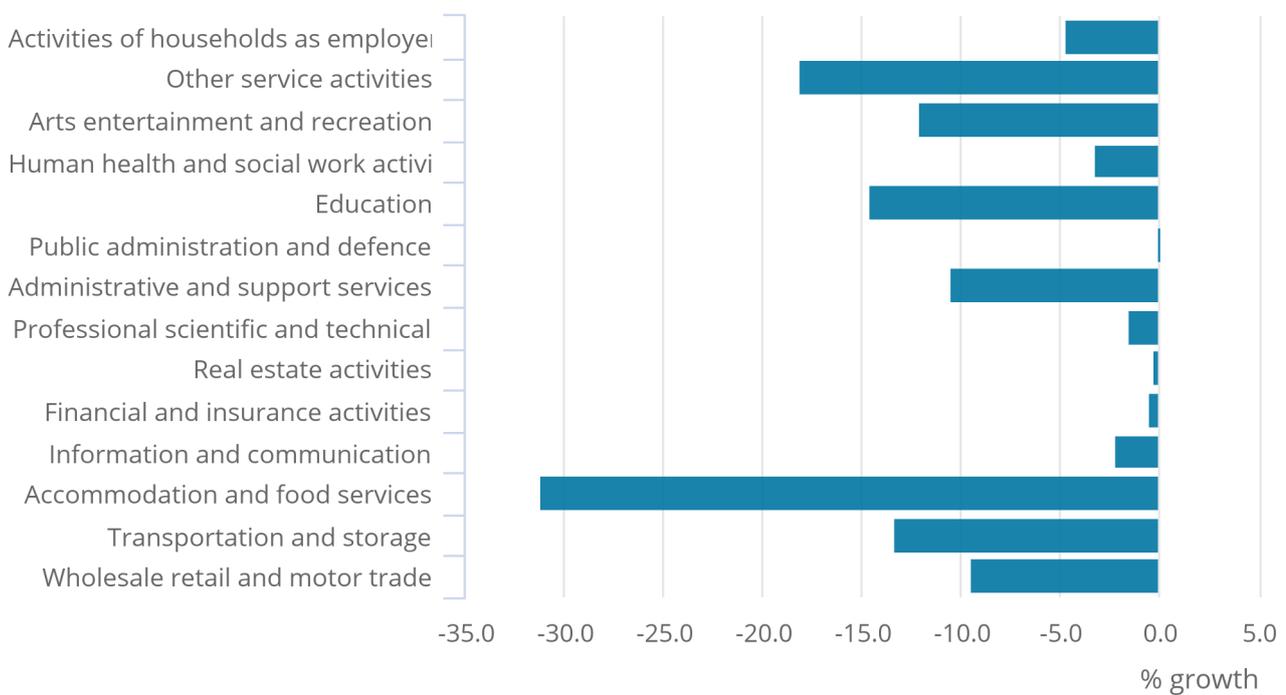
In March 2020, 13 of the 14 sectors experienced a fall in output, with only one services sector, public administration, showing growth, albeit of just 0.1% (Figure 5).

**Figure 5: All but one of the 14 services sectors declined in March 2020**

Index of Services, main sectors, month-on-month growth, seasonally adjusted, UK, March 2020

Figure 5: All but one of the 14 services sectors declined in March 2020

Index of Services, main sectors, month-on-month growth, seasonally adjusted, UK, March 2020



Source: Office for National Statistics – Index of Services

Notes:

1. Individual contributions may not sum to the total because of rounding.

Of the 14 services sectors, eight experienced their largest falls since records began in January 1997. Table 1 contains all sectors of the Index of Services and the current growth, (along with the last time that growth was lower, or at the same growth to two decimal places).

Table 1: Eight of the 14 services sectors recorded the largest falls since records began in January 1997  
Index of Services, monthly growth for the main sectors, March 2020

		<b>Current growth</b>	<b>Last time growth was weaker (or the same)</b>
Services industries	IoS	-5.70%	Weakest on record <sup>1</sup>
Wholesale and retail trade; repair of motor vehicles and motorcycles	G	-9.40%	Weakest on record
Transportation and storage	H	-13.30%	Weakest on record
Accommodation and food service activities	I	-31.10%	Weakest on record
Information and communication	J	-2.20%	2020 Jan -2.20%
Financial and insurance activities	K	-0.50%	2019 Nov -1.00%
Real estate activities	L	-0.20%	2017 Sep -0.20%
Professional, scientific and technical activities	M	-1.50%	2012 Jun -6.00%
Administrative and support services activities	N	-10.40%	Weakest on record
Public administration and defence; compulsory social security	O	0.10%	2020 Feb 0.00%
Education	P	-14.50%	Weakest on record
Human health and social work activities	Q	-3.20%	Weakest on record
Arts, entertainment and recreation	R	-12.10%	Weakest on record
Other service activities	S	-18.10%	Weakest on record
Activities of households as employers	T	-4.70%	2019 Mar -4.80%

Source: Office for National Statistics – Index of Services

#### Notes

1. There has never been a growth equal or weaker than in March 2020. [Back to table](#)

## Wholesale, retail and motor trades

The wholesale, retail and motor trades sector fell by 9.4% in March 2020, the largest monthly fall since records began in January 1997.

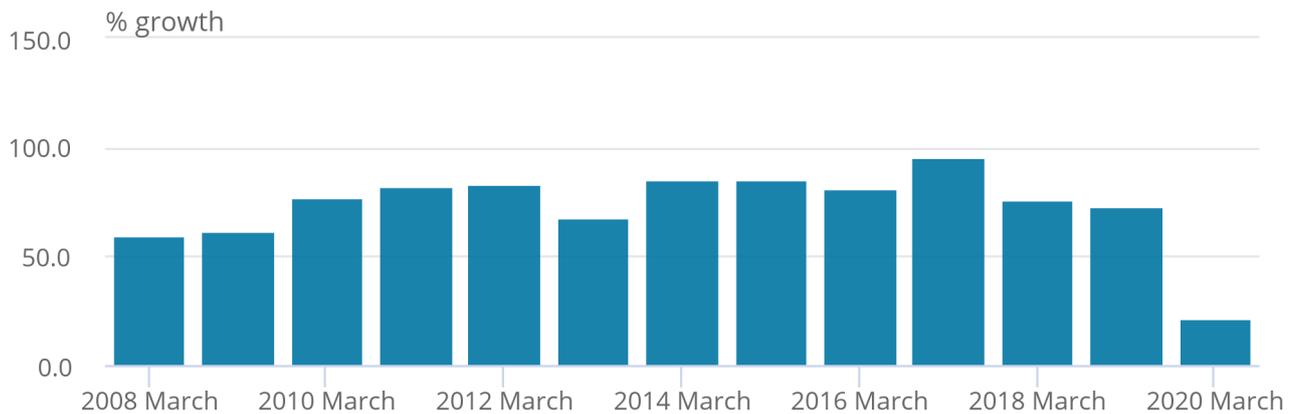
Because of new car registrations, turnover in wholesale and motor trades usually has large growth between February and March. However, March 2020 did not have this large increase (see Figure 6). This is in line with a [fall in new car registrations of 44% in March 2020 compared with March 2019](#), as reported by the Society of Motor Manufacturers and Traders (SMMT). This has resulted in a decline of 34.2% of output in this industry.

**Figure 6: Monthly turnover growth is far weaker than expected because of the negative impact on the sale of new car registrations**

Monthly growth between February and March in turnover of wholesale of motor vehicles, non-seasonally adjusted data<sup>1</sup>, UK, March 2008 to March 2020

Figure 6: Monthly turnover growth is far weaker than expected because of the negative impact on the sale of new car registrations

Monthly growth between February and March in turnover of wholesale of motor vehicles, non-seasonally adjusted data<sup>1</sup>, UK, March 2008 to March 2020



Source: Office for National Statistics – Index of Services

Notes:

1. Comparisons of non-seasonally adjusted data can be impacted by calendar effects, such as number of working days, leap year and changing seasonal patterns over time.

The retail industry fell by 5.1%, the largest fall since retail sales records began in January 1996. Food stores and non-store retailing were the only sectors to show growth in the monthly volume series in March 2020, with food stores seeing the strongest growth on record, at 10.4%. This is covered more fully in [Retail sales, Great Britain: March 2020](#).

Wholesale trade except motor vehicles fell by 4.7%, its largest fall since December 2013. This was primarily affected by a lack of demand for oil and significant oil price falls, leading to a large fall in the wholesale of fuels.

## Accommodation and food services

The accommodation and food services industry has been significantly affected by the COVID-19 pandemic, as covered by [Coronavirus, the UK economy and society, faster indicators: 9 April 2020](#), falling by 31.1% between February and March 2020, a record fall. Given the scale of the fall it is evident that demand fell as part of consumer reaction to social distancing measures. From 23 March 2020, many of the businesses in these industries were required to cease their normal operating practices. This has had a significant impact on hotels, camping sites, restaurants, pubs and bars among others. Examples where businesses and venues have closed are given in [Closing certain businesses and venues in England](#).

We received some responder-led evidence of changes in business activity, for example, restaurants and pubs moving to home delivery. The positive effect of these changes in operating practice has not had a large enough effect to offset the negative effects of widespread closures.

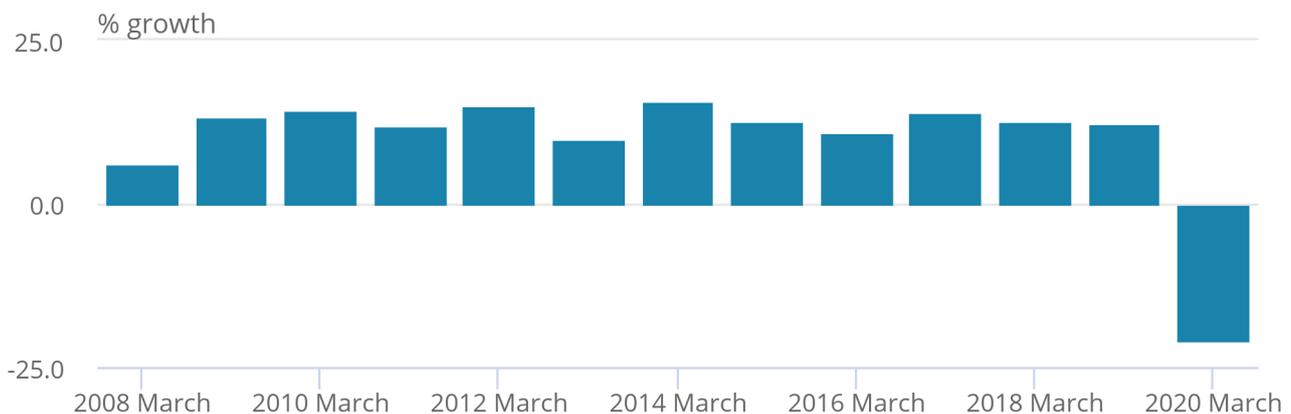
Figure 7 displays growth from the Monthly Business Survey turnover survey for each March since 2008 with no impact from seasonal adjustment, a time when turnover or sales growth usually rises. The significant decline in March 2020 is a stark summary of the lack of turnover or sales generated by businesses in food and beverage services – restaurants, take-aways, pubs and bars.

## Figure 7: The decline in turnover growth during March 2020 for food and beverage services is in stark contrast to strength displayed previously

Monthly growth between February and March in turnover for food and beverage services, UK, non-seasonally adjusted data<sup>1</sup>, March 2008 to March 2020

### Figure 7: The decline in turnover growth during March 2020 for food and beverage services is in stark contrast to strength displayed previously

Monthly growth between February and March in turnover for food and beverage services, UK, non-seasonally adjusted data<sup>1</sup>, March 2008 to March 2020



Source: Office for National Statistics – Index of Services

#### Notes:

1. Comparisons of non-seasonally adjusted data can be impacted by calendar effects, such as number of working days, leap year and changing seasonal patterns over time.

## Transportation and storage

The fall of 13.3% in the transportation and storage sector is the largest since records began in January 1997. There were also record falls in the rail transport, land transport, water transport and air transport industries.

There were smaller falls in freight, supported by responder evidence, compared with passenger elements, which fell more significantly. Respondents noted that freight had been boosted in part by the impact of “panic-buying”. Warehousing and postal and courier activities fared better, in part because of panic-buying as well as a comparatively stronger performance from online shopping compared with in-store retailing (for more information see [Retail sales, Great Britain: March 2020](#)).

When the restrictions on movement began on 23 March 2020, rail, land, water and air transport were directly affected; however, the effects of the coronavirus (COVID-19) on transportation took hold earlier than the beginning of the lockdown, as can be seen in the [Cabinet Office Briefing Rooms \(COBR\) Transport use change report \(PDF, 443KB\)](#).

## Administrative and support services

The 10.4% fall in administrative and support services is the largest since records began in January 1997. It is led by a 50.1% drop in travel and tour operators. Demand within this industry was impacted by the coronavirus (COVID-19) pandemic towards the end of February 2020. This impact has now become more evident in March 2020.

There was significant responder-led evidence including a negative effect on cruise ship operations. Travel and tourism was already experiencing a decline, as discussed in [Index of Services, UK: February 2020](#) and now is approximately 58% below the level of activity in 2016.

### Figure 8: Following a steady decline in growth from January 2008 to February 2020, the coronavirus (COVID-19) had a significant negative effect on travel and tourism in March 2020

Index for travel agents and tourist operators, seasonally adjusted, UK, January 2008 to March 2020

Figure 8: Following a steady decline in growth from January 2008 to February 2020, the coronavirus (COVID-19) had a significant negative effect on travel and tourism in March 2020

Index for travel agents and tourist operators, seasonally adjusted, UK, January 2008 to March 2020



Source: Office for National Statistics – Index of Services

More broadly, all six industries fell in this sector with significant falls in rental and leasing, falling by 14.9%, and employment activities, declining by 6.4%.

## Education

Education fell by 14.5%, the largest fall since records began in January 1997. Approximately 70% of education is government output, which is measured using a direct volume indicator, rather than by deflating expenditure. The indicator in this case is the number of students attending school, weighted by school setting.

The closure of schools across the UK presented challenges for our usual approach, and so we have adapted our calculations in two ways. Firstly, we aim to include all the education services being provided, both for the small proportion of children still being cared for in a school and for those receiving learning materials from their teachers for completion at home. Secondly, we sought to ensure that instruction heavily reliant on parental support is excluded. Further details are found in Section 4 of [Coronavirus and the effects on UK GDP](#).

The independent school's industry (8.4% of the education sector) is measured using annual data from the Independent Schools Council, which requires the use of forecast data for the first quarter (Jan to Mar) of 2020. We have modelled the forecast on the movement in government-funded schools but will review this in future months.

The remaining 22.7% of education is measured by the Monthly Business Survey and includes non-government education such as universities. There was flat growth from the MBS in non-government education and little change in the Consumer Price Index for education services.

## Human health and social work

The human health and social work sector fell by 3.2%, the largest fall since records began in 1997. Approximately 85% of human health and social work is government output, which is measured using direct volume indicators, rather than by deflating expenditure. The volume of government healthcare output in the UK is estimated, using available information on the number of different kinds of activities and procedures, weighted by the cost of each activity.

At this stage the data are predominantly based on forecasts, so we have used a wider range of data to inform our judgements around these. The impact of the coronavirus (COVID-19) pandemic on government healthcare output is likely to be complicated, with increased activity in some areas (calls to NHS 111) and reduced activity in other areas (elective operations). Further details are found in Section 4 of [Coronavirus and the effects on UK GDP](#).

The contribution of government-funded social care activities in this sector is also measured using a direct volume indicator, namely the number of people receiving care in different settings (in a care home or in their own home). We have not altered our usual approach to measuring the output of these services.

The Monthly Business Survey measures 10% of the health industry and includes non-government health care. This industry saw a similar decline to the government element of health.

## Other services sectors

Film and TV production declined by 18.5% in March 2020, with significant falls in the production and cinema components, while large global distributors saw weaker falls.

Real estate activities on a fee or contract basis dropped 11.3% in March 2020, with businesses closing towards the end of March.

There were significant falls of 21.8% in sport and 18.5% in museums and cultural activities, as social distancing restrictions took hold. The arts industry fell by a more modest 5.8%, as artistic earnings were impacted to a small degree. However, arts venues were more significantly impacted by the coronavirus (COVID-19) pandemic during March 2020.

Personal services declined by 24.8%, with large falls in hairdressers and washing and dry cleaning, while funeral directors only experienced a small fall.

Public administration, defence and compulsory social security was the only sector to grow, by a negligible 0.1%.

The computer programming industry grew by 1.5%, driven by large businesses and with responder-led evidence suggesting that “there was a high demand for IT equipment such as desktops and laptops” because of the increase in home working. However, small businesses did experience a fall during March.

Research and development continued its recent strong performance, growing by 3.4%, largely because of pharmaceutical businesses.

Architects and engineers grew by 2.1%, after a prolonged period of weaker than expected growth. There were consistent increases across small, medium and large businesses.

## **4 . Production sectors**

Despite widespread weakness across all four sectors, the overall decline of 4.2% was primarily because of the strong fall from the manufacturing sector, which accounts for 75% of the production industries.

Textiles and transport equipment experienced their largest falls since manufacturing industry records began in January 1997. Table 2 contains monthly growth for the main production sectors and manufacturing sub-sectors, along with the last time that growth was lower, or at the same growth to two decimal places.

Table 2: Two of the 13 manufacturing sub-sectors recorded the largest falls since records began in January 1997  
 Index of Production, monthly growth for the main sectors and manufacturing sub-sectors, seasonally adjusted,  
 UK, March 2020

	<b>Current growth</b>	<b>Last time growth was weaker (or the same)</b>
Index of Production	IoP -4.20%	1979 Jan -7.00%
Mining and quarrying	B -11.50%	2017 Dec -19.30%
Electricity and gas	D -1.50%	2020 Jan -3.50%
Water supply and sewerage	E -0.50%	2020 Feb -1.70%
Total manufacturing	C -4.60%	2002 Jun -5.50%
Food products, beverages and tobacco	CA 0.20%	2019 Dec -1.20%
Textiles, wearing apparel and leather products	CB -18.20%	Weakest on record <sup>1</sup>
Wood and paper products and printing	CC -1.30%	2019 Nov -2.10%
Coke and refined petroleum products	CD -4.60%	2019 Jun -7.90%
Chemicals and chemical products	CE 3.10%	2020 Feb -2.50%
Basic pharmaceutical products and pharmaceutical preparations	CF 10.90%	2020 Feb 4.20%
Rubber and plastics products, and other non-metallic mineral products	CG -5.60%	2013 Jan -6.70%
Basic metals and metal products	CH -4.60%	2018 Jan -5.50%
Computer, electronic and optical products	CI -0.20%	2019 Dec -1.30%
Electrical equipment	CJ -6.90%	2012 Nov -7.00%
Machinery and equipment n.e.c	CK -11.60%	2013 Jan -16.30%
Transport equipment	CL -20.50%	Weakest on record
Other manufacturing and repair	CM -4.60%	2017 Apr -5.20%

Source: Office for National Statistics – Index of Production

#### Notes

1. There has never been a growth equal or weaker than in March 2020. [Back to table](#)

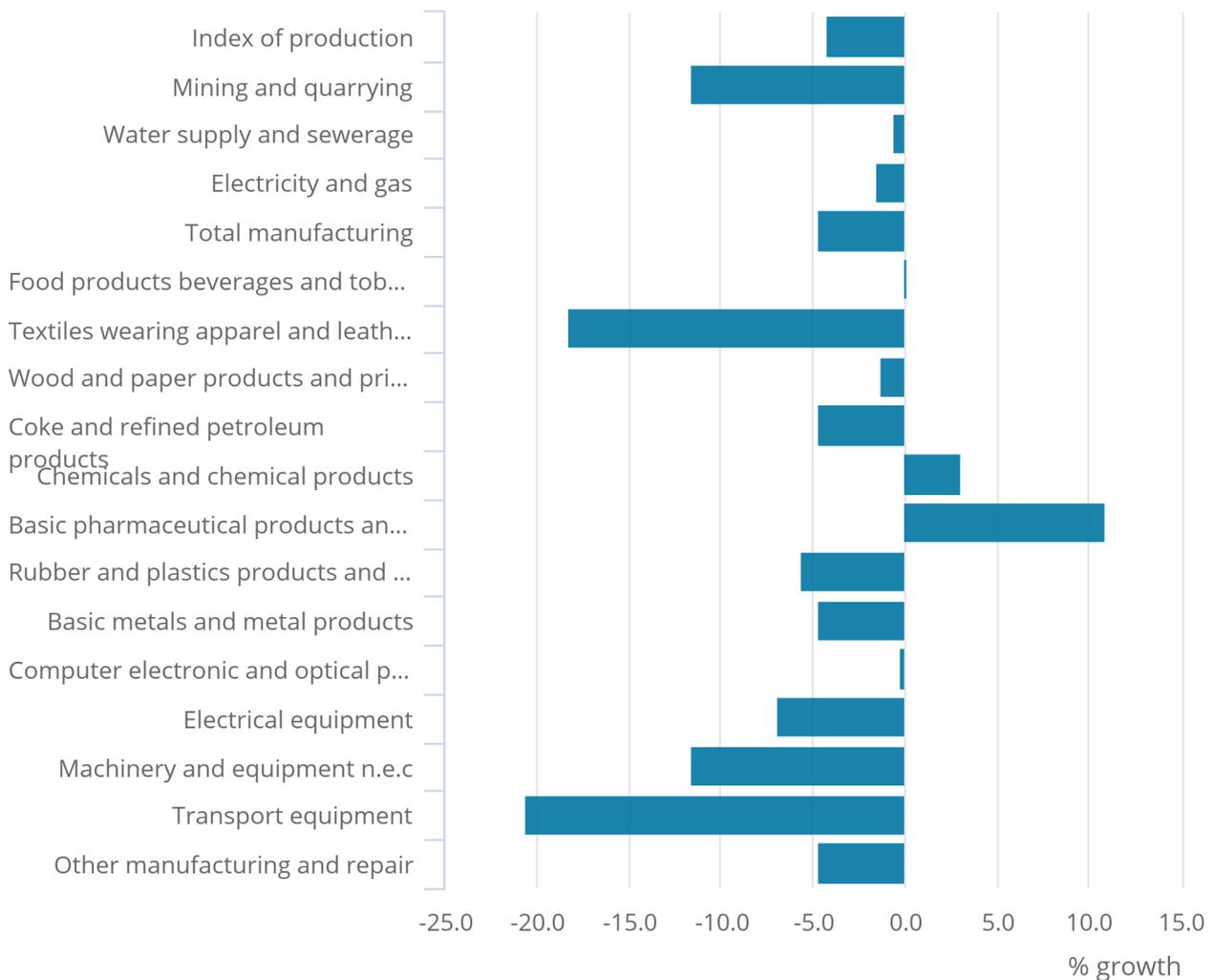
Figure 9 shows monthly growth for the four main production sectors and sub-sectors.

**Figure 9: The strong fall in total production output was because of widespread weakness**

Production industries (Index of Production), main sectors and manufacturing subsectors growth, seasonally adjusted, UK, March 2020

Figure 9: The strong fall in total production output was because of widespread weakness

Production industries (Index of Production), main sectors and manufacturing subsectors growth, seasonally adjusted, UK, March 2020



Source: Office for National Statistics – Index of Production

The strong decline of 4.6% within manufacturing output (Figure 9) was the sixth-largest monthly fall since records began in January 1997. It was also the strongest fall since June 2002, when output fell by 5.5%, in part because of the extra bank holiday on Monday 3 June 2002 for the Queen’s Golden Jubilee celebrations, during which few industries saw strength, and those that did had muted growth.

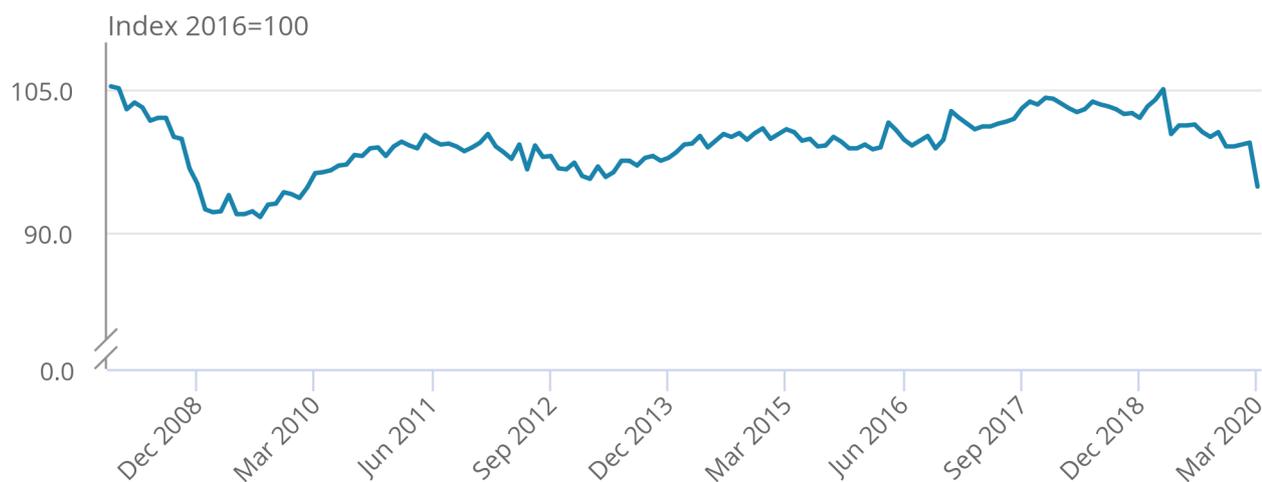
In recent periods, the fall in manufacturing in April 2019 at the time of the original departure date from the European Union (EU), followed a period of increased output in the first quarter (Jan to Mar) of 2019 (as can be seen in Figure 10) and saw the index return to similar levels as 2017.

### Figure 10: Widespread weakness across manufacturing has led to the largest monthly fall since June 2002

Index of Manufacturing, seasonally adjusted, UK, January 2008 to March 2020

## Figure 10: Widespread weakness across manufacturing has led to the largest monthly fall since June 2002

Index of Manufacturing, seasonally adjusted, UK, January 2008 to March 2020



Source: Office for National Statistics – Index of Production

The monthly fall in total manufacturing output was driven by widespread weakness, with 10 of the 13 sub-sectors displaying negative growth. Given the widespread impact of the coronavirus (COVID-19) pandemic across the sector, we have focused on the largest impact on growth, both positively and negatively, at industry level.

### Motor vehicles, trailers and semi-trailers

The motor vehicles, trailers and semi-trailers industry showed a monthly fall of 34.3% in March 2020, the largest fall since records began in January 1997. This was because of extended factory shutdowns in the second half of March and a significant drop in consumer-led demand for cars, because of the coronavirus (COVID-19) pandemic (also impacting on the sale of new registrations during March, historically a stronger month for sales). It should be noted that the industry had been in steady decline since the early part of 2019, while exports had already declined in February 2020 because of the coronavirus (COVID-19) pandemic weakening demand.

## **Textiles, wearing apparel and leather products**

The significant falls for each industry were the result of a fall in consumer demand, leading to fewer orders, and factory shutdowns. The sector level decline is led by a record fall for the textiles industry (Division 13) of 17.9%.

In contrast, we did receive some anecdotal evidence of increased production and sales of personal protective equipment (PPE) within the wearing apparel industry (Division 14).

## **Furniture**

The fall of 17.0% for the furniture industry is the second-largest since records at industry level began in January 1997. Most businesses highlighted factory closures as the primary factor. However, there was some positive evidence, such as the supply of furniture to the healthcare market, for example, beds and mattresses, and also sales of Perspex screens to supermarkets.

## **Other industries which saw falls in output**

Machinery and equipment not elsewhere classified fell by 11.6%, the second-largest fall for this industry since records began, as factory shutdowns, weaker demand and global supply chain issues impacted output.

Cement, lime, plaster and concrete fell by 9.7%, against the backdrop of weaker demand from the construction sector.

Sales of alcoholic beverages in retail stores increased in March 2020 but output fell by 6.9% as a result of shutdowns, particularly in spirits. There was some evidence of alcohol producers diversifying to a small degree to produce hand sanitiser. However, this has not overcome the loss of carry-in demand from licensed premises such as pubs, bars and restaurants as a result of the lockdown.

## **Grain mill products, starches and starch products**

The third-largest monthly growth of 16.3% since records began in grain mill products, starches and starch products is in part because of "panic buying". We received responder-led evidence of increased consumer demand for rice and flour.

## **Industrial gases, inorganics or fertilisers**

The growth of 13.0% in industrial gases, inorganics or fertilisers is the third-strongest growth since records began. Responder-led evidence suggested that there has been increased demand for chemicals used in disinfectants and hand sanitisers. Additionally, an increase in demand for chemicals used in paints has also been a factor for overall strength.

## **Paper and paper products**

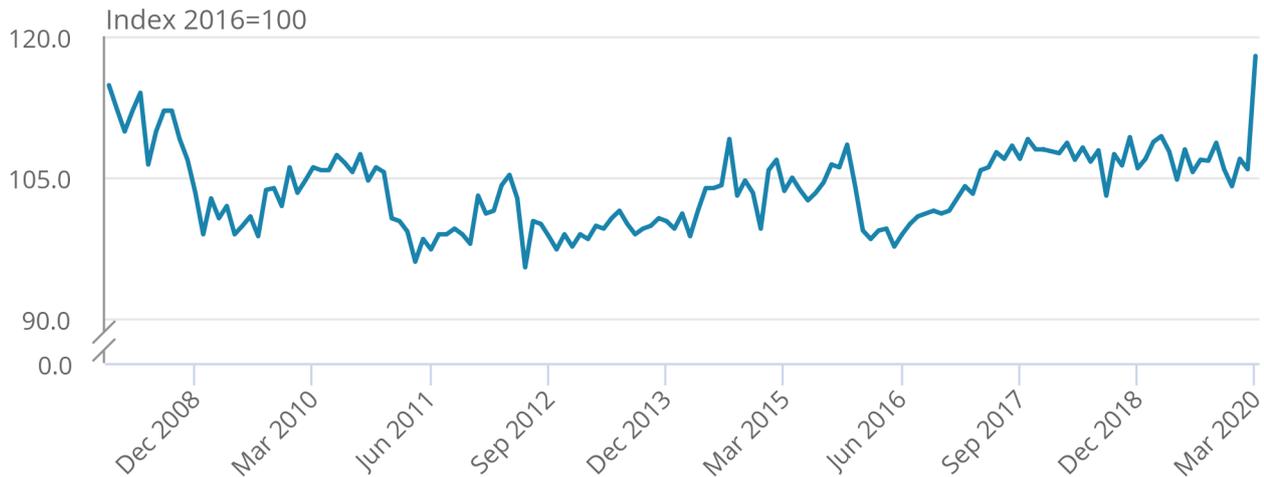
Monthly growth for the paper and paper products industry of 11.3% has never been stronger, underpinned by the "panic buying" of products such as toilet roll, kitchen roll and facial tissues. We also received responder-led evidence of an increase in the production of paper-based products, to meet increased demand from the food and medical supply industries.

**Figure 11: Paper and paper products experienced record growth in March 2020 partially because of strong demand for toilet roll**

Index of paper and paper products, seasonally adjusted, UK, January 2008 to March 2020

Figure 11: Paper and paper products experienced record growth in March 2020 partially because of strong demand for toilet roll

Index of paper and paper products, seasonally adjusted, UK, January 2008 to March 2020



Source: Office for National Statistics – Index of Production

## Basic pharmaceutical products

Because of the impact of the coronavirus (COVID-19) pandemic, the basic pharmaceutical products industry has been boosted by a stronger than usual demand for pharmaceutical-based products. This has resulted in the strongest monthly growth since December 2016 of 10.9%. However, we were unable to highlight any vaccine-related impact to help combat the coronavirus.

## Soaps, detergents and cleaning products

We received responder-led evidence of an increase in the sales of hand sanitiser, soap and disinfectant products.

## Mining and quarrying sector

Monthly growth for the mining and quarrying sector decreased by 11.5%, with output falling across all industries. Widespread maintenance shutdowns within oil and gas extraction explain the third-largest monthly fall for this industry since records began, reflective of a negative impact from the widely reported fall in oil prices. Data are supplied by the Department for Business, Energy and Industrial Strategy (BEIS) and may be more prone to revision, because of lower than usual coverage in March 2020.

## Electricity and gas sector

Despite much of the UK population spending more time in their homes because of the lockdown restrictions, the fall of 1.5% at sector level was driven by electricity supply. This fell by 2.1%, mainly because of less demand from industry, which outstripped the increase in domestic use.

## 5 . Production and services data

### [Index of Services time series](#)

Dataset | Dataset ID: IOS1 | Released 13 May 2020

Monthly movements in output for the services industries: distribution, hotels and restaurants; transport, storage and communication; business services and finance; and government and other services.

### [Index of Production time series](#)

Dataset DIOP | Released 13 May 2020

Movements in the volume of production for the UK production industries: manufacturing, mining and quarrying, energy supply, and water and waste management. Figures are seasonally adjusted.

### [Output in the construction industry: sub-national and sub-sector](#)

Dataset | Released 9 April 2020

Quarterly non-seasonally adjusted sub-national and sub-sector data at current prices, Great Britain.

### [Monthly Business Survey turnover of services industries](#)

Dataset | Released 13 May 2020

Monthly Business Survey services industries' total turnover; current price and non-seasonally adjusted, UK.

### [Monthly Business Survey turnover in production industries](#)

Dataset | Released 13 May 2020

Monthly Business Survey (MBS) production industries' total turnover, domestic sales and exports in the UK. Figures are in current price and non-seasonally adjusted.

All data related to the Index of Services (IoS) are available on the [related data page for IoS](#).

All data related to the Index of Production (IoP) are available on the [related data page for IoP](#).

All data related to the construction output are available on the [related data page for construction](#).

## 6 . Data quality and quality assurance

This article is the first analysis of the impact of the coronavirus (COVID-19) pandemic on official output data. Our monthly outputs will continue to be closely monitored and quality assured. Monthly data for April 2020 will be published on 12 June 2020. If you have any comments or feedback on this article, please contact [indexofproduction@ons.gov.uk](mailto:indexofproduction@ons.gov.uk).

### Data collection and sources

The Monthly Business Survey (MBS) is the primary data source for 75% of production industries and 50% of services industries. This is an online questionnaire where businesses are asked to provide their turnover, and export turnover if they are within manufacturing.

## Effects of the coronavirus (COVID-19) on the data

During lockdown it has proven more challenging to collect the information required to produce the MBS. Although survey responses have inevitably declined there are no significant concerns surrounding data quality for March 2020.

The first [government advice on social distancing](#) was published on 12 March 2020 before a formal “lockdown” was announced on 23 March 2020. These inevitably led to a fall in consumer demand and business and factory closures, which further complicated the existing supply chain issues that had already begun to appear.

A comments box is available for businesses to describe issues impacting turnover and we use this responder-led evidence to validate industry movements. For March 2020 we received more than 10,000 comments across the MBS (that is 10 times more than the average month), most commonly referring to a drop in turnover because of the coronavirus (COVID-19) pandemic.

## Other data sources

Other data are primarily sourced from the Office for National Statistics (ONS) (for example, government expenditure, households' expenditure, and finance expenditure), but also other bodies such as the Department for Transport, the Civil Aviation Authority and the Department for Business, Energy and Industrial Strategy (BEIS). These account for 50% of services industries and 25% of production industries. We are also able to gain intelligence from these data providers regarding monthly changes in their data.

## Volatility

Care should be taken when using the month-on-month movements as data can be volatile; longer-term growth rates and examination of the time series allow for better interpretation of the statistics. Shorter time series, including those for the construction industry, which only began in 2010, are implicitly more volatile.

## Survey response – production and services industries

The Monthly Business Survey (MBS) is an online questionnaire and is the primary data source for 75% of production industries and 50% of services industries. During the coronavirus (COVID-19) pandemic it has proven more challenging to collect the information required because of the furloughing of staff who would normally complete the questionnaires.

For services industries, the overall response rates compare favourably with similar periods in previous years at 79.0% response by turnover compared with 82.4% in March 2019. For more information see [Historic Monthly Business Survey \(services\) response rates](#).

There has been some impact at industry level, typically but not exclusively for industries where a higher proportion of businesses have ceased trading on a permanent or temporary basis during March and/or later periods. Those industries are land transport services, accommodation, food and beverage services, telecommunications, accounting and repair of computers and personal goods, and these may have an increased risk surrounding revisions. However, lower response should be overcome by the quality of the imputation for the industry.

In food and beverage services, we have compared analysis between different size bands for selected industries (with employment in the range 0 to 9, 10 to 99, and 99 or more) and they showed similar month-on-month movements. The consistency in monthly growth rates across each industry is instructive and gives us confidence in the quality of the data.

In contrast, the response for computer programming and personal services is higher than in March 2019.

For production industries, the overall response rates are down slightly on previous periods at 71.7% response by turnover compared with 82.2% in March 2019. For more information see [Monthly Business Survey \(production\) response rates](#). This has primarily been caused by a comparatively lower response from larger businesses. At sub-section level textiles, leather and clothing had lower than normal response but we noted similar monthly falls across different sized businesses within each industry. In addition, other mining and quarrying, wood and wood products, reproduction of recorded media, other chemical products, manufacture of aircraft and manufacture of furniture had lower response. BEIS have also advised us of lower than average response rates for the extraction of crude petroleum and natural gas.

In contrast, the response for vegetable and animal fats, grain mill products, manufacture of petrochemicals, and manufacture of basic pharmaceuticals was higher than in March 2019.

## Survey response – construction industry

The MBS for the construction industry in March 2020 was a paper questionnaire. This was a contributory factor behind the 54.4% response rate by turnover, compared with 78.0% in March 2019 as, in addition to furloughed staff, some business respondents were working from home and were unable to complete the paper questionnaire delivered to their work address. The April 2020 survey has moved online to alleviate this issue.

## Impact of business closures

Many businesses have ceased trading because of the impact of the coronavirus (COVID-19) pandemic, either on a permanent or temporary basis. This will have impacted upon survey response rates for March 2020 and inactivity rates will impact on future months with increasing pressure on response rates.

We have seen some limited evidence of increased inactivity during March 2020 by analysing nil returns. In the services industries, a consistent 6.0% of business returns to the MBS were nil between January and March 2019 and also in January and February 2020. In March 2020 this increased to 7.2%. In the production industries nil returns were similarly a consistent 3.4% between January and March 2019 and January and February 2020. In March 2020 they increased to 4.4%.

Updates to the ONS Inter-Departmental Business Register from HM Revenue and Customs will deliver the most authoritative medium-term impact on business demographics and activity rates. For the timeliness of these outputs, we have had to focus on information provided by businesses to both the MBS and the [Business Impact of Coronavirus \(COVID-19\) Survey](#) (BICS). BICS can provide information on businesses that cease trading at industry and business level, which will also prove helpful for April 2020 estimates.

## Forecasting

There is always a trade-off between the timeliness of our published estimates and the availability of data. With the publication of March 2020 data some sources are not available as normal and these have been forecasted using standard ONS methodology and practice.

These include quarterly data from the ONS expenditure approach to the measure of gross domestic product (GDP) (government expenditure from HM Treasury, households' expenditure from the ONS Living Costs and Food Survey, and finance expenditure primarily from the Bank of England) where we are using initial estimates from ONS suppliers. In addition, we have forecasted average weekly earnings for March (used as a proxy for price deflators for some services industries) as these are only available one month in arrears.

While at this stage these data are predominantly based on forecasts, we have used a wider range of data to inform our judgements around these, for example:

- we have used the [COBR report](#) to help model ferry data in the water transport industry and passenger data in the rail transport industry while we await our normal delivery of quarterly data from the Department for Transport
- the independent schools component of the education industry is measured using annual data from the Independent Schools Council, which requires the use of forecast data for the first quarter of 2020; we have modelled the forecast to enable us to reflect the movement in government-funded schools but will review this in future months

## Changes in products produced by businesses

Comments received as part of the MBS have made clear that businesses have begun to change their product and service mix because of the coronavirus (COVID-19) pandemic. Within the manufacturing industries this has particularly focused on, for example, medical equipment, personal protective equipment (PPE) and hand sanitisers by businesses previously unfamiliar with the manufacture of those products.

Businesses can often change the make-up of their products and services and as a consequence it is challenging to keep pace with these changes in the short-term. We capture these changes through the Annual Survey of Goods and Services, which provides product breakdowns of each industry.

## Methodological review

A review of the appropriateness of our seasonal adjustment models has been conducted by experts at the ONS, including the entire construction industry and most of the production and services industries. Another review will be conducted for April 2020 estimates.

Methodology experts at the ONS have closely reviewed the imputation methodology used for businesses that have not responded to the MBS. They have concluded that imputation methodology is being applied appropriately.

## Revisions

Revisions are an inevitable consequence of publishing on a timely basis as more data become available, including higher response rates to surveys. Users should be aware that during periods of significant data volatility it is possible that revisions may be greater than normal. These can be tracked through revisions triangles published alongside the appropriate bulletins and will be featured in articles and bulletins where appropriate.

## 7 . Related links

### [GDP monthly estimate. UK: March 2020](#)

Bulletin | Released 13 May 2020

Gross domestic product (GDP) measures the value of goods and services produced in the UK. It estimates the size of and growth in the economy and includes the Index of Production (IoP), Index of Services (IoS) and construction output in Great Britain.

### [Coronavirus, the UK economy and society, faster indicators: 7 May 2020](#)

Article | Released 7 May 2020

New data and experimental indicators on the UK economy and society, including information related to the coronavirus (COVID-19). Indicators are constructed from rapid response surveys, novel data sources and experimental methods.

### [Coronavirus \(COVID-19\) roundup](#)

Article | Updated as and when data become available

Catch up on the latest data and analysis related to the coronavirus (COVID-19) pandemic and its impact on our economy and society.

### [Coronavirus \(COVID-19\) latest data and analysis](#)

Web page | Updated as and when data become available

Latest data and analysis on the coronavirus (COVID-19) in the UK and its effect on the economy and society.

### [Coronavirus and the effects on UK GDP](#)

Article | Released 6 May 2020

How the global coronavirus (COVID-19) pandemic and the wider containment efforts are expected to impact on UK gross domestic product (GDP) as well as some of the challenges that National Statistical Institutes are likely to face.

### [Meeting the challenge of measuring the economy through the COVID-19 Pandemic](#)

Blog | Released 6 May 2020

A blog looking at new challenges we face in terms of data collection during the coronavirus (COVID-19) pandemic.