

Article

Manufacturing sector performance, UK: 2008 to 2018

An overview of the changes in the manufacturing sector between 2008 and 2018, focussing on the industries that have grown or shrunk the most.

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1 . Main points

- The recovery of the manufacturing sector from the 2008 recession has been heavily dependent upon four out of the 24 industries; manufacture of food, motor vehicles, other transport equipment and repair of machinery.
- Without the positive impact of these four industries, the Index of Manufacturing in Quarter 4 (Oct to Dec) 2018 would still be below its lowest value during the 2008 recession.
- The growth in manufacturing seen from Quarter 1 (Jan to Mar) 2012 to Quarter 2 (Apr to June) 2016 was driven by the motor vehicle manufacturing industry, which contributed as much growth in this period as the next five best performing industries combined.
- The growth in manufacturing in the period following the 2016 EU referendum was primarily export driven, with export turnover across the sector increasing by 14% whilst domestic turnover increased by 2% between Quarter 2 2016 to Quarter 2 2018.
- The performance of manufacturing in 2018 has weakened; of the nine industries that have had the largest positive or negative contributions to headline manufacturing from 2008 to 2018, eight have performed substantially worse in 2018 than from April 2016 to December 2017.

2 . Overview

The manufacturing sector has changed substantially over the decade from January 2008 until December 2018, which also includes the impact of the 2008 recession. The Index of Manufacturing is now close to returning to its level at the start of 2008, although many manufacturing industries have still not recovered from the recession. Instead, the recovery of the manufacturing industry has been built on the strong performances of four industries at the [two-digit level of the UK Standard Industrial Classification 2007 \(SIC\)](#). These industries are: manufacture of food, motor vehicles, other transport equipment and repair of machinery.

This article explores the performances of these industries and looks at some of the other developments that have impacted the manufacturing sector between 2008 and 2018.

This analysis is based on manufacturing as published in [Index of Production](#) and [Annual Business Survey](#). The appendix to this article contains a table showing SIC codes and their industry descriptions. Figure 1 shows the index of manufacturing.

Figure 1: At the end of 2018, the Index of Manufacturing is close to its pre-downturn peak

Seasonally adjusted, January 2008 to December 2018. Index (2008 Quarter 1 = 100)

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Seasonally adjusted, January 2008 to December 2018. Index (2008 Quarter 1 = 100)



Source: Office for National Statistics - Index of Manufacturing

The manufacturing sector was severely affected by the 2008 recession, falling by 12.3% between Quarter 1 (Jan to Mar) 2008 and Quarter 2 (Apr to June) 2009, while output across the economy fell by 6.2% in the same period. Since then, the manufacturing sector has averaged quarter-on-quarter growth of 0.27%, finishing the decade in Quarter 4 (Oct to Dec) 2018 2.7% below its level in Quarter 1 2008.

3 . The four major growth contributors

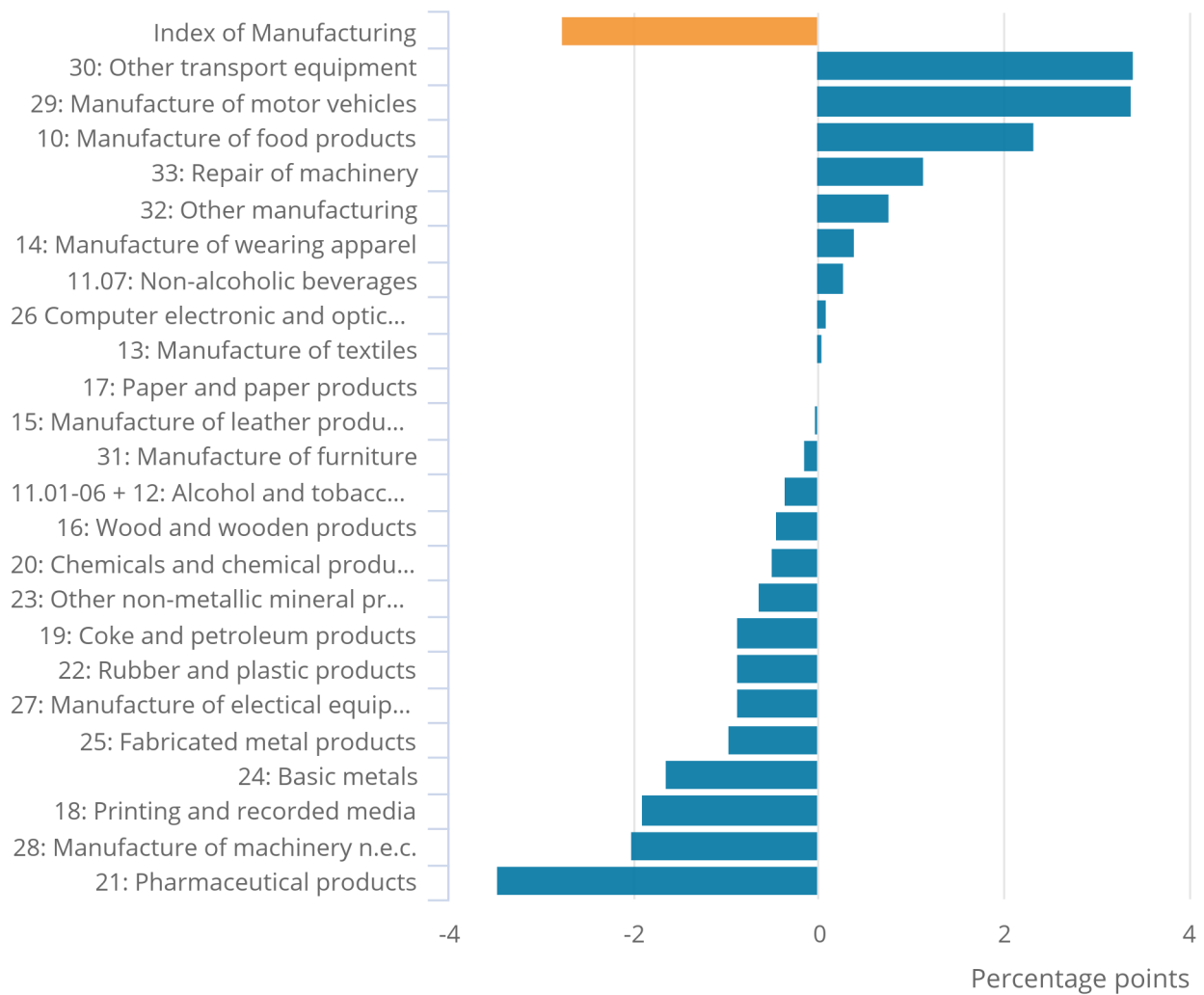
Between Quarter 1 (Jan to Mar) 2008 and Quarter 4 (Oct to Dec) 2018 the Index of Manufacturing declined by 2.7%. The contributions to this change from manufacturing industries are shown in Figure 2.

Figure 2: The Index of Manufacturing declined by 2.75 percentage points

Seasonally adjusted, 2008 Quarter 1 to 2018 Quarter 4

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Seasonally adjusted, 2008 Quarter 1 to 2018 Quarter 4



Source: Office for National Statistics

Notes:

1. Contributions are percentage changes in the Index of Manufacturing.
2. Contributions may not sum exactly due to rounding.

It is clear from Figure 2 that four manufacturing industries have been primarily responsible for growth in the manufacturing sector. These industries are:

10: Manufacture of food products

Contributed 2.3 percentage points of growth. Food manufacturing is primarily a consumption driven industry. Its growth of 4.4% from Quarter 1 2008 to Quarter 4 2018 is less than the Office for National Statistics' (ONS's) estimate of [6.8% growth in population from 2008 to 2017](#).

29: Manufacture of motor vehicles, trailers and semi-trailers

Contributed 3.4 percentage points of growth. The performance of this industry is examined in depth in Section 5 "Quarter 1 2012 to Quarter 2 2016: The reliance on the motor vehicle industry".

30: Manufacture of other transport equipment

Contributed 3.4 percentage points of growth. This industry includes the manufacture of ships and boats, railway locomotives, aircraft, military vehicles and motorcycles. The industry's growth of 75% from Quarter 1 2008 to Quarter 4 2018 was more than double that of the next best performer. There was strength across all the subindustries within the industry, with the manufacture of aircraft the biggest driver of growth.

33: Repair and installation of machinery and equipment

Contributed 1.1 percentage points of growth. This industry covers the repair of fabricated metal products, electronic and electric equipment, ships and boats and air and spacecraft amongst others. The industry grew by 28% over the decade between Quarter 1 2008 and Quarter 4 2018.

Together, these four industries were responsible for 86% of growth in the Index of Manufacturing from Quarter 1 2008 to Quarter 4 2018 but accounted for 30% of the sector's weight in 2016. To be concise in the rest of this article, these four industries will be referred to as the major growth contributors (MGC).

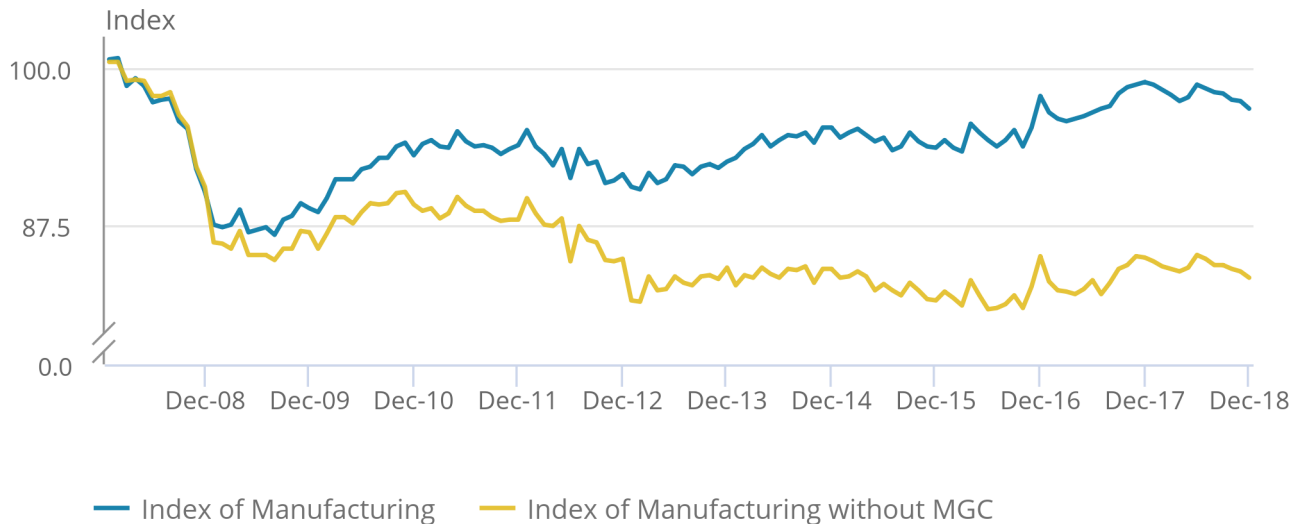
With the manufacturing sector so dependent on these four major growth contributors, a natural question to ask is how the sector would have performed without them; this can be seen in Figure 3.

Figure 3: The Index of Manufacturing would remain at its recession level without contributions from the major growth contributors

Seasonally adjusted, January 2008 to December 2018. Index(2008 Quarter 1 = 100)

Figure 3: The Index of Manufacturing would remain at its recession level without contributions from the major growth contributors

Seasonally adjusted, January 2008 to December 2018. Index(2008 Quarter 1 = 100)



Source: Office for National Statistics

Notes:

1. The four major growth contributors are the manufacture of food, motor vehicles, other transport equipment and the repair of machinery.

Figure 3 shows the Index of Manufacturing with and without the four industries identified above. Without the four major growth contributors the manufacturing sector would have finished the decade in Quarter 4 2018 below its value during the UK's lowest point of the recession in Quarter 2 (Apr to June) 2009. This means that rather than falling by 2.7% between Quarter 1 2008 and Quarter 4 2018, the Index of Manufacturing would have declined by over 16%.

4 . The five major negative contributors

The negative contributions are dominated by five industries that together account for 68% of the total negative contributions. These are:

18: Printing and reproduction of recorded media

Contributed 1.9 negative percentage points of growth. The industry declined steadily over the decade, probably as consumers increasingly access traditionally printed products such as books and newspapers online.

21: Basic pharmaceutical products and preparations

Contributed 3.5 negative percentage points of growth. The pharmaceutical industry was a strong performer during the recession; at the industry's highest point in April 2009 the industry had grown by 22% since Quarter 1 (Jan to Mar) 2008. However, the industry would steadily decline from this point over the decade and would finish in Quarter 4 (Oct to Dec) 2018 23% below its Quarter 1 2008 value, though some of this decline is due to business restructuring.

24: Manufacture of basic metals

Contributed 1.6 negative percentage points of growth. This industry includes the manufacture of iron, steel and other metals and ferro-alloys. The industry declined during the recession before recovering strongly. However, the industry has declined for the rest of the decade, with Quarter 4 2018 some 30% below its Quarter 1 2018 value.

25: Manufacture of fabricated metal products, except machinery and equipment

Contributed 0.97 negative percentage points of growth. This industry includes the manufacture of structural metal products, metal tanks and reservoirs, weapons and ammunition and cutlery amongst other products. The industry declined by 23% between Quarter 1 2008 and Quarter 1 2010. The industry has steadily recovered from this though, with an average month-on-month growth of 0.17% from April 2010 to December 2018, meaning that the industry finished in Quarter 4 2018 12% below its Quarter 1 2008 value.

28: Machinery and equipment not elsewhere classified

Contributed 2 negative percentage points of growth. This industry includes the manufacture of engines not used for aircraft or vehicles, pumps, lifting equipment, agricultural equipment and other special purpose machinery. Much like basic metal manufacturing, the industry declined during the recession but recovered strongly and surpassed its Quarter 1 2008 value in October 2010. However, the industry began to decline again in 2013 and finished in Quarter 4 2018 11% below its Quarter 1 2008 value.

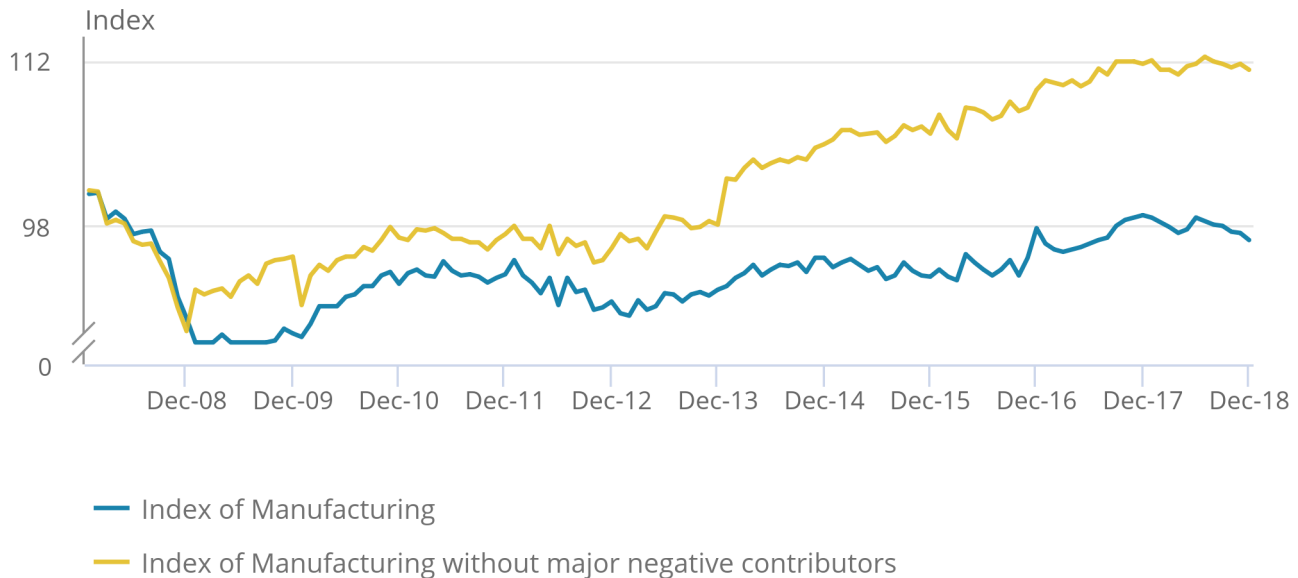
Figure 4 shows the performance of the Index of Manufacturing with and without the major negative contributors.

Figure 4: The Index of Manufacturing would have grown past its pre-downturn peak without contributions from the major negative contributors

Seasonally adjusted, January 2008 to December 2018. Index(2008 Quarter 1 = 100)

Figure 4: The Index of Manufacturing would have grown past its pre-downturn peak without contributions from the major negative contributors

Seasonally adjusted, January 2008 to December 2018. Index(2008 Quarter 1 = 100)



Source: Office for National Statistics

Notes:

1. The five major negative contributors are manufacture of printing and recorded media, pharmaceuticals, basic metals, fabricated metal products and machinery not elsewhere classified.

Figure 4 shows that without these five major negative contributors, the manufacturing sector would have exceeded its Quarter 1 2008 level by 11% in Quarter 4 2018, rather than being 2.7% below.

5 . Quarter 1 2012 to Quarter 2 2016: The reliance on the motor vehicle industry

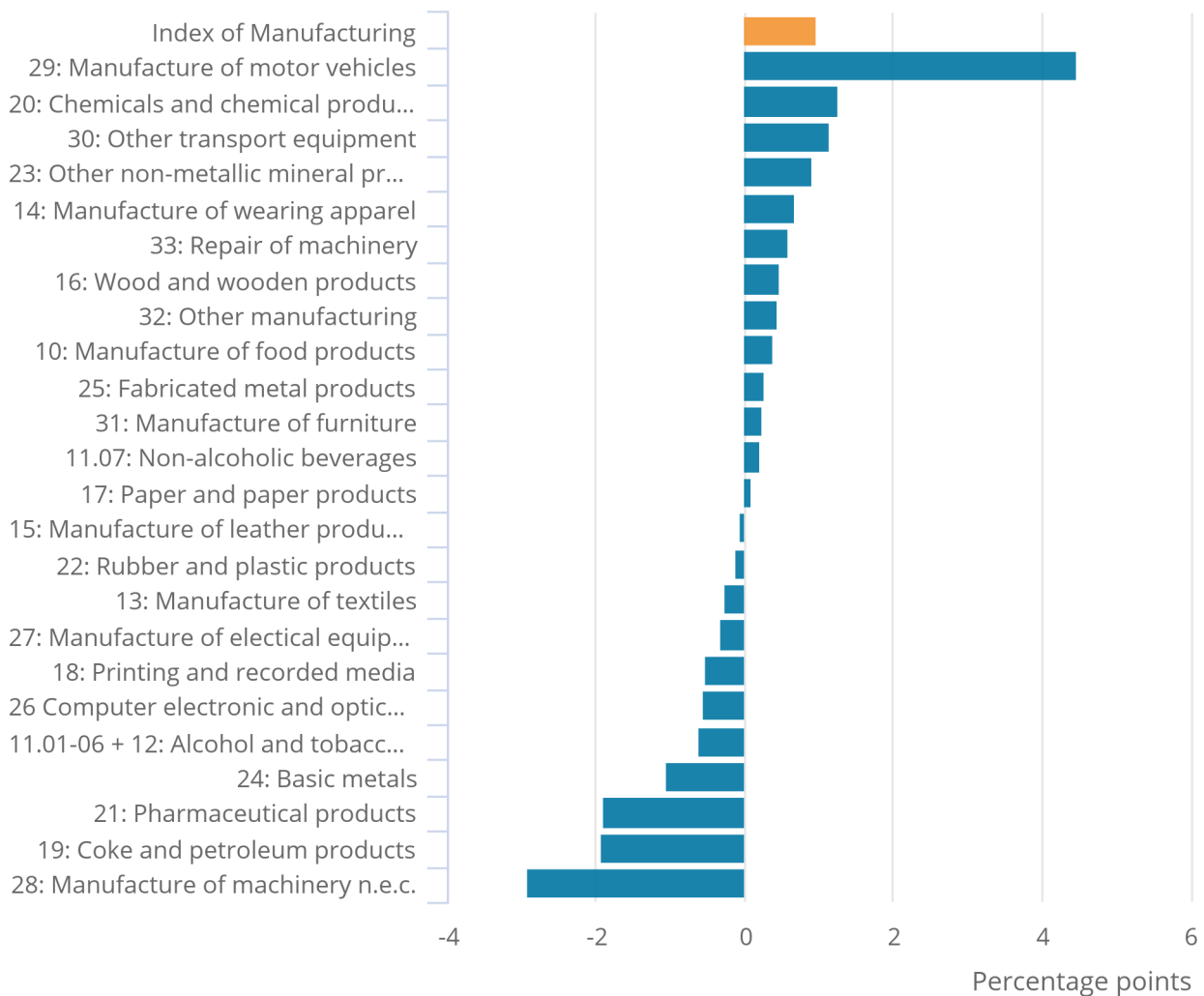
The period from Quarter 1 (Jan to Mar) 2012 to Quarter 2 (Apr to June) 2016 is bookended by the second prolonged contraction in the manufacturing industry (it fell twice quarter-on-quarter in Quarter 3 (July to Sept) 2011 and Quarter 4 (Oct to Dec) 2011) and by the sterling depreciation that occurred around the time of the EU membership referendum in June 2016. From Quarter 1 2012 to Quarter 2 2016 the manufacturing sector grew by 0.97%, this lower growth was due to the fact that the sector had a weak 2012, with an average month-on-month growth of negative 0.2%. The sector then began to grow slowly, with average month-on-month growth of 0.07% from January 2013 to June 2016. Figure 5 shows the contributions to this growth from each manufacturing industry.

Figure 5: The Index of Manufacturing grew by 0.97 percentage points and was dominated by contributions from the motor vehicle industry

Seasonally adjusted, 2012 Quarter 1 to 2016 Quarter 2

Figure 5: The Index of Manufacturing grew by 0.97 percentage points and was dominated by contributions from the motor vehicle industry

Seasonally adjusted, 2012 Quarter 1 to 2016 Quarter 2



Source: Office for National Statistics

Notes:

1. Contributions are percentage changes in the Index of Manufacturing.
2. Contributions may not sum exactly due to rounding.

The growth of the manufacturing sector from Quarter 1 2012 to Quarter 2 2016 was dominated by Industry 29, the motor vehicles industry, which added 4.5 percentage points of growth and accounted for 39% of all contributions to growth in this period. It added as much to headline manufacturing as the next five best performing industries combined.

The motor vehicle industry was the hardest hit of all the manufacturing industries during the recession, dropping 49% below its Quarter 1 2008 value in February 2009 as demand plummeted. The industry recovered strongly from this however, with its average month-on-month growth rate from February 2009 to January 2012 eight times as large as the average rate for the manufacturing sector. The industry continued its strong performance from Quarter 1 2012 to Quarter 2 2016 and grew by 32%, the largest growth of any industry over the period.

This strength did not last beyond this period. Between Quarter 2 2016 and Quarter 4 2018 the motor vehicle industry lost 0.7 percentage points of contribution to the Index of Manufacturing, more than any other industry. There were [several factors behind this fall](#), including changes to vehicle excise duty, emission test changes in the form of the worldwide harmonised light vehicle test procedure and potentially uncertainty about the UK's future relationship with the European Union. This was reflected in [figures from the Society of Motor Manufacturers and Traders](#), which found that the number of motor vehicles manufactured in the UK in 2018 was 12% lower than in 2016.

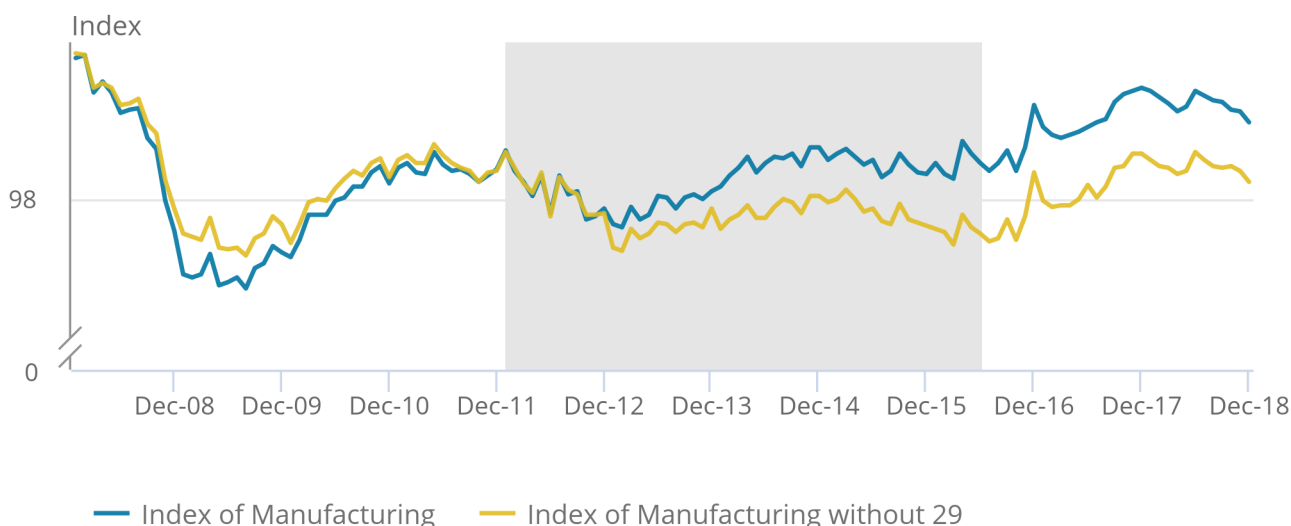
The increased dependence on the motor vehicle industry from Quarter 1 2012 to Quarter 2 2016 makes it interesting to compare the performance of the sector over this period with and without the motor vehicle industry.

Figure 6: The Index of Manufacturing would have declined between Quarter 1 2012 and Quarter 2 2016 without contributions from the motor vehicle industry

Seasonally adjusted, January 2008 to December 2018. Index(2012 Quarter 1 = 100)

Figure 6: The Index of Manufacturing would have declined between Quarter 1 2012 and Quarter 2 2016 without contributions from the motor vehicle industry

Seasonally adjusted, January 2008 to December 2018. Index(2012 Quarter 1 = 100)



Source: Office for National Statistics

Figure 6 shows that without the motor vehicles industry (29) the Index of Manufacturing would not have surpassed or even returned to its Quarter 1 2012 value at any point before Quarter 2 2016. Indeed, excluding the industry means that rather than the manufacturing sector growing by 1% between Quarter 1 2012 and Quarter 2 2016 it would have shrunk by 3.7%.

6 . Quarter 2 2016 to Quarter 4 2018: Sterling depreciation

The manufacturing sector grew by 2.4% between Quarter 2 (Apr to June) 2016 and Quarter 4 (Oct to Dec) 2018, meaning that the sector finished in Quarter 4 2018 2.7% below its level in Quarter 1 (Jan to Mar) 2008. Much of the growth in this period was export driven. This is because the value of sterling fell around the time of the EU membership referendum on 23 June 2016, as can be seen in the [Sterling effective exchange rate](#).

Sterling depreciation offers opportunities for exporters to capitalise in two ways. Either exporters can keep their prices constant in foreign currency terms and reap the gains when this currency is converted back to the now weakened sterling, or they can drop their prices in the countries that they are exporting to become more internationally competitive and increase their sales volume. In this case, our recent report on [the impact of sterling devaluation on prices and turnover in the manufacturing sector](#) found that from mid-2016 to mid-2017 there was a larger than usual price effect, meaning more export revenue was being generated by increased sterling prices due to the depreciation. However, the article also found that once price effects were removed from the monthly business survey turnover figures, the manufacturer's export volume grew by 9% between Quarter 3 (July to Sept) 2016 and Quarter 2 2017. This suggests that the increase in export turnover that is observed is due to a combination of price and volume effects.

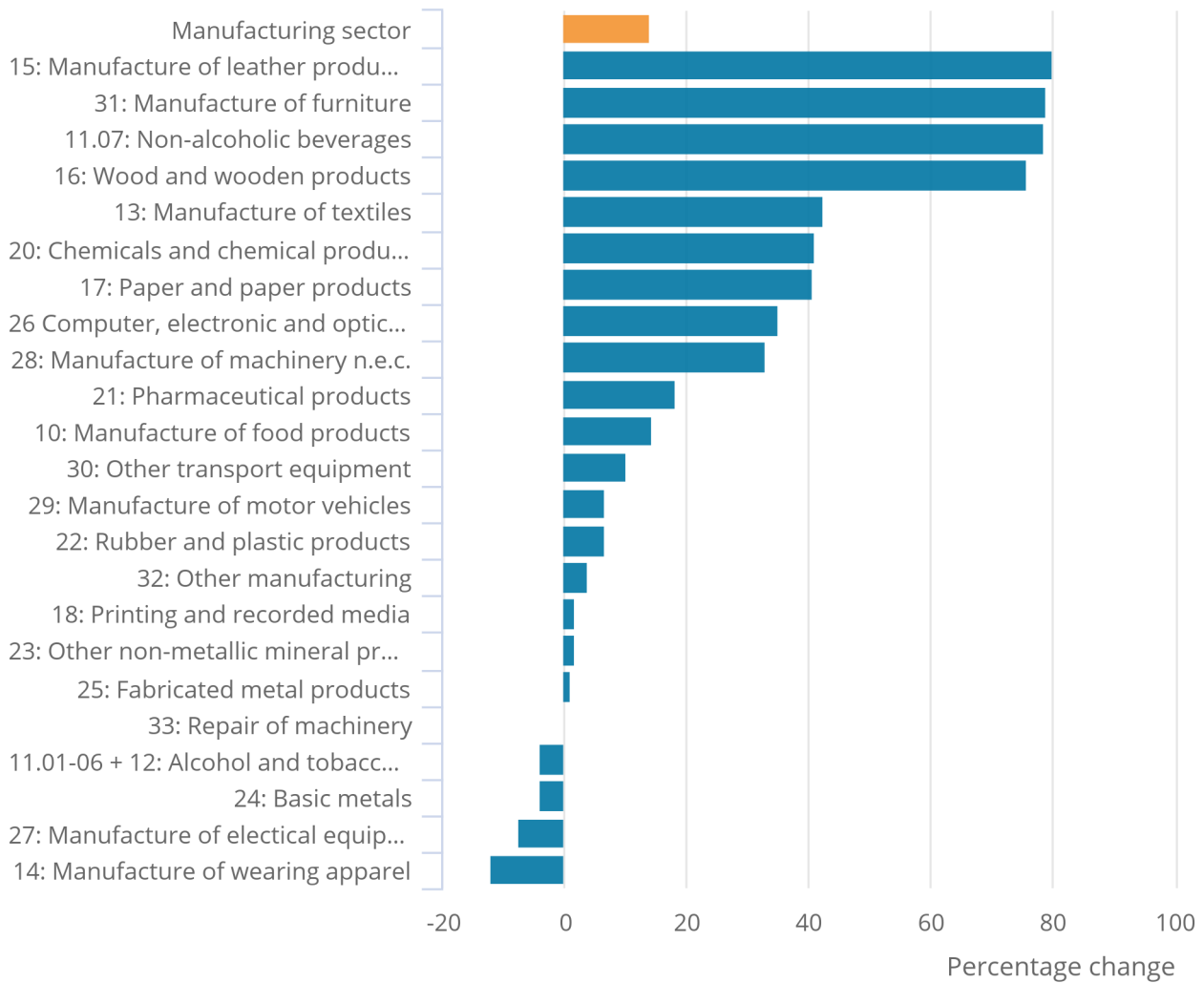
Figure 7 shows the percentage change in export turnover over the period. It should be noted that this turnover data comes from the Monthly Business Survey.

Figure 7: There was wide-spread growth in export turnover across the manufacturing sector from Quarter 2 2016

Non-seasonally adjusted. 2016 Quarter 2 (April-June) to 2018 Quarter 2.

Figure 7: There was wide-spread growth in export turnover across the manufacturing sector from Quarter 2 2016

Non-seasonally adjusted. 2016 Quarter 2 (April-June) to 2018 Quarter 2.



Source: Office for National Statistics

Notes:

- 1. Export data for industry 19: Coke and petroleum products is not available.

Figure 7 shows that all but five manufacturing industries increased their export turnover over the period. The effect of sterling depreciation on industry performance in this period was substantial. For example, Industry 28, manufacture of machinery not elsewhere classified, was the second largest negative contributor to headline manufacturing from Quarter 1 2008 to Quarter 2 2016. However, it was the third best performing industry from Quarter 2 2016 to Quarter 4 2018, adding 0.7 percentage points of contribution in this time. This growth was primarily export driven as the industry's export turnover increased by 33% from Quarter 2 2016 to Quarter 2 2018, while domestic turnover grew by 0.8%. This was seen across the manufacturing sector, with export turnover increasing by 14% over the period, compared with the 2% increase seen in domestic turnover.

7 . Manufacturing sector in 2018

The manufacturing sector has weakened over 2018, losing 1% of its value from Quarter 1 (Jan to Mar) 2018 to Quarter 4 (Oct to Dec) 2018. This is a marked difference in performance from that of the sector in the second half of 2016 and 2017 and this can be seen in Table 1. This shows the month-on-month growth rates for the Index of Manufacturing and the industries primarily responsible for the positive and negative growth seen in the sector from 2008 to 2018.

Table 1: Average month on month growth rates for manufacturing industries

Industry	Average month on month growth rate July 2016-December 2017	Average month on month growth rate 2018
Index of Manufacturing	0.27	-0.08
10: Manufacture of food products	0.25	0.17
29: Manufacture of motor vehicles	0.03	-0.30
30: Other transport equipment	0.54	0.05
33: Repair of machinery	0.50	-0.72
18: Printing and recorded media	-0.24	-0.28
21: Pharmaceutical products	0.10	0.11
24: Basic metals	0.53	-0.87
25: Fabricated metal products	0.57	-0.71
28: Manufacture of machinery n.e.c.	1.01	-0.39
11.01-06 + 12: Alcohol and tobacco production	-1.10	0.80
11.07: Non-alcoholic beverages	0.58	0.84
13: Manufacture of textiles	0.84	-0.22
14: Manufacture of wearing apparel	-0.22	-0.25
15: Manufacture of leather products	1.33	-0.16
16: Wood and wooden products	0.43	0.13
17: Paper and paper products	0.53	-0.35
19: Coke and petroleum products	-0.14	0.09
20: Chemicals and chemical products	0.21	0.33
22: Rubber and plastic products	-0.02	0.17
23: Other non-metallic mineral products	0.10	0.03
26 Computer, electronic and optical products	0.71	1.25
27: Manufacture of electrical equipment	0.42	-0.77
31: Manufacture of furniture	0.24	0.13
32: Other manufacturing	0.40	0.17

Source: Office for National Statistics

As Table 1 shows, 17 out of 24 total industries, including eight out of the nine industries that have been either major positive or negative contributors to the sectors growth over the decade, have performed worse on average in 2018 than from July 2016 to December 2017. This weakening highlights the fragility of the growth of the manufacturing sector from 2008 to 2018; over this period, if the four major growth contributors are not performing strongly then there has been little strength elsewhere in the sector to compensate.

8 . Conclusion

The main finding of this article is that the recovery of the manufacturing sector from the recession has been built upon the performances of four industries: manufacture of food, motor vehicles, other transport equipment and repair of machinery. Together, these industries account for just 30% of the manufacturing sector's weight, however they have provided 86% of all growth in the manufacturing sector from 2008 to 2018. To a lesser extent, the negative contributions have also been dominated by a group of five industries, which together make up 28% of the sector's weight and have contributed 68% of all negative contributions to headline manufacturing. The performance of these industries has largely determined the story of the sector from 2008 to 2018. Eight of the nine have seen a marked downturn in performance in 2018 compared with the second half of 2016 and 2017, pointing to a weakening in the sector at the end of the decade.

9 . Appendix

Table 2: Standard Industrial Classification 2007 codes and industry descriptions for manufacturing industries

SIC code	Industry description
10	Manufacture of food products
11.01-06 + 12	Alcohol and tobacco production
11.07	Non-alcoholic beverage production
13	Manufacture of textiles
14	Manufacture of wearing apparel
15	Manufacture of leather products
16	Manufacture of wood and wooden products
17	Paper and paper products
18	Printing and recorded media
19	Coke and petroleum products
20	Chemicals and chemical products
21	Pharmaceutical products
22	Rubber and plastic products
23	Other non-metallic mineral products
24	Manufacture of basic metals
25	Fabricated metal products
26	Computer, electronic and optical products
27	Manufacture of electrical equipment
28	Manufacture of machinery n.e.c.
29	Manufacture of motor vehicles
30	Other transport equipment
31	Manufacture of furniture
32	Other manufacturing
33	Repair of machinery

Source: Office for National Statistics

10 . Authors

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