



UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION

World Manufacturing Production

Statistics for Quarter IV, 2018



Report on world manufacturing production

This report presents the observed growth rates and growth estimates of world manufacturing production for the fourth quarter of 2018. The figures are based on the index numbers of industrial production (IIP) collected by UNIDO Statistics from national data sources.

IIP measures the growth of the volume of industrial production in real terms, free from price fluctuations. Users are advised to take note that while annual industrial growth rates generally refer to changes in manufacturing value added (MVA), i.e. output net of intermediate consumption, the quarterly indices reflect the growth of gross output. Given the temporal nature of estimates, output growth provides the best approximation of value added growth, assuming that the input-output relationship is relatively stable during the observation period.

UNIDO has been publishing quarterly reports on world manufacturing since 2011. The data compilation and presentation methods are regularly updated. Earlier reports included index figures for some countries which were not seasonally adjusted or for which no information

on seasonal adjustments was available. Growth figures have been published based on seasonally adjusted index numbers since 2013. The TRAMO/SEATS method¹ in the JDemetra+ software has been used since 2017 to make seasonal adjustments. The purpose of seasonal adjustments is to filter out any fluctuations or calendar effects within time series shifts.

In 2013, UNIDO Statistics introduced new country groups, with economic territories being classified based on their stage of industrialization. This grouping is implemented in all of UNIDO's statistical publications. The grouping is particularly useful for presenting aggregated growth estimates by country group at different levels of industrialization. In the aftermath of the economic crisis, the pattern of growth, particularly in industrialized and developing countries, differed considerably. A comparative picture of growth trends in different parts of the world has been provided to users. The full list of economies used in the country groups is available in the International Yearbook of Industrial Statistics².

¹TRAMO stands for Time series Regression with ARIMA noise, Missing values and Outliers, and SEATS for Signal Extraction in ARIMA Time Series. ARIMA is the abbreviation of Autoregressive Integrated Moving Average, a widely applied statistical method for time series analyses.

²<https://www.unido.org/resources/publications/flagship-publications/international-yearbook-industrial-statistics>

The present report implements Revision 4 of the International Standard for Industrial Classification of All Economic Activities (ISIC Rev 4)³ in the quarterly data. For countries that publish monthly/quarterly index numbers based on ISIC Rev 4, national data are used in their original form. For countries that still produce index numbers based on ISIC Rev 3, growth figures are estimated at the 2-digit level of Rev 4 using correspondence tables. In both cases, data on index numbers are derived from national statistical sources. In case of missing data, UNIDO conducts imputations or projections, where appropriate. These estimates are generally replaced as soon as the officially reported values become available in national statistical publications.

Growth rates are calculated from the national index numbers that are aggregated to the given country group or world region us-

ing weights based on the country's contribution to world manufacturing value added in 2010. The country groups are based on economic territories rather than political boundaries. This report presents the growth figures for country groups by stage of industrial development and geographic region.

Users can find further information on the methodology of index numbers, estimation procedure or compilation of the country group indices in a methodological document⁴ which is available on the statistical pages of UNIDO's website, together with the actual indices published in UNIDO's Quarterly IIP database, available on the UNIDO's Statistics Data Portal⁵.

This report presents estimates for the fourth quarter of 2018 as well as revised estimates for the third quarter of 2018.

³http://unstats.un.org/unsd/publication/seriesM/seriesm_4rev4e.pdf

⁴http://www.unido.org/fileadmin/user_media/Publications/Research_and_statistics/Branch_publications/Research_and_Policy/Files/Reports/World_Manufacturing_Production_Reports/Methodology_of_the_Quarterly_Report.pdf

⁵<http://stat.unido.org/>

World manufacturing growth in quarter IV 2018

World manufacturing growth further declined in the fourth quarter of 2018 amid high geopolitical uncertainty and ongoing tensions over trade and tariffs among the leading manufacturers, especially the United States, the European Union and China.

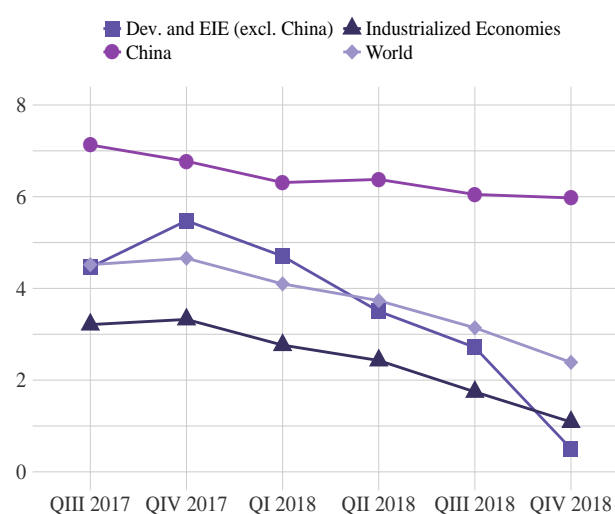
Compared to the same period of the previous year, global manufacturing output rose by 2.4 per cent in the fourth quarter of 2018, down from 3.1 per cent in the previous quarter. The global manufacturing growth rates have been consistently declining since the second half of 2017, both in industrialized as well as in developing and emerging industrialized economies (see Figure 1).

Although manufacturing output has continued to expand in industrialized economies in recent years, the pace of growth further lost momentum at the end of 2018. Based on a year-on-year comparison, the growth rate of manufacturing output is estimated at 1.1 per cent in the fourth quarter, dropping from 1.7 per cent in the third quarter of 2018. Compared to the same period of the previous year, the growth rate in particular of North America's manufacturing output at 2.7 per cent was above this country group's average.

The year-on-year manufacturing output in industrialized economies of the East Asia region

grew moderately by 1.3 per cent. Data for the final quarter of 2018 reveal that the manufacturing sector of industrialized economies in Europe performed below expectations. The manufacturing sector's year-on-year growth rate declined for the first time in 20 consecutive quarters. More specifically, manufacturing output in industrialized countries in Europe contracted by an estimated 0.5 per cent in the fourth quarter of 2018 compared to the same period of the previous year.

Figure 1: Growth of world manufacturing output in % compared to the same quarter of the previous year



Against the backdrop of temporarily suspended increases in tariffs, uncertainty about trade policies of China and the United States remains high. Seasonally adjusted figures indicate that the pace of China's year-on-year growth has remained stable. Compared to the same period of the previous year, the country's growth rate of manufacturing output is again estimated at about 6.0 per cent in the fourth quarter of 2018.

The manufacturing output of developing and emerging industrial economies (excluding China) has registered a more dynamic development in recent quarters. However, the growth performance of these countries plunged to 0.5 per cent in the fourth quarter of 2018 compared to the same period of the previous year. This marks a comparatively abrupt slowdown attributable to a sharp decline in the manufacturing output of several major economies of the country group following a year-on-year growth of 2.7 per cent in the third quarter of 2018. The manufacturing output of Argentina fell by 11.5 per cent, Kazakhstan's by 8.5 per cent and Turkey's by 7.6 per cent in the fourth quarter of 2018.

Developing economies in Asia and the Pacific recorded a year-on-year growth rate of 2.5 per cent in the fourth quarter of 2018 as a result primarily of an increase in India's manufacturing output of 2.9 per cent, of Indonesia's by 3.1 per cent and Saudi Arabia's by 3.4 per cent.

Amid volatility and some turbulences in a number of Latin American economies, the region's estimated manufacturing output dropped by 1.2 per cent. In addition to the deepening of Argentina's recession, Brazil, the region's largest manufacturer, experienced an unexpected decline in its manufacturing output of 2.8 per cent in the fourth quarter of 2018 compared to the same period of the previous year.

Growth estimates based on limited data indicate a positive growth rate of Africa's manufacturing output of around 2.1 per cent.

In summary, an overall expansion of manufacturing production is still perceptible, but the pace of global manufacturing growth is showing a gradual deceleration throughout the quarters of 2018. An accumulation of more risks and uncertainties may cause a further slowdown of manufacturing production.

Findings by country group

Industrialized economies

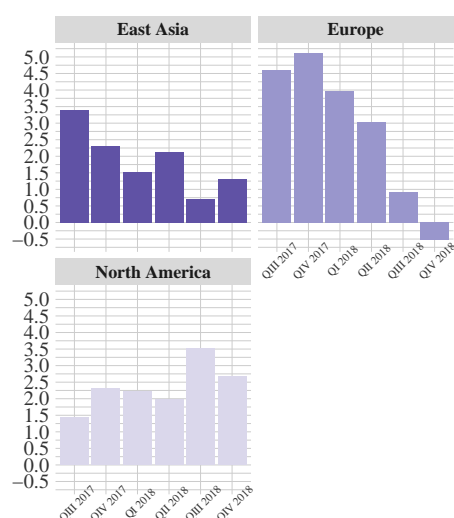
According to UNIDO estimates, the growth rate of manufacturing output of industrialized countries registered another visible reduction in the fourth quarter of 2018, but maintained an overall positive growth rate of 1.1 per cent compared to the same period of the previous year. A more detailed look at selected industrialized regions reveals a diverse landscape.

East Asia's industrialized economies also grew on a year-on-year basis, but at a slightly lower pace (1.3 per cent). The manufacturing output of industrialized economies in Europe, however, declined for the first time since 2013. Based on a relatively high year-on-year comparison threshold, manufacturing output contracted at a rate of 0.5 per cent.

Following the strong growth performance of 5.1 per cent in the fourth quarter of 2017, a gradual moderation of Europe's pace of growth has been observed throughout the quarters of 2018. The available data for the fourth quarter of 2018 indicate a negative year-on-year growth rate for all leading eurozone economies. Manufacturing output fell by 2.5 per cent in Germany, by 2.2 per cent in Italy, by 1.6 per cent in Spain and by 1.4 per cent in France. The important automotive sector in these economies, especially in Germany's, the largest manufacturer in the eurozone, recorded a sharp decrease in output. Experts point to regulatory issues as well as rising costs and concerns about tariffs adding to the uncertainty across supply chains.

With the exception of Portugal and Luxembourg, where manufacturing output dropped by 2.3 per cent and 0.9 per cent, respectively,

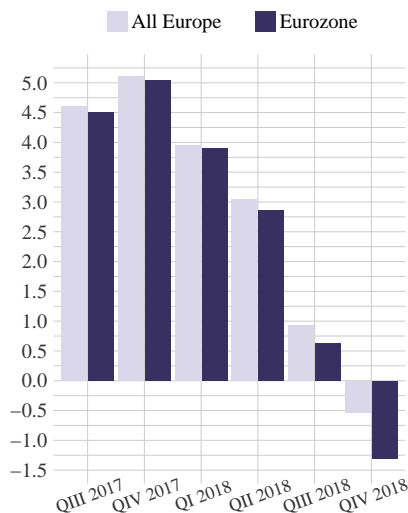
Figure 2: Growth rates of manuf. output of industrialized regions in % compared to the same period of the previous year



North America's manufacturing output rose by 2.7 per cent in the fourth quarter compared to the same period of the previous year.

other eurozone economies continued to achieve positive growth rates. Compared to the same period of the previous year, manufacturing output for instance rose by 6.5 per cent in Slovakia, by 5.1 per cent in Estonia, 4.5 per cent in Lithuania, 3.1 per cent in Belgium and by 2.9 per cent in Finland.

Figure 3: Growth rates of manufacturing output in Europe, in % compared to the same period of the previous year



Beyond the eurozone, the United Kingdom experienced a negative year-on-year growth rate of 1.4 per cent under the intense pressure of the Brexit negotiations including preparations for a disorderly Brexit. Denmark (+8.9 per cent),

Hungary (+4.1 per cent), Czechia (+2.2 per cent) and Sweden (+2.1 per cent) successfully extended their periods of stable growth already witnessed over the last quarters.

Among non-EU economies, Switzerland registered a growth rate of 5.5 per cent compared to the fourth quarter of the previous year. Furthermore, on a year-over-year basis, manufacturing output grew by 2.7 per cent in Norway, 2.0 per cent in the Russian Federation and 1.0 per cent in Belarus.

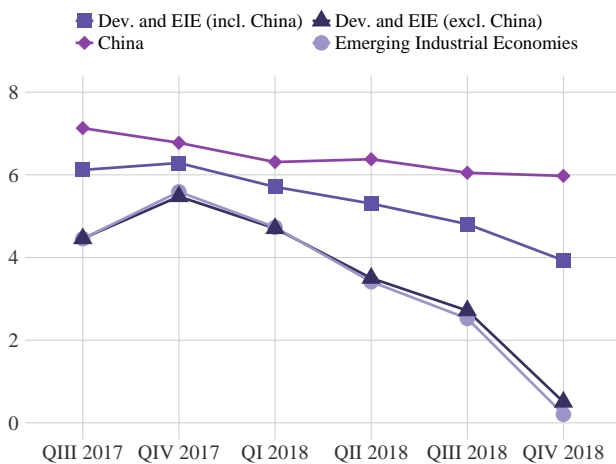
North America’s overall manufacturing production grew by 2.7 per cent compared to the same period of the previous year, based on an increase of 2.8 per cent in the United States and 1.7 per cent in Canada.

Positive growth rates were observed in industrialized East Asian economies during the fourth quarter of 2018. However, economists warn that the export-oriented economies continue to remain sensitive to changes in global demand. Compared to the same period of the previous year, Japan’s manufacturing output grew by a moderate 0.7 per cent. Similarly, Hong Kong SAR recorded a growth rate of 0.8 per cent and the Republic of Korea of 1.3 per cent. On a year-on-year basis, Taiwan ROC, Malaysia and Singapore grew by 3.0 per cent, 4.5 per cent and 4.7 per cent, respectively.

Developing and emerging industrial economies

Consistent with previous quarterly reports, China is presented separately from other country groups due to its size and the new characteristics of its economy, as the country’s extended high growth rate is rapidly transforming China into an industrialized economy.

Figure 4: Growth of manufacturing output of developing economies in % compared to the same quarter of the previous year



China

According to seasonally adjusted UNIDO estimates, China’s manufacturing output rose by 6.0 per cent in the fourth quarter of 2018. Although this means a marginal deceleration in the pace of its year-on-year growth, Figure 4 illustrates that China’s manufacturing output enjoyed relative stability throughout the quarters of 2018 and has not yet experienced any substantial decline. A comparatively high growth

performance was observed in computer electronics (+11.9 per cent), basic metals (+10.0 per cent) and machinery (+8.4 per cent), strongly contributing to China’s overall economic performance. However, experts warn of downward pressures such as rising costs, sluggish demand and operational difficulties for enterprises due to trade frictions.

Developing and emerging industrial economies (excl. China)

Evidence of an accelerating slowdown in manufacturing output was observed in developing and emerging industrial economies, especially in comparison to China. Year-on-year manufacturing output only grew by 0.5 per cent in the fourth quarter of 2018 compared to a 2.7 per cent growth rate in the third quarter and a 3.5 per cent growth rate in the second quarter of 2018.

The performance of Asia and the Pacific remained above the country groups’ overall average growth rate, reaching 2.5 per cent compared to the same period of the previous year. India’s manufacturing output rose by 2.9 per cent and substantially contributed to the country group’s positive results, as did Indonesia’s at 3.1 per cent and Saudi Arabia’s at 3.4 per cent.

Manufacturing output data for Latin American economies draw a diverse picture against the backdrop of turbulences and uncertain prospects in some of the region’s leading

economies. Overall, the region's year-on-year growth rate turned into the negative at 1.2 per cent. While Mexico as well as Colombia, Chile and Peru, showed positive growth rates of 1.1 per cent, 2.5 per cent, 0.8 per cent and 7.4 per cent, respectively, Brazil's manufacturing output dropped by 2.8 per cent compared to the same period of the previous year. The recession in Argentina, another major economy in the region, has deepened and the country's manufacturing output has plummeted. Its year-on-year decrease was estimated at 11.5 per cent in the fourth quarter of 2018. More specifically, seasonally adjusted data reflect contractions in all industry groups, as businesses struggle due to peso depreciation and high interest rates.

Among Africa's economies, South Africa, the region's most industrialized country, registered a 1.1 per cent growth rate in the fourth quarter of 2018 compared to the same period of the previous year. Accompanied by expanding manufacturing output in Nigeria (3.2 per cent), Morocco (3.0 per cent) and Senegal (2.1 per cent), UNIDO estimates for developing economies in Africa indicate an overall rate growth

of 2.1 per cent compared to the same period of the previous year. However, it should be noted that estimates for Africa are based on limited data.

For the first time in the aftermath of the financial crisis of 2007-2009, the group of developing and emerging industrial economies of Europe have witnessed a negative year-on-year growth rate of manufacturing output. The drop by 2.3 per cent in total was to a large extent caused by the substantial decline of Turkey's manufacturing output by 7.6 per cent in the fourth quarter of 2018 compared to the same period of the previous year. Economists point to the generally decreasing economic activity in the region's largest manufacturer against the backdrop of a weakening lira. Among the other economies in the country group, manufacturing output also fell in the Republic of Moldova (-4.0 per cent), Croatia (-3.4 per cent) and Bosnia and Herzegovina (-2.5 per cent), whereas manufacturing output in Albania, North Macedonia, Cyprus, Latvia and Poland grew by more than 3.5 per cent.

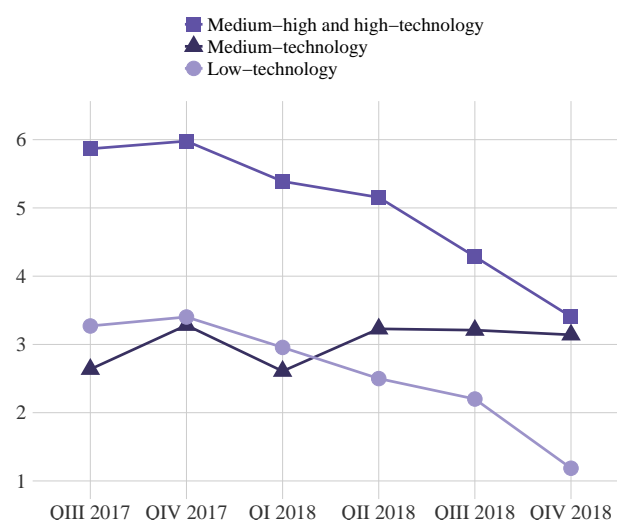
Findings by industry group

Global manufacturing production maintained a positive growth rate in the majority of industries in the fourth quarter of 2018 compared to the same period of the previous year. Industries grouped according to technological intensity further reveal that medium-technology industries, inter alia including non-metallic mineral products and basic metals, again defied decelerating year-on-year growth rates in manufacturing output and expanded at 3.1 per cent in the fourth quarter of 2018. This is to a significant extent due to high output in China, the world's largest producer of basic metals, where, compared to the fourth quarter of 2017, output grew by 10.0 per cent. The United States, another major producer of basic metals, also expanded its year-on-year output in the fourth quarter of 2018, with a growth rate of 6.3 per cent.

Medium high- and high-technology industries, by contrast, witnessed another decline in their pace of growth in the fourth quarter of 2018 compared to the same period of the previous year. The automotive industry was one of the main contributors to the waning growth rate. While the manufacture of motor vehicles grew by more than 4.5 per cent globally on a year-on-year basis in the first half of 2018, the growth rate plunged to only 0.1 per cent in the fourth

quarter of 2018. A decomposition of medium high- and high-technology industries reveals diminishing growth rates for other industries as well. The production of pharmaceutical products (+4.7 per cent) as well as the production of chemical products (+1.5 per cent), of computers, electronics and optical products (+6.7 per cent) and of machinery and equipment (+3.5 per cent) still grew solidly compared to the fourth quarter of 2017, but at a consistently and significantly slower pace than during the previous quarter.

Figure 5: Growth of manufacturing industries by technological intensity, in % compared to the same quarter of the previous year



Among other industries, the manufacturing output of coke and refined petroleum products expanded by 1.5 per cent on a year-over-year basis, while the manufacture of paper products as well as wood products shrank by 0.1 per cent and 0.3 per cent, respectively.

Figure 6 presents the growth rates in detail for various industries in combination with country groups, revealing a varied picture. The manufacture of food products and beverages are two

industries that observed a positive year-on-year growth in the fourth quarter of 2018 in all displayed country groups. A broad-based growth rate in the production of these basic consumer goods substantially contributes to global food supply, implying an improvement in per capita food consumption worldwide.

Additional data on growth rates regarding the fourth quarter of 2018 are available in the Statistical Tables.

Figure 6: Estimated growth rates by industry in % compared to previous year Quarter IV, 2018

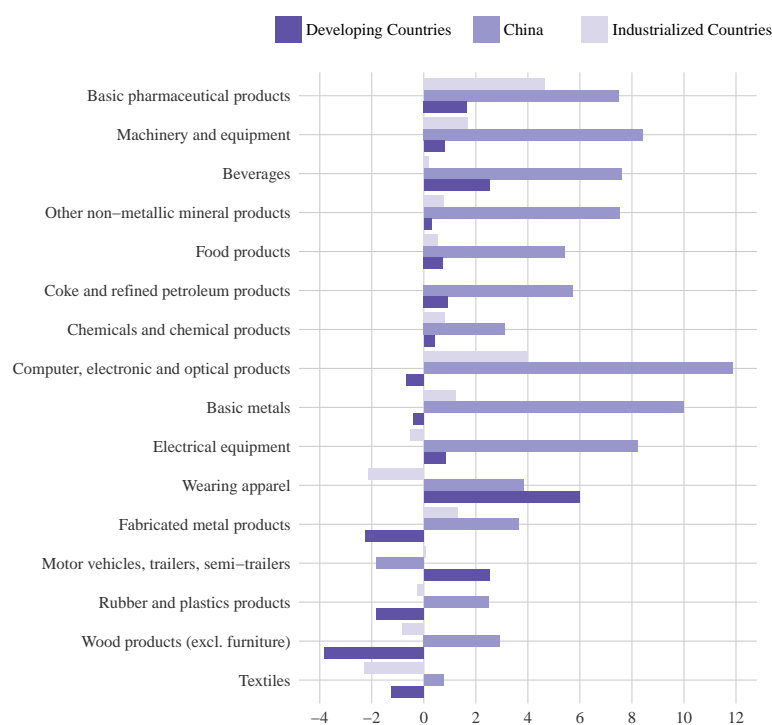


Table 1

Estimated growth rates of world manufacturing output

In % compared to the previous quarter and same period of the previous year

Quarter IV, 2018

	Share in world MVA (2010)	Compared to previous quarter	Compared to same period of the previous year
World	100.0	0.5	2.4
Industrialized Economies	63.2	0.4	1.1
North America	20.0	0.5	2.7
Europe	23.5	-0.1	-0.5
East Asia	16.4	1.2	1.3
China	19.2	1.3	6.0
Dev. and EIE excl. China (by development group)	17.6	-0.4	0.5
Emerging Industrial Economies	15.9	-0.5	0.2
Other Developing Economies	1.5	-0.1	0.6
Dev. and EIE excl. China (by region)	17.6	-0.4	0.5
Africa	1.3	1.0	2.1
Asia & Pacific	7.3	0.8	2.5
Latin America	6.2	-1.4	-1.2
Others	2.7	-2.3	-2.3

Source: UNIDO Statistics

Note: Not all subgroups are presented; seasonally adjusted data

Table 2

Estimated growth rates of output by manufacturing industry

In % compared to the same period of the previous year

Quarter IV, 2018

	Developing and Emerging Industrial Economies excl. China	China	Industrialized Economies	World
Food products	0.7	5.4	0.5	1.6
Beverages	2.5	7.6	0.2	2.7
Tobacco products	1.7	-3.4	0.1	-1.4
Textiles	-1.2	0.8	-2.3	-0.4
Wearing apparel	6.0	3.8	-2.2	3.4
Leather and related products	4.0	5.6	-1.7	3.4
Wood products (excl. furniture)	-3.8	2.9	-0.8	-0.3
Paper products	1.3	1.4	-1.2	-0.1
Printing	-1.8	7.3	-1.6	-0.2
Coke and refined petroleum products	0.9	5.7	0.0	1.5
Chemicals and chemical products	0.4	3.1	0.8	1.5
Basic pharmaceutical products	1.7	7.5	4.6	4.7
Rubber and plastics products	-1.8	2.5	-0.2	0.0
Other non-metallic mineral products	0.3	7.5	0.8	3.0
Basic metals	-0.4	10.0	1.2	5.2
Fabricated metal products	-2.2	3.6	1.3	1.4
Computer, electronic and optical products	-0.7	11.9	4.0	6.7
Electrical equipment	0.8	8.2	-0.5	2.7
Machinery and equipment	0.8	8.4	1.7	3.5
Motor vehicles, trailers, semi-trailers	2.5	-1.8	0.1	0.1
Other transport equipment	8.2	9.4	4.9	6.0
Furniture	1.4	4.2	-1.0	0.4
Other manufacturing	0.2	6.1	1.7	2.4
Total Manufacturing	0.5	6.0	1.1	2.4

Source: UNIDO Statistics

Note: Seasonally adjusted data

Table 3

Estimated growth rates of output by manufacturing industry

In % compared to the previous quarter

Quarter IV, 2018

	Developing and Emerging Industrial Economies excl. China	China	Industrialized Economies	World
Food products	-0.2	1.4	-0.5	0.0
Beverages	0.5	2.8	-1.0	0.4
Tobacco products	0.9	-4.1	1.5	-1.6
Textiles	-1.9	0.4	-0.4	-0.3
Wearing apparel	0.7	0.4	-0.2	0.4
Leather and related products	1.4	2.3	-0.3	1.4
Wood products (excl. furniture)	-3.2	0.7	-0.8	-0.7
Paper products	-0.8	0.5	-0.5	-0.3
Printing	0.8	2.1	-1.0	-0.3
Coke and refined petroleum products	-2.5	1.1	-0.3	-0.5
Chemicals and chemical products	-0.3	-0.4	0.2	0.0
Basic pharmaceutical products	0.7	2.0	-0.4	0.3
Rubber and plastics products	-1.4	0.9	0.7	0.4
Other non-metallic mineral products	-0.8	2.4	0.5	0.9
Basic metals	-1.0	2.7	1.1	1.6
Fabricated metal products	-1.7	0.9	0.5	0.3
Computer, electronic and optical products	1.7	2.1	0.6	1.2
Electrical equipment	-0.9	3.3	-0.3	0.9
Machinery and equipment	0.1	2.0	0.6	1.0
Motor vehicles, trailers, semi-trailers	-0.7	-2.2	2.0	0.6
Other transport equipment	-0.4	6.5	2.3	2.6
Furniture	0.3	0.4	1.0	0.8
Other manufacturing	0.6	1.8	0.8	1.0
Total Manufacturing	-0.4	1.3	0.4	0.5

Source: UNIDO Statistics

Note: Seasonally adjusted data

Table 4

Estimated growth rates of world manufacturing output

In % compared to the previous quarter and same period of the previous year

Quarter III, 2018 (revised)

	Share in world MVA (2010)	Compared to previous quarter	Compared to same period of the previous year
World	100.0	0.5	3.1
Industrialized Economies	63.2	0.0	1.7
North America	20.0	1.0	3.5
Europe	23.5	-0.5	0.9
East Asia	16.4	-0.7	0.7
China	19.2	1.3	6.0
Dev. and EIE excl. China (by development group)	17.6	0.7	2.7
Emerging Industrial Economies	15.9	0.6	2.5
Other Developing Economies	1.5	0.5	2.0
Dev. and EIE excl. China (by region)	17.6	0.7	2.7
Africa	1.3	1.1	2.4
Asia & Pacific	7.3	0.8	3.5
Latin America	6.2	1.1	1.3
Others	2.7	-0.3	3.0

Source: UNIDO Statistics

Note: Not all subgroups are presented; seasonally adjusted data

Table 5

Estimated growth rates of output by manufacturing industry

In % compared to the same period of the previous year

Quarter III, 2018 (revised)

	Developing and Emerging Industrial Economies excl. China	China	Industrialized Economies	World
Food products	2.6	6.1	1.3	2.6
Beverages	3.9	6.1	2.0	3.5
Tobacco products	0.5	3.0	-2.5	1.0
Textiles	2.2	0.5	-1.5	0.4
Wearing apparel	7.7	4.4	-2.2	4.2
Leather and related products	3.1	3.3	0.8	2.6
Wood products (excl. furniture)	1.9	3.3	1.3	1.9
Paper products	3.3	0.6	-0.4	0.4
Printing	-4.4	6.6	-0.7	0.0
Coke and refined petroleum products	5.6	5.6	1.3	3.4
Chemicals and chemical products	1.6	4.8	2.5	3.1
Basic pharmaceutical products	5.6	8.8	4.5	5.6
Rubber and plastics products	2.3	2.8	-0.1	0.9
Other non-metallic mineral products	3.6	5.2	1.7	3.4
Basic metals	3.1	8.0	0.4	4.6
Fabricated metal products	2.2	3.6	1.9	2.3
Computer, electronic and optical products	-1.4	13.0	5.4	7.9
Electrical equipment	2.2	5.4	0.9	2.6
Machinery and equipment	3.2	8.1	3.8	5.0
Motor vehicles, trailers, semi-trailers	6.6	2.6	-0.7	1.2
Other transport equipment	11.7	2.2	1.8	2.9
Furniture	-0.1	5.5	-1.0	0.3
Other manufacturing	1.1	6.2	1.1	2.1
Total Manufacturing	2.7	6.0	1.7	3.1

Source: UNIDO Statistics

Note: Seasonally adjusted data