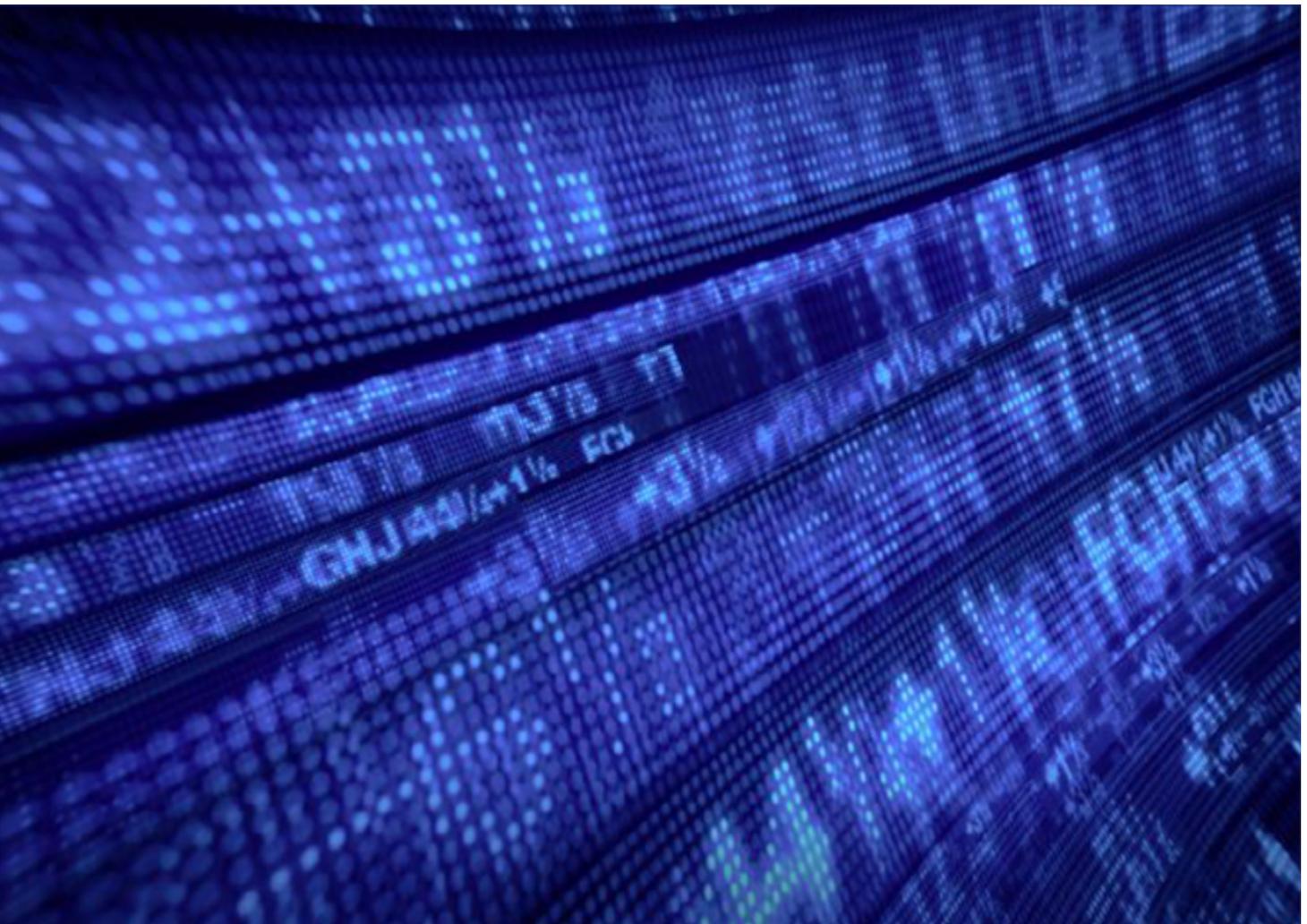




UNITED NATIONS  
INDUSTRIAL DEVELOPMENT ORGANIZATION

# World Manufacturing Production

Statistics for Quarter III, 2018



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## Report on world manufacturing production

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This report presents the observed growth rates and growth estimates of world manufacturing production for the third 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 method<sup>1</sup> 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 Statistics<sup>2</sup>.

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<sup>1</sup>TRAMO 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.

<sup>2</sup><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)<sup>3</sup> 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 document<sup>4</sup> 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 Portal<sup>5</sup>.

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

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<sup>3</sup>[http://unstats.un.org/unsd/publication/seriesM/seriesm\\_4rev4e.pdf](http://unstats.un.org/unsd/publication/seriesM/seriesm_4rev4e.pdf)

<sup>4</sup>[http://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](http://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)

<sup>5</sup><http://stat.unido.org/>

## World manufacturing growth in quarter III 2018

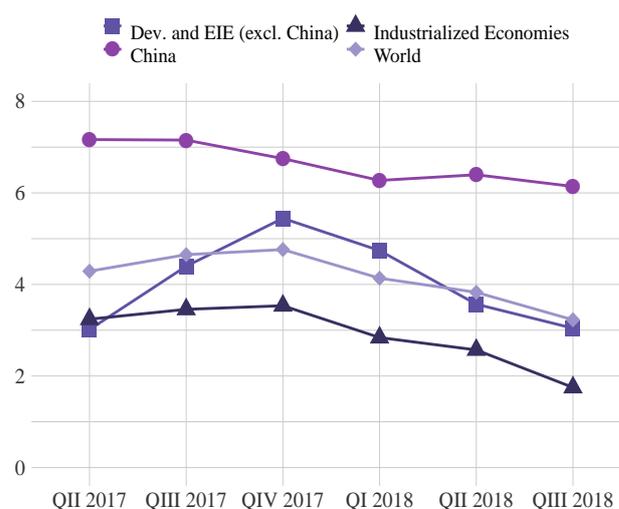
World manufacturing growth further declined in the third quarter of 2018 amid rising tension over trade and tariffs among the leading manufacturers, especially the United States, the European Union and China. Compared to the same period of the previous year, global manufacturing output rose by 3.2 per cent in the third quarter of 2018, after growing by 3.8 per cent in the second, and 4.1 per cent in the first quarter of 2018. Global manufacturing output growth has been consistently declining since the second half of 2017 (see Figure 1), which marked the temporary peak of the steady expansion that had been registered since mid-2016, both in industrialized as well as in developing and emerging industrialized economies.

Manufacturing growth in industrialized economies generally lost some momentum in the third quarter of 2018. In a year-on-year comparison, manufacturing output growth is estimated at 1.7 per cent. Against the backdrop of procyclical fiscal stimulus in the U.S., the pace of growth in North America rose to 3.4 per cent. By contrast, the manufacturing sector's growth rate of industrialized economies in Europe performed below expectations at 1.1 per cent compared to the same period of the previous year.

The manufacturing output growth of industrialized economies in East Asia was also

quite moderate. Compared to the same period of the previous year, the countries' growth rate declined from 2.7 per cent in the second quarter to 0.7 per cent in the third quarter of 2018. This relatively sharp decline is mainly attributable to Japan's negative year-on-year growth rate of -0.1 per cent, the country groups' largest manufacturer by far. Severe weather-related production impairments also contributed to this drop in manufacturing output.

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



Despite deepening trade tensions, seasonally adjusted growth estimates indicate that China's manufacturing output has not yet experienced any significant decline. The pace of year-on-year growth remained stable at slightly above 6.1 per cent in the third quarter of 2018. The manufacturing output of developing and emerging industrial economies (excluding China) registered the most dynamic development in recent quarters, resulting in an overall growth rate of 3.0 per cent in the third quarter of 2018 compared to the same period of the previous year.

Developing economies in Asia and the Pacific recorded a year-on-year growth rate of 4.4 per cent in the third quarter of 2018, attributable primarily to a strong growth of 6.0 per cent in India and 5.1 per cent in Indonesia. The manufacturing output of developing economies in the Eastern European region rose by 2.9 per cent compared to the same period of the previous year.

Despite uncertain prospects and some turbulences in a number of Latin American economies, especially at the beginning of the third

quarter of 2018, the overall year-on-year growth in this region remained stable at about 1.4 per cent. While the growth rate of Brazil's and Mexico's manufacturing sector increased to 1.6 per cent and 2.7 per cent, respectively, Argentina, another key economy of the region, experienced yet another decline of its manufacturing output by 7.2 per cent under an uncertain monetary environment.

Growth estimates based on limited data also reveal a positive growth rate of around 1.4 per cent for Africa's manufacturing output.

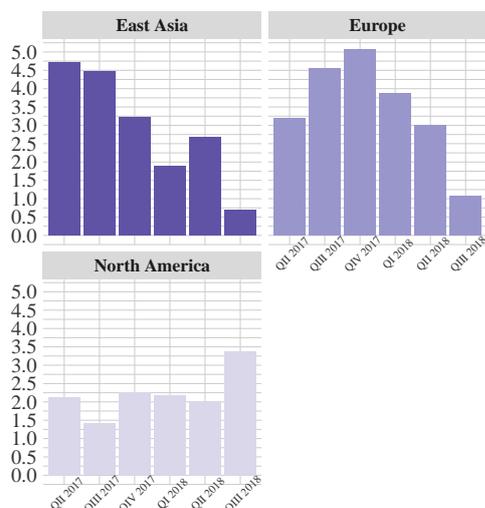
Entering the second half of the year 2018, the pace of global manufacturing growth has continued to experience a perceptible slowdown, indicating that downside risks have materialized to some degree and have increased further. Overall, however, the expansion of manufacturing production was still relatively broad based among the different regions and/or development groups. It remains to be seen whether forthcoming quarters hold the potential for upside surprises.

## Findings by country group

### Industrialized economies

The manufacturing output of industrialized countries maintained a positive growth rate in the third quarter of 2018 compared to the same period of the previous year. While the pace of growth further slowed down in East Asia and Europe to 0.7 per cent and 1.1 per cent, respectively, North America’s manufacturing output expanded to 3.4 per cent compared to 2.0 per cent in the second quarter of 2018. Besides economic factors, another reason for this divergent development is the relatively higher year-on-year comparison thresholds for East Asia and Europe, as illustrated in Figure 2.

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



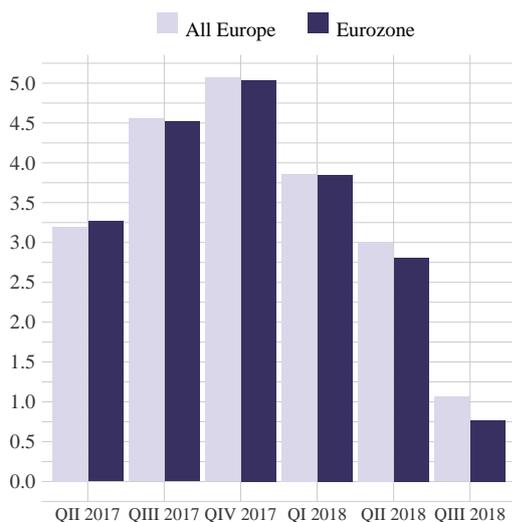
The robust manufacturing growth rate observed in European industrialized economies since 2014 has recently experienced a downward trend. This is especially visible when the data are compared to 2017, a year characterized by high growth rates. For instance, the year-on-year growth of manufacturing output reached 5.1 per cent in the fourth quarter of 2017. The first half of 2018 already showed a notable deceleration, which continued into the third quarter of 2018. The manufacturing output growth rate dropped to 3.9 per cent in the first quarter and decreased further to 3.0 per cent in the second quarter of 2018 and only reached 1.1 per cent in the third quarter of 2018.

A closer look at the leading eurozone economies reveals that year-on-year manufacturing output in the third quarter of 2018 increased only marginally in France, Spain and Germany, reaching 1.0 per cent, 0.9 per cent and 0.3 per cent, respectively. Growth in Italy slightly decreased, with a drop in manufacturing output by 0.1 per cent.

With the exception of Malta and Portugal, where manufacturing output fell by 4.1 per cent and 1.3 per cent, respectively, other eurozone economies continued to witness positive growth rates. Manufacturing output rose by more than

3.0 per cent in Slovenia, Cyprus, Estonia, the Netherlands and Lithuania.

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



Outside the eurozone, manufacturing output increased in Denmark by 4.5 per cent, by 3.6 per cent in Hungary and by 3.3 per cent in Czechia. The United Kingdom had a lower growth rate of 1.0 per cent under the intense pressure of the Brexit negotiations. Among the non-EU economies, Switzerland registered a growth rate of 1.7 per cent compared to the third quarter of the previous year. Belarus, which in accordance with UNIDO criteria has

recently joined the group of industrialized economies, recorded 3.6 per cent growth in the third quarter of 2018. Similarly, manufacturing output grew by 2.7 per cent in Norway and 2.4 per cent in the Russian Federation.

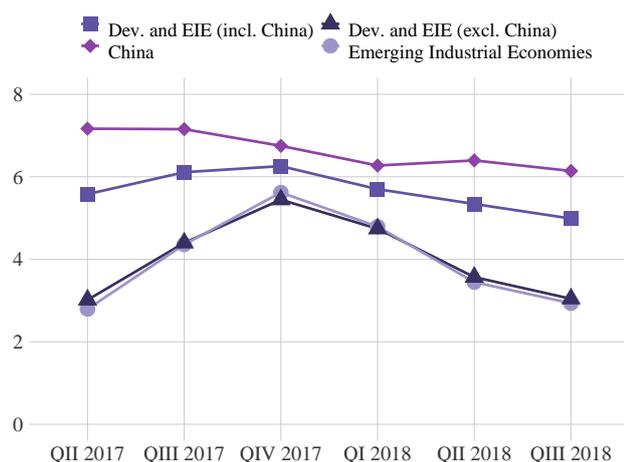
North America's overall manufacturing production grew by 3.4 per cent compared to the same period of the previous year. Economists view robust demand and tax incentives as some of the reasons for the United States' year-on-year manufacturing output growth of 3.4 per cent.

Positive results were observed in industrialized East Asian economies in the third quarter of 2018. Japan's manufacturing output slightly declined after eight straight quarters of year-on-year growth, the downward trend partly being caused by severe weather-related production impairments, forcing vehicle manufacturers and component suppliers, in particular, to suspend production at several plants. Other East Asian economies recorded positive growth rates in the third quarter of 2018 compared to the same period of the previous year. Malaysia grew by 4.8 per cent, Singapore by 3.8 per cent, Taiwan, Province of China, by 2.7 per cent, Hong Kong SAR by 1.4 per cent and the Republic of Korea by 1.0 per cent.

## Developing and emerging industrial economies

Consistent with recent quarterly reports, China is presented separately from other country groups due to its size and the special characteristics of its economy, as the country's prolonged high growth period 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

China's manufacturing output rose by 6.1 per cent in the third quarter of 2018. Although this marks the slowest pace of year-on-year growth for years, Figure 4 demonstrates that the country enjoyed stability in manufacturing production in the first three quarters of 2018. Despite deepening trade tensions, seasonally adjusted estimates show that China's manufactu-

ring output has not yet experienced any substantial declines. A relatively high growth performance was observed in computer electronics (+13.2 per cent), basic metals (+8.1 per cent) and machinery (+8.0 per cent) and contributed to China's overall economic performance. However, experts warn of downward pressures such as rising costs, sluggish demand or operating difficulties for enterprises due to trade frictions. The country's further trajectory in the fourth quarter of 2018 remains to be seen, as China and the U.S. imposed additional tariffs on each other's exports at the end of September and have threatened to expand these further at the beginning of 2019.

### Developing and emerging industrial economies (excl. China)

Evidence of a slowdown in manufacturing output was observed in developing and emerging industrial economies, especially in comparison to Chinese data. Year-on-year manufacturing output growth fell to 3.0 per cent compared to 3.6 per cent in the second quarter and 4.7 per cent in the first quarter of 2018.

The growth performance of Asia and the Pacific remained above this country groups' average and reached 4.4 per cent compared to the same period of the previous year. India's manufacturing output grew by 6.0 per cent and contributed substantially to these results, as did Indonesia's at 5.1 per cent. Mongolia and

Bangladesh continued their year-on-year double-digit growth, primarily due to the fast growing textiles and wearing apparel industry. High manufacturing growth of 7.3 per cent has also been a key driver of the Philippines' overall economic growth.

Latin America prolonged the phase of moderate expansion of the region's manufacturing production with a year-on-year growth rate of 1.4 per cent in the third quarter of 2018. Mexican manufacturing output, which largely consists of export goods to the U.S., grew by 2.7 per cent compared to the same quarter of the previous year. Progress in the discussions around the United States–Mexico–Canada Agreement (USMCA builds on the North American Free Trade Agreement) may have contributed to this development by reducing uncertainty. Focusing on some other countries in the region, manufacturing output rose in Brazil by 1.6 per cent, in Chile by 1.5 per cent, in Colombia by 3.4 per cent and in Peru by 2.2 per cent. By contrast, Argentina, Latin America's third largest economy, has fallen deeper into recession, observing a year-on-year manufacturing output of -7.2 per cent in the third quarter of 2018. Economists attribute the drop to struggling businesses due to peso depreciation and high interest rates.

Growth estimates based on limited data for African countries generally indicated a moderate

rise in manufacturing output. South Africa, the region's most industrialized country, registered a 1.5 per cent growth in the third quarter of 2018 compared to the same period of the previous year. However, UNIDO estimates on the share of MVA in GDP suggest a decreasing tendency. Whereas the share was 13.1 per cent in 2010, it declined to 12.4 per cent in 2017. Considering that manufacturing is a major catalyst and multiplier for job creation, more dynamic manufacturing growth would be desirable. Among other African economies, positive growth rates were achieved in Senegal at 4.0 per cent and Côte d'Ivoire at 4.2 per cent.

As regards other developing economies, the manufacturing output of Eastern European countries grew by 2.9 per cent in the third quarter of 2018 compared to the same period of the previous year. Manufacturing output rose by 7.3 per cent in the FYR of Macedonia, 5.8 per cent in Poland and 4.6 per cent in Romania. Turkey's year-on-year growth dropped to 1.1 per cent in the third quarter, after 9.8 and 4.8 per cent in the first and second quarters of 2018, respectively, against the backdrop of a weakening lira. Greece's manufacturing output has continued to grow on a year-on-year basis since the beginning of 2016, reaching 2.8 per cent in the third quarter of 2018.

## Findings by industry group

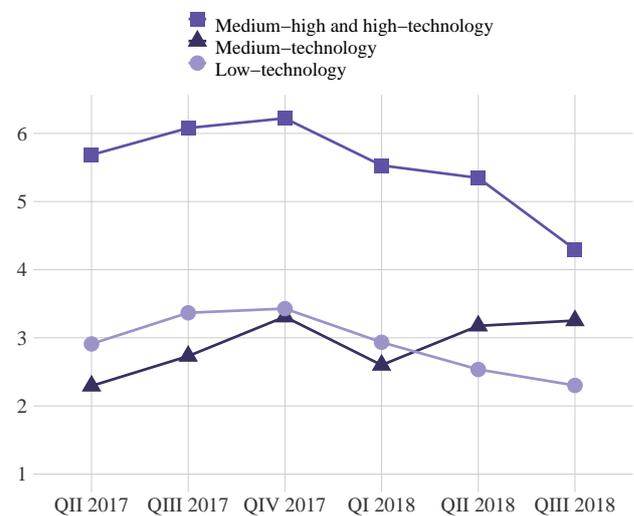
Global manufacturing production showed a positive growth rate in all industries in the third quarter of 2018. Industries grouped according to technological intensity continued to follow growth patterns that reveal that medium high- and high-technology manufacturing industries outperform other industry groups. However, in terms of growth rates, this industry group witnessed a sharp decline in the third quarter of 2018 compared to the same period of the previous year.

By contrast, as illustrated in Figure 5, medium-technology industries, including the manufacture of rubber and plastic products, non-metallic mineral products and basic metals, were able to resist decelerating year-on-year growth rates in manufacturing output and expanded at 3.3 per cent in the third quarter of 2018. This is to a large extent due to augmented steel output in China, the worlds’ largest producer of basic metals, where, compared to the third quarter of 2017, output grew by 8.1 per cent.

A decomposition of medium high- and high-technology industries identifies the automotive industry in Germany, Japan and China as being the main cause for the waning growth rates. While China, after a period of ten consecutive months with two digit year-on-year growth rates, continued to grow by 3.4 per cent in the

third quarter of 2018 compared to the same period of the previous year, the figures plunged to -0.6 per cent in Japan and -8.0 per cent in Germany. Production breaks due to the mandatory implementation of new test procedures related to the global harmonized standard for determining CO<sub>2</sub> levels and other emissions might be one of the reasons for the strong decline in Germany.

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



Global manufacturing output maintained relatively stable growth rates in the production of basic consumer goods. The manufacture of food products rose by 2.9 per cent, beverages by 3.7 per cent and wearing apparel by 3.9 per

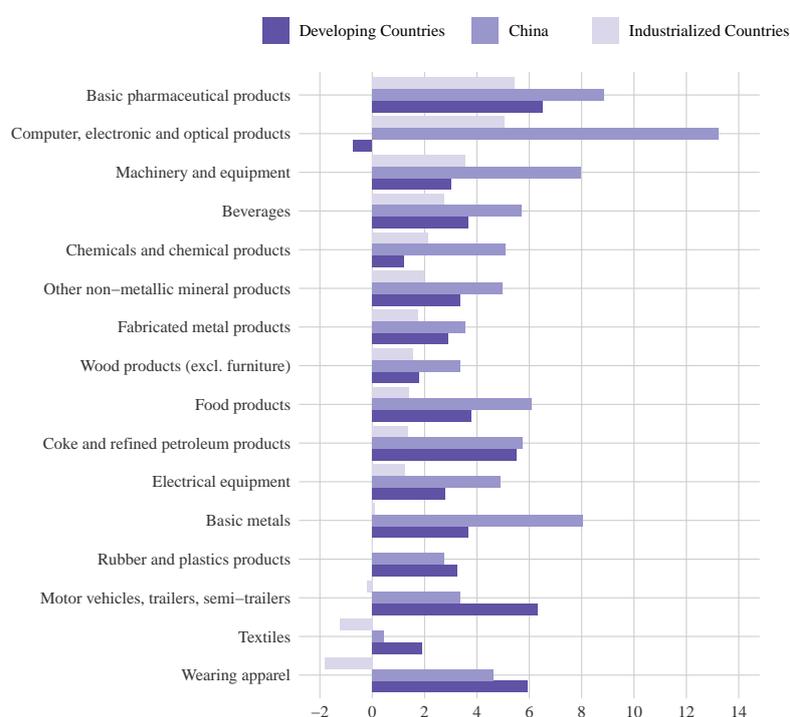
cent. The global production of wood products rose by 2.0 per cent, while the manufacture of paper products only increased marginally by 0.4 per cent compared to the same period of the previous year.

Figure 6 presents the growth rates for various industries in detail, showing mainly expanding manufacturing output. Negative growth rates were only recorded in the manufacture of computer, electronic and optical products in developing countries (excl. China) and the manufacture of textiles and wearing apparel in in-

dustrialized economies. As regards the latter, shrinking year-on-year output was specifically observed in Europe and East Asia. At the same time, developing countries in Asia and the Pacific, in particular, achieved significantly higher growth rates in the textiles and clothing industry, due also to positive signs of recovery in India.

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

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



**Table 1**

**Estimated growth rates of world manufacturing output**

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

Quarter III, 2018

	Share in world MVA (2010)	Compared to previous quarter	Compared to same period of the previous year
World	100.0	0.5	3.2
Industrialized Economies	63.2	-0.1	1.7
North America	20.0	0.9	3.4
Europe	23.5	-0.5	1.1
East Asia	16.4	-0.9	0.7
China	19.2	1.4	6.1
Dev. and EIE excl. China (by development group)	17.6	0.9	3.0
Emerging Industrial Economies	15.9	0.9	2.9
Other Developing Economies	1.5	0.6	2.5
Dev. and EIE excl. China (by region)	17.6	0.9	3.0
Africa	1.3	0.5	1.4
Asia & Pacific	7.3	1.2	4.4
Latin America	6.2	1.3	1.4
Others	2.7	-0.2	2.9

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 III, 2018

	Developing and Emerging Industrial Economies excl. China	China	Industrialized Economies	World
Food products	3.8	6.1	1.4	2.9
Beverages	3.7	5.7	2.7	3.7
Tobacco products	-1.8	5.1	-2.9	1.6
Textiles	1.9	0.4	-1.2	0.4
Wearing apparel	5.9	4.6	-1.8	3.9
Leather and related products	2.6	3.0	0.9	2.4
Wood products (excl. furniture)	1.8	3.4	1.6	2.0
Paper products	3.3	0.2	-0.4	0.4
Printing	-4.8	6.6	-0.2	0.3
Coke and refined petroleum products	5.5	5.8	1.4	3.4
Chemicals and chemical products	1.2	5.1	2.1	3.0
Basic pharmaceutical products	6.5	8.9	5.4	6.4
Rubber and plastics products	3.2	2.8	0.0	1.1
Other non-metallic mineral products	3.3	5.0	2.0	3.3
Basic metals	3.7	8.1	0.1	4.6
Fabricated metal products	2.9	3.5	1.8	2.3
Computer, electronic and optical products	-0.7	13.2	5.0	7.7
Electrical equipment	2.8	4.9	1.3	2.7
Machinery and equipment	3.0	8.0	3.6	4.8
Motor vehicles, trailers, semi-trailers	6.3	3.4	-0.2	1.7
Other transport equipment	13.4	0.8	0.0	1.6
Furniture	-0.7	5.8	-1.1	0.2
Other manufacturing	-0.5	6.2	1.3	2.1
<b>Total Manufacturing</b>	<b>3.0</b>	<b>6.1</b>	<b>1.7</b>	<b>3.2</b>

Source: UNIDO Statistics

Note: Seasonally adjusted data

**Table 3**

**Estimated growth rates of output by manufacturing industry**

In % compared to the previous quarter

Quarter III, 2018

	Developing and Emerging Industrial Economies excl. China	China	Industrialized Economies	World
Food products	1.1	1.6	0.2	0.7
Beverages	0.3	0.8	0.0	0.3
Tobacco products	-0.3	1.0	-0.6	0.3
Textiles	0.8	0.3	-1.0	0.1
Wearing apparel	2.3	1.5	-2.1	1.1
Leather and related products	0.8	-0.3	-1.2	-0.3
Wood products (excl. furniture)	0.9	1.7	0.4	0.8
Paper products	2.6	-0.3	-0.4	0.1
Printing	-0.3	2.3	0.3	0.6
Coke and refined petroleum products	0.4	2.1	0.8	1.0
Chemicals and chemical products	0.6	1.3	0.1	0.6
Basic pharmaceutical products	4.1	1.7	0.7	1.5
Rubber and plastics products	0.8	-0.2	0.0	0.1
Other non-metallic mineral products	0.5	1.5	-0.9	0.3
Basic metals	0.9	2.5	-0.8	1.1
Fabricated metal products	0.3	0.8	0.4	0.5
Computer, electronic and optical products	-2.4	3.8	0.5	1.6
Electrical equipment	0.3	1.2	0.2	0.5
Machinery and equipment	0.3	1.4	0.2	0.6
Motor vehicles, trailers, semi-trailers	2.0	-1.6	-2.2	-1.4
Other transport equipment	5.3	-0.2	0.6	1.0
Furniture	0.6	1.9	-1.1	-0.2
Other manufacturing	3.2	0.8	0.6	0.9
<b>Total Manufacturing</b>	<b>0.9</b>	<b>1.4</b>	<b>-0.1</b>	<b>0.5</b>

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 II, 2018 (revised)

	Share in world MVA (2010)	Compared to previous quarter	Compared to same period of the previous year
World	100.0	0.8	3.8
Industrialized Economies	63.2	0.7	2.6
North America	20.0	0.6	2.0
Europe	23.5	0.2	3.0
East Asia	16.4	1.5	2.7
China	19.2	1.5	6.4
Dev. and EIE excl. China (by development group)	17.6	-0.1	3.6
Emerging Industrial Economies	15.9	-0.2	3.4
Other Developing Economies	1.5	0.2	3.1
Dev. and EIE excl. China (by region)	17.6	-0.1	3.6
Africa	1.3	0.1	1.8
Asia & Pacific	7.3	0.3	4.5
Latin America	6.2	-1.0	1.5
Others	2.7	0.4	5.3

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 II, 2018 (revised)

	Developing and Emerging Industrial Economies excl. China	China	Industrialized Economies	World
Food products	5.0	5.3	2.3	3.5
Beverages	4.3	7.3	2.4	4.1
Tobacco products	-2.3	6.2	-5.6	1.4
Textiles	1.6	0.3	0.1	0.5
Wearing apparel	3.5	3.4	-0.1	2.7
Leather and related products	3.7	4.5	0.7	3.3
Wood products (excl. furniture)	2.3	0.7	2.4	2.0
Paper products	1.1	1.2	0.4	0.7
Printing	-3.2	5.1	-1.0	-0.3
Coke and refined petroleum products	4.4	6.9	-0.5	2.3
Chemicals and chemical products	1.1	4.6	2.4	2.9
Basic pharmaceutical products	2.0	10.2	8.9	7.9
Rubber and plastics products	2.8	4.1	1.0	1.9
Other non-metallic mineral products	4.4	2.6	2.9	3.1
Basic metals	4.5	6.0	1.8	4.3
Fabricated metal products	5.2	3.0	2.9	3.2
Computer, electronic and optical products	6.8	12.3	6.1	8.4
Electrical equipment	3.0	6.5	2.5	4.0
Machinery and equipment	3.2	9.1	4.1	5.4
Motor vehicles, trailers, semi-trailers	6.9	11.7	2.4	5.0
Other transport equipment	5.8	2.5	-0.4	0.7
Furniture	2.1	5.3	-0.1	1.3
Other manufacturing	-5.6	7.3	1.3	1.7
<b>Total Manufacturing</b>	<b>3.6</b>	<b>6.4</b>	<b>2.6</b>	<b>3.8</b>

Source: UNIDO Statistics

Note: Seasonally adjusted data