



# World Manufacturing Production

Statistics for Quarter III, 2016



UNITED NATIONS  
INDUSTRIAL DEVELOPMENT ORGANIZATION

Statistics Division  
[www.unido.org/statistics](http://www.unido.org/statistics)

# Report on world manufacturing production

## Quarter III, 2016

This report presents the observed growth rates and growth estimates of world manufacturing production for the third quarter of 2016. 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. Users can find further information on the methodology of index numbers and estimation procedure in earlier reports, which are available on the statistical pages of UNIDO's website.

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. Since 2013, growth figures have been published based on seasonally adjusted index numbers. Seasonal adjustment is achieved using the TRAMO/SEATS method<sup>1</sup> in the Demetra+ software. The purpose of seasonal adjustment is to filter out any fluctuations or calendar effects within the 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

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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.

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 was provided to users. The full list of economies used in the country groupings is available in the International Yearbook of Industrial Statistics<sup>2</sup>.

The current 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 the corresponding 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. This report presents estimates for the third quarter of 2016 as well as revised estimates for the second quarter of 2016.

Growth rates are calculated from the national index numbers, which are aggregated to the given country group or world region using weights based on the country's contribution to world manufacturing value added. The country grouping is based on economic territories rather than on political boundaries. This report presents growth figures for country groups by stage of industrial development and by geographic region.

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<sup>2</sup><http://www.unido.org/resources/publications/flagship-publications/international-yearbook-of-industrial-statistics.html>

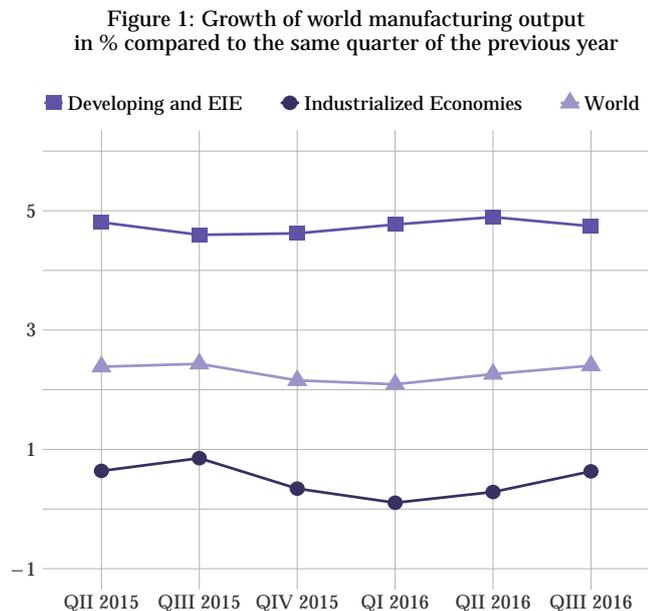
<sup>3</sup>[http://unstats.un.org/unsd/publication/seriesM/seriesm\\_4rev4e.pdf](http://unstats.un.org/unsd/publication/seriesM/seriesm_4rev4e.pdf)

# 1 World manufacturing growth

World manufacturing output growth remained low during the third quarter of 2016, reflecting a prolonged yet fragile recovery process in industrialized economies and weakened growth prospects in developing and emerging industrial economies. Although the world manufacturing growth trend has been relatively stable with a lower degree of volatility, there is no clear indication yet that the current period of low growth will end any time soon. On the contrary, the uncertainty accompanying the political developments in trans-Atlantic relations with a potential impact on global trade arrangements may create new risks.

World manufacturing output rose by 2.4 per cent in the third quarter of 2016 compared to the same period of the previous year. The positive trends with some improvement in growth figures since the last quarter were observed across all country groups (Figure 1), including industrialized countries and the world average.

In response to the persistently low growth in manufacturing, enterprises and policymakers have introduced some structural reforms. However, the results of these reforms are yet to be seen. Major industrialized economies with significant contributions to global manufacturing output, namely the United States, Japan and Germany, continue to record low growth rates. In China, the world's largest manufacturer, comparably lower growth rates have now become more prevalent, thus pushing the average industrial growth of emerging industrial economies downward.



The manufacturing output of industrialized economies increased slightly to 0.6 per cent in the third quarter of 2016 from 0.3 per cent in the previous quarter. This rise is primarily attributable to the performance of East Asia, which registered a low,

but positive growth rate at 0.8 per cent in the third quarter of 2016 following several consecutive slumps that have lasted for nearly two years. The main force driving this upturn is Japan, East Asia's major manufacturer – its manufacturing sector seems to have withstood sluggish external demand fairly well amid a soaring yen in the third quarter of this year. Production increase in Europe had a positive impact on the manufacturing growth of industrialized countries as a whole. By contrast, the growth of North America's manufacturing output slowed in the third quarter of 2016 to a negligible gain of 0.1 per cent.

The manufacturing growth rate in developing and emerging industrial economies has remained below 5.0 per cent since the beginning of 2015. Manufacturing output in these countries rose by 4.7 per cent in the third quarter of 2016. The region's growth performance varied considerably: Asian economies maintained a relatively higher growth rate, while Latin America's manufacturing output decreased. Brazil's manufacturing output fell, affecting the growth performance of the entire region. Some improvement was seen in Africa, primarily due to the strengthening of South Africa's manufacturing output. Rising growth rates were also recorded in other African countries, though data for sub-Saharan African countries is generally limited. Despite some improvements, the threat of another slowdown looms over developing economies as long as economic and political instability persists in industrialized countries.

As depicted in Figure 1, the level of growth in developing economies has been consistently higher than in industrialized countries. The pace of growth exhibits similar trends in both country groups, with a slightly more positive picture for industrialized countries as their growth performance moves upward.

## 2 Findings by country group

### 2.1 Industrialized economies

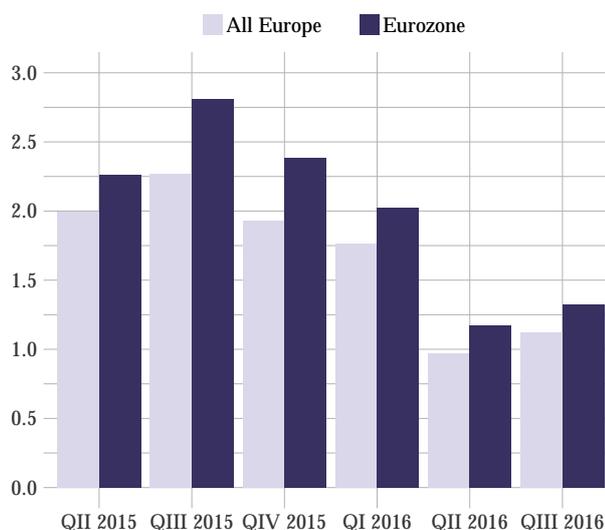
The manufacturing output of industrialized countries maintained a positive growth rate in the third quarter of 2016. However, as mentioned above, the pace of growth over the observed period has been too slow. The quarterly growth rate increased slightly to 0.6 per cent from 0.3 per cent in the previous quarter, when comparing the year-to-year development. When looking at the quarter-to-quarter development, a growth rate of 0.4 per cent was observed, following several quarters in which nearly no change was recorded. Growth in industrialized economies in the third quarter of 2016 was characterized by an overall moderate, albeit noticeable slowdown in Europe and North America, and an upward trend in East Asia, following a period of several consecutive slumps.

Among the industrialized country group, Europe's manufacturing output grew by merely 1.1 per cent in the third quarter of 2016. The eurozone registered a growth rate of 1.3 per cent. At the peak of the financial crisis, UNIDO's Quarterly Reports presented disaggregated data for the eurozone economies to differentiate their growth rates from those of the rest of Europe. This difference seems to have narrowed in recent quarters. In more general

terms, manufacturing growth in European countries continues to be affected by the uncertainty generated by Brexit and the political developments in the United States, which may influence the established global and regional trade arrangements.

When comparing year-to-year developments among the leading eurozone economies, Italy registered a 2.8 per cent growth followed by Germany with a growth rate of nearly a 1.0 per cent. No growth was observed in France. The growth figures for

Figure 2: Growth rates of manufacturing output in Europe, in % to the same period of the previous year



the majority of eurozone countries were positive, with strong growth performances observed in Slovenia, Cyprus and Greece. Manufacturing output rose by more than 2.2 per cent in the Netherlands, Spain, Lithuania and Belgium, but Ireland and Portugal witnessed a lower growth rate at 1.2 per cent and 1.5 per cent, respectively. The decrease in Ireland's manufacturing output reflected post-Brexit volatility, but was also attributable to a high comparison threshold based on the country's remarkable manufacturing expansion in 2015.

Beyond the eurozone, manufacturing output growth in the third quarter in the United Kingdom dropped to a marginal rate of 0.5 per cent in the aftermath of Brexit. The pace of growth also slowed in some industrialized Central European countries such as the Czech Republic and Hungary. Industrial production in Switzerland grew 2.4 per cent, reversing the decline registered in previous periods.

The manufacturing output of East European countries achieved relatively higher growth. Manufacturing output rose by 4.6 per cent in Poland and Romania, 4.1 per cent in Bulgaria and 4.9 per cent in Serbia. Among the Nordic economies, Norway's manufacturing sector has taken a long-term hit due to falling oil prices and continued its downward trajectory in the third quarter of 2016. Manufacturing output in the Russian Federation grew by a moderate rate of 0.7 per cent, continuing its shaky recovery after the country's economy was severely hit by the drop in oil prices.

Overall manufacturing production in North America grew by 0.1 per cent compared to the third quarter of the previous year. Despite some signs of improvement in the United States, the manufacturing sector recorded only weak export growth due to a still strong dollar and subdued global demand. When comparing year-to-year development, total manufacturing output of the United States remained flat in the third quarter of 2016. A number of manufacturing industries in the United States reported a decline compared to the same quarter in the previous year. At the same time, positive growth was reported in the production of motor vehicles, computers, electronic and optical products and textiles. In Canada, manufacturing growth in the third quarter of 2016 varied considerably by industry. While the production of pharmaceuticals, petroleum products and basic metals coke remained strong, production dropped in textiles, wearing apparel and fabricated metal products. Aggregated growth of manufacturing output in Canada was below 1.0 per cent in the third quarter of 2016.

The industrialized economies of East Asia managed to break a long period of consecutive contraction with a 0.8 per cent growth in the third quarter compared to the same period of the previous year. A major contributor to this change was Japan, which recorded a positive growth rate of 0.5 per cent following a nearly two-year period of consecutive slumps. This upswing is primarily attributable to the boost in the automotive industry. Despite this improvement, the uncertain global outlook and a strong yen remain a concern for Japan's manufacturing sector. Manufacturing output in Malaysia, the Republic of Korea and Singapore witnessed a gain of 3.9 per cent, 0.9 per cent and 1.2 per cent, respectively; in Malaysia and Singapore, this increase was attributable to the significant growth in the production of computers, electronics and optical products.

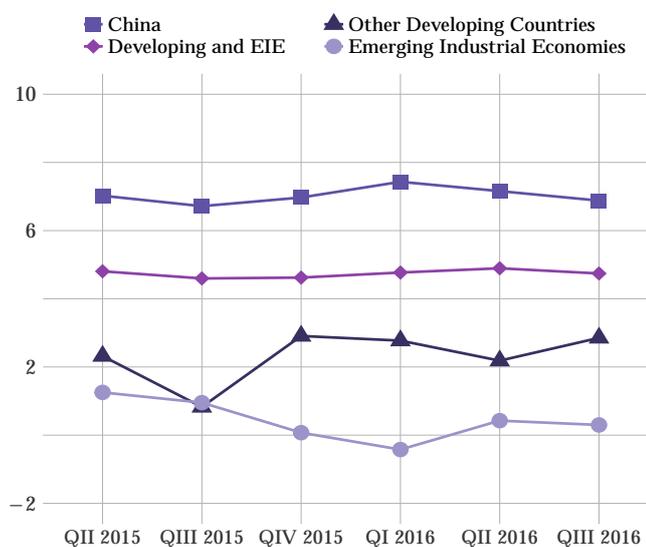
## 2.2 Developing and emerging industrial economies

A slowdown in China and a downturn in Latin America have affected the overall growth of manufacturing output in developing and emerging industrial economies. In the third quarter of 2016, manufacturing production in China rose by 6.9 per cent over the same period of the previous year, but reflected a slowdown from the 7.2 per cent growth rate recorded in the previous quarter. Following an uninterrupted downward trajectory since late 2013, the trend in China now seems to be towards stabilization at a relatively lower pace. The deceleration in the third quarter of 2016 was mainly driven by weak external demand and a weakened growth of the production of basic metals, China's strongest industry. The closure of a number of factories ahead of the G-20 Summit held at the beginning of September also negatively impacted the manufacturing sector. However, due to strong domestic demand, China's manufacturing sector has proven resilient to external shocks.

Latin American economies, on the other hand, were not as resilient as China's. Nonetheless, data for the third quarter of 2016 indicate some signs of improvement. Manufacturing output in Latin America, which has recently faced severe decline due to subdued global demand, low commodity prices and domestic political turbulence, has reduced the declining rate to 2.0 per cent. This development could

be a break with the downward trend. This shift is attributable to Brazil, where the drop in manufacturing output was below 5.0 per cent in a year-to-year comparison. Some other larger Latin American manufacturers, namely Mexico, Colombia and Peru, recorded a positive growth of 1.2 per cent, 2.7 per cent and 2.0 per cent, respectively, while Argentina and Chile experienced contraction.

Figure 3: Growth of manufacturing output of developing economies in % to the same quarter of the previous year



Growth performance was much higher in Asian economies, where manufacturing output rose by 6.3 per cent in the third quarter of 2016. Viet Nam maintained its position of one of the fastest growing Asian economies with a double-digit growth in eight consecutive quarters. At present, its manufacturing sector is benefitting from export-oriented industries such as computers, electronics and optical products. Indonesia's expansion of manufacturing output by 5.5 per cent continued in the third quarter, confirming its recent entry to the top 10 largest global manufacturers. However, India's manufacturing output, which achieved impressive growth rates in the last quarters, contracted with a much lower growth rate of 0.9 per cent in the third quarter. Positive developments were observed in other Asian economies. Manufacturing output in Saudi Arabia rose by 4.0 per cent and by 1.9 per cent in Mongolia.

Estimates based on the limited available data indicate that manufacturing output in Africa increased by 0.5 per cent, the same pace of manufacturing growth measured in South Africa, the region's most industrialized economy. South Africa's manufacturing production was mainly driven by increasing output in refined petroleum products, the automotive industry and chemical products. Manufacturing production in Cote d'Ivoire registered a 4.9 per cent gain while Tunisia's manufacturing output grew by 1.3 per cent. Egypt's manufacturing output fell by 2.1 per cent according to UNIDO estimates.

### 3 Findings by industry group

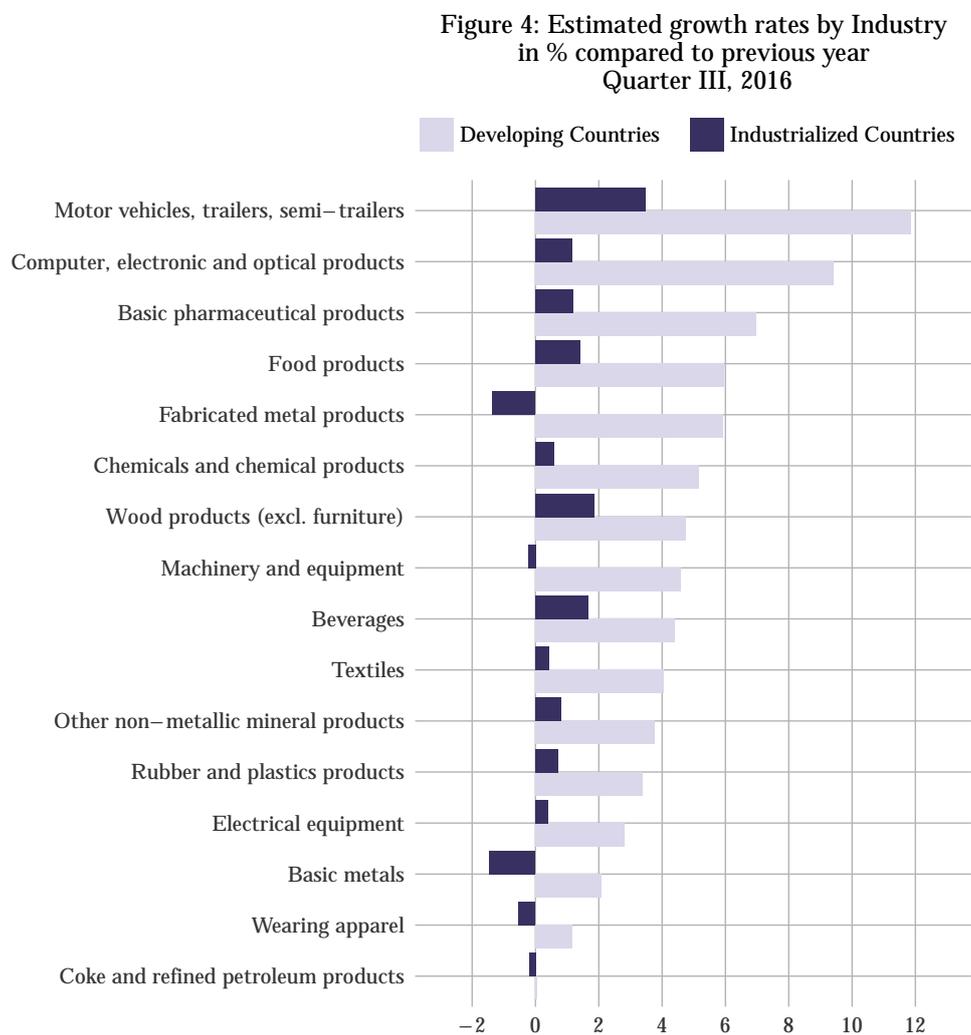
Global manufacturing production maintained a positive growth in nearly all industries in the third quarter of 2016. High and medium-high manufacturing industries held top positions – the manufacture of motor vehicles rose by 6.4 per cent, the production of computers, electronics and optical products grew by 4.6 per cent and the production of pharmaceutical products by 3.4 per cent. Among other fast growing industries, the production of textiles increased by 3.1 per cent. By contrast, the largest loss was recorded by the tobacco industry, with its global production declining by 8.0 per cent.

As regards durable and capital goods, the manufacture of non-metallic mineral products, which essentially supply construction materials, registered a growth figure of 2.5 per cent worldwide. The manufacture of furniture, the production of machinery and equipment and of fabricated metal products rose at a moderate pace by 1.6 per cent, 1.4 per cent and 1.0 per cent, respectively. The pace of the growth of the global manufacturing of basic metals slowed to below 1.0 per cent, mostly due to a significant slowdown reported by China and a visibly decreased production of basic metals in the Russian Federation in the third quarter of 2016.

Global manufacturing output maintained relatively high growth rates in the production of basic consumer goods. The manufacture of food products rose by 3.3 per cent, beverages by 2.9 per cent and wearing apparel by 0.8 per cent. As regards other low-technology manufacturing sectors, the global production of wood products rose by 2.9 per cent, while the manufacturing of paper products only increased by 1.0 per cent.

As illustrated in Figure 4, the growth performance of developing and emerging industrial economies outperformed industrialized economies in all manufacturing industries, including a number of high-technology industries. Disaggregated data by industrialized economies indicate that the performance of industrialized countries was evenly split among all manufacturing industries according to technological intensity. The fastest growing industry in both country groups was the automotive industry, reflecting strong growth of automobile production in China as well as in European countries.

The growth rates for selected industries are presented below.



Additional statistics on the growth rates in the third quarter of 2016 are available in the Statistical Tables.

# Statistical Tables

**Table 1**

## **Estimated growth rates of world manufacturing output**

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

Quarter III, 2016

	Share in world MVA (2010)	Compared to the previous quarter	Compared to the same period of the previous year
World	100.0	0.6	2.4
Industrialized Economies	63.4	0.4	0.6
North America	20.6	0.3	0.1
Europe	24.1	0.2	1.1
East Asia	15.4	1.2	0.8
Developing and EIE (by development group)	36.6	0.9	4.7
China	19.9	1.4	6.9
Emerging Industrial Economies	14.5	-0.4	0.3
Other Developing Economies	1.9	3.0	2.9
Developing and EIE (by region)	36.6	0.9	4.7
Africa	1.2	1.9	0.5
Asia & Pacific	26.0	1.3	6.3
Latin America	6.6	-0.2	-2.0
Others	2.8	-1.7	1.4

Source: UNIDO Statistics.

Notes: 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, 2016

	Developing and Emerging Industrial Economies	Industrialized Economies	World
Food products	5.9	1.4	3.3
Beverages	4.4	1.7	2.9
Tobacco products	-7.3	-10.4	-8.0
Textiles	4.0	0.4	3.1
Wearing apparel	1.2	-0.5	0.8
Leather and related products	2.1	-0.2	1.5
Wood products (excl. furniture)	4.7	1.9	2.9
Paper products	3.3	-0.8	1.0
Printing	0.3	-1.4	-1.0
Coke and refined petroleum products	0.0	-0.2	-0.1
Chemicals and chemical products	5.2	0.6	2.7
Basic pharmaceutical products	7.0	1.2	3.4
Rubber and plastics products	3.4	0.7	1.7
Other non-metallic mineral products	3.8	0.8	2.5
Basic metals	2.1	-1.5	0.9
Fabricated metal products	5.9	-1.4	1.0
Computer, electronic and optical products	9.4	1.2	4.6
Electrical equipment	2.8	0.4	1.5
Machinery and equipment	4.6	-0.2	1.4
Motor vehicles, trailers, semi-trailers	11.8	3.5	6.4
Other transport equipment	2.3	0.0	0.5
Furniture	3.1	0.8	1.6
Other manufacturing	1.3	-1.7	-0.8
<b>Total Manufacturing</b>	<b>4.7</b>	<b>0.6</b>	<b>2.4</b>

Source: UNIDO Statistics.

Notes: Seasonally adjusted data.

**Table 3****Estimated growth rates of output by manufacturing industry**

In % compared to the previous quarter

Quarter III, 2016

	Developing and Emerging Industrial Economies	Industrialized Economies	World
Food products	1.7	0.8	1.2
Beverages	1.7	0.3	1.0
Tobacco products	-2.5	-4.5	-3.0
Textiles	0.2	0.7	0.3
Wearing apparel	-0.5	0.6	-0.3
Leather and related products	0.3	0.8	0.4
Wood products (excl. furniture)	0.8	-0.3	0.1
Paper products	0.8	0.0	0.4
Printing	-0.9	-0.8	-0.8
Coke and refined petroleum products	-1.4	0.5	-0.4
Chemicals and chemical products	-0.2	0.3	0.1
Basic pharmaceutical products	1.2	-1.1	-0.2
Rubber and plastics products	0.5	0.4	0.4
Other non-metallic mineral products	0.7	-0.2	0.3
Basic metals	-0.1	-1.0	-0.4
Fabricated metal products	0.9	-0.7	-0.2
Computer, electronic and optical products	2.9	1.5	2.1
Electrical equipment	1.4	-0.2	0.6
Machinery and equipment	1.3	1.3	1.3
Motor vehicles, trailers, semi-trailers	4.1	1.8	2.6
Other transport equipment	0.3	-1.2	-0.8
Furniture	0.8	0.2	0.4
Other manufacturing	0.2	0.0	0.0
<b>Total Manufacturing</b>	<b>0.9</b>	<b>0.4</b>	<b>0.6</b>

Source: UNIDO Statistics.

Notes: Seasonally adjusted data.

**Table 4****Estimated growth rates of world manufacturing output**

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

Quarter II, 2016 (revised)

	Share in world MVA (2010)	Compared to the previous quarter	Compared to the same period of the previous year
World	100.0	0.6	2.3
Industrialized Economies	63.4	0.0	0.3
North America	20.6	-0.3	0.3
Europe	24.1	-0.2	1.0
East Asia	15.4	0.9	-0.8
Developing and EIE (by development group)	36.6	1.3	4.9
China	19.9	1.7	7.2
Emerging Industrial Economies	14.5	0.7	0.4
Other Developing Economies	1.9	-2.0	2.2
Developing and EIE (by region)	36.6	1.3	4.9
Africa	1.2	-1.9	2.5
Asia & Pacific	26.0	1.7	6.5
Latin America	6.6	0.0	-3.2
Others	2.8	-0.1	3.8

Source: UNIDO Statistics.

Notes: 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, 2016 (revised)

	Developing and Emerging Industrial Economies	Industrialized Economies	World
Food products	4.4	1.3	2.6
Beverages	3.8	2.0	2.8
Tobacco products	-5.2	-3.6	-4.8
Textiles	5.2	-0.6	3.7
Wearing apparel	2.8	-3.1	1.6
Leather and related products	2.6	-1.9	1.4
Wood products (excl. furniture)	5.0	2.9	3.7
Paper products	3.7	-1.1	0.9
Printing	2.6	-0.7	0.1
Coke and refined petroleum products	3.0	-0.5	1.2
Chemicals and chemical products	7.0	0.9	3.6
Basic pharmaceutical products	7.9	1.9	4.2
Rubber and plastics products	3.9	0.9	2.0
Other non-metallic mineral products	5.6	0.3	3.3
Basic metals	3.9	-0.6	2.4
Fabricated metal products	6.0	-0.9	1.2
Computer, electronic and optical products	8.2	-0.7	3.0
Electrical equipment	3.3	-0.4	1.3
Machinery and equipment	3.9	-3.4	-1.0
Motor vehicles, trailers, semi-trailers	5.8	3.5	4.3
Other transport equipment	3.3	1.0	1.6
Furniture	2.4	1.7	2.0
Other manufacturing	2.7	-2.1	-0.7
<b>Total Manufacturing</b>	<b>4.9</b>	<b>0.3</b>	<b>2.3</b>

Source: UNIDO Statistics.

Notes: Seasonally adjusted data.