



# World Manufacturing Production

Statistics for Quarter I, 2016

Statistics Division

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UNITED NATIONS  
INDUSTRIAL DEVELOPMENT ORGANIZATION

## **Report on world manufacturing production Quarter I, 2016**

This report presents the growth estimates of world manufacturing production for the first 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 the change 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 details 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 the 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

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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.

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 reintroduces 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 first quarter of 2016 as well as revised estimates for the fourth quarter of 2015.

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.

## **Major findings**

### **1. World manufacturing growth**

World manufacturing growth continued to be sluggish in the first quarter of 2016 due to the fragile recovery process in industrialized economies and significantly weakened growth prospects in developing and emerging industrial economies. China, which has emerged as the largest global manufacturer in the aftermath of the protracted economic crisis, has entered a transition period and has adopted a more balanced pace, thus pushing the average industrial growth of emerging industrial economies downward. World manufacturing growth has also

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

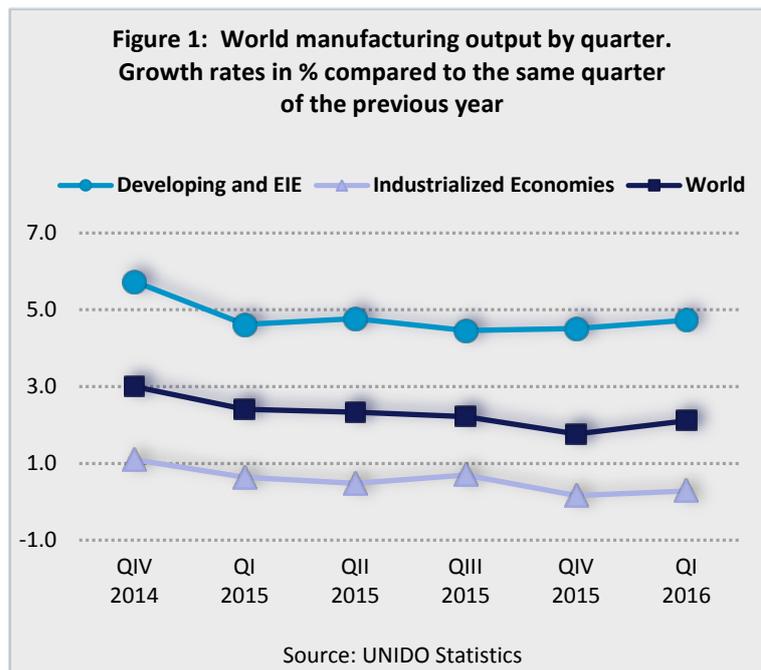
<sup>3</sup> [http://unstats.un.org/unsd/publication/seriesM/seriesm\\_4rev4e.pdf](http://unstats.un.org/unsd/publication/seriesM/seriesm_4rev4e.pdf)

been affected by the generally lower growth pace in the United States and Japan, the second and third largest manufacturers in the world. Increasing pressure associated with financial volatility and falling oil prices has contributed to the instability of manufacturing growth in industrialized economies.

Despite the protracted period of low growth in industrialized as well as in developing and emerging economies, there is no sign of an imminent recession in global industrial production. World manufacturing output rose by 2.1 per cent in the first quarter of 2016 compared to the same period of the previous year, which is slightly higher than 1.8 per cent growth estimated for the last quarter of 2015. The production of durable goods, motor vehicles and consumer electronics is rising in industrialized and in developing economies. These positive growth trends were observed across country groups (Figure 1).

Industrialized economies marginally increased their quarterly growth rate in the first quarter of 2016 to 0.3 per cent from 0.2 per cent in the previous quarter.

Some improvement in growth performance was observed in Europe, where manufacturing output rose by 2.3 per cent in the first quarter of 2016 compared to the same period of the previous year. The growth of manufacturing output slightly increased in North America in the first quarter of 2016, but was still below 1.0 per cent. East Asia experienced a major blow, with manufacturing output



dropping by nearly 3.0 per cent in the first quarter of 2016. Production decline was reported in two of East Asia's major manufactures, Japan and the Republic of Korea. Japan's yen began rising against other major currencies against the backdrop of an increased trade balance due to an earlier export surge, which has adversely affected manufacturing production in recent months. Production decline in East Asia had a negative impact on the manufacturing growth of industrialized countries as a whole.

Manufacturing growth in developing and emerging industrial economies remains weak due to a further slowdown in capital inflows from industrialized economies and a significant decline in exports. The slow recovery of industrialized economies and their dependence on external markets has exposed domestic structural problems in developing and emerging industrial economies, which have now been further compounded due to falling oil prices, compression of demand in domestic markets and high fluctuation in commodity prices. The downward trend of net capital inflows to developing economies continued, while exports from developing economies dropped by 13.0 per cent in 2015 (UNCTAD).

Despite the prolonged period of weak growth, developing and emerging industrial economies contributed around 90.0 per cent of global manufacturing growth in the first quarter of 2016. Manufacturing output in developing and emerging industrial economies increased by 4.7 per cent in the first quarter, slightly higher than in the previous quarter (4.5 per cent). As depicted in Figure 1, the pace of growth in both country groups exhibit similar trends but the level of growth has been consistently higher in developing and emerging industrial economies than in industrialized countries. However, growth performance varied considerably among the regions. While Asian economies persevered, manufacturing output dropped in Africa and Latin America. Manufacturing output declined in Egypt and South Africa in the first quarter of 2016. Similarly, a sharp plunge in production was observed in Brazil as a result of overall economic recession.

## **2. Findings by country group**

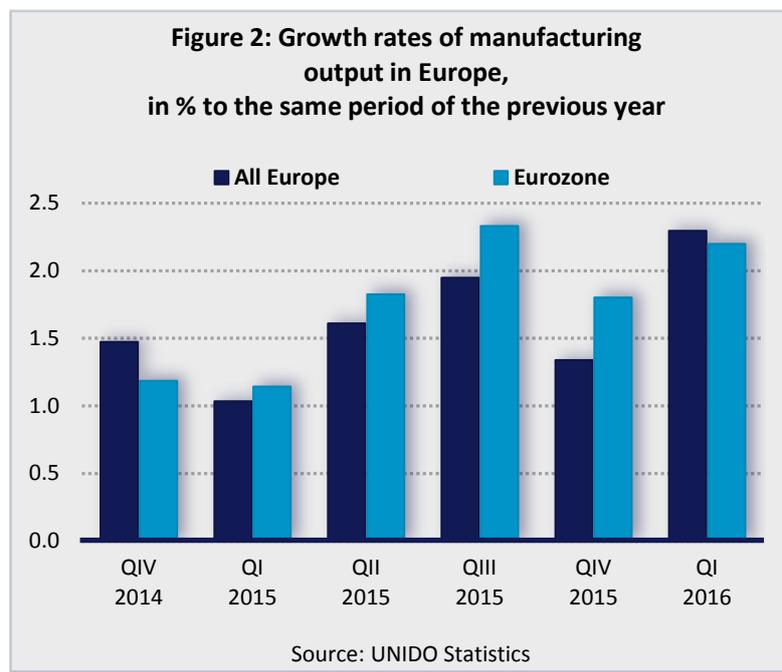
### **Industrialized economies**

Industrialized countries maintained a positive growth of manufacturing output overall in the first quarter of 2016, however, the pace has been too slow over a protracted period. The average quarterly growth of industrialized economies in 2015 was below 1.0 per cent, and only 0.3 per cent in the first quarter of 2016 compared to the same period of the previous years. Growth in industrialized economies in the first quarter of 2016 was characterized by moderate growth in Europe and North America and a negative trend in East Asia. This trend has persisted for quite some time.

Among the industrialized regions, Europe’s manufacturing output has grown consistently since 2014. Manufacturing output in the first quarter of 2016 rose by 2.3 per cent compared to the same period of the previous year. This is the highest growth rate registered in Europe since early 2014. The growth figures were positive for the majority of European countries, with strong growth performance of around 7.0 per cent or more being observed in Switzerland, Ireland, Lithuania and Slovenia.

At the peak of financial instability, UNIDO’s Quarterly Reports presented disaggregated data for the eurozone economies to distinguish their growth trends from the rest of Europe. This difference seems to have disappeared in recent quarters. The growth trends for these two groups converged at the beginning of 2016.

The growth trends for these two groups converged at the beginning of 2016. Eurozone economies, assisted by lower energy prices and a weaker euro, indicated a 2.2 per cent growth of manufacturing output in the first quarter of 2016. Germany, the largest manufacturer among the eurozone countries, performed well with an increase of



1.8 per cent in manufacturing output. Manufacturing output rose by 2.1 per cent in Italy and by 0.9 per cent in France. Manufacturing output also rose in Belgium (2.5 per cent), in the Netherlands (1.5 per cent) and in Spain (4.9 per cent). Greece recorded a second consecutive quarter of positive growth, with manufacturing output rising by 1.4 per cent in the first quarter of 2016.

Outside the eurozone, the manufacturing output of the United Kingdom declined by 1.3 per cent in the first quarter of 2016 compared to the same period of 2015. A potential Brexit has created considerable uncertainty, affecting business environment confidence and resulting in negative growth of manufacturing output. Among the other economies, the falling oil prices has hit the manufacturing output of Norway and the Russian Federation particularly hard, where output dropped by

6.4 per cent and 3.4 per cent, respectively. The manufacturing output of East European countries demonstrated a relatively higher growth rate of 3.4 per cent in Poland, 7.3 per cent in Croatia and 5.3 per cent in Bulgaria.

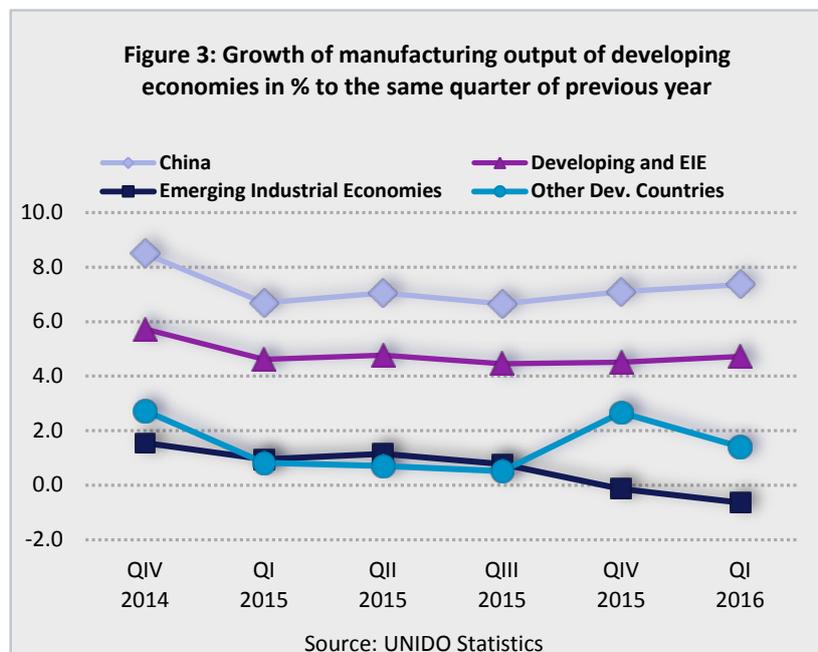
The industrial production index in North America rose by 0.9 per cent in the first quarter of 2016. Canada outperformed the United States with a 2.7 per cent growth of manufacturing output, attributable primarily to the high growth in the production of motor vehicles. US manufacturing output rose by merely by 0.7 per cent against the backdrop of a decline in competitiveness due to a strong dollar and weak consumer spending.

In East Asia, manufacturing output rose in Malaysia by 4.2 per cent, while other major economies observed negative growth. Manufacturing output dropped by 3.2 per cent in Japan, 1.8 per cent in Singapore and by 3.8 per cent in the Republic of Korea. The manufacturing output of the industrialized economies of East Asia fell by 2.9 per cent.

### Developing and emerging industrial economies

A slowdown in China and a downturn in Latin America have impacted the overall growth of manufacturing in developing and emerging industrial economies.

The slowdown in China was modest; manufacturing output rose by 7.4 per cent. This is one of the slowest growth rates since 2005, but not when compared with other economies of the world. Due to strong domestic demand, China's manufacturing has proven resilient to external shocks. Compared to other



economies, China has maintained relatively high growth rates under conditions of declining capital inflow and exports.

Latin American economies, on the other hand, were not equally resilient and were negatively affected by subdued global demand for commodities and falling oil prices. The manufacturing production in Latin America fell by 3.3 percent. In addition, Brazil, South America's largest manufacturer, faced political uncertainty, decreasing prices of export commodities and soaring inflation. The manufacturing output of Brazil in the first quarter of 2016 plunged by 11.2 per cent compared to the same period of the previous year. Manufacturing growth in other major economies of the continent, namely Argentina and Chile, was less than 1 per cent, while Peru's manufacturing production dropped by 1.6 per cent. Mexico and Columbia recorded relatively higher growth rates.

Growth performance was much higher in Asian economies, where manufacturing output rose by 6.3 per cent in the first quarter of 2016. As one of the fast growing Asian economies, Viet Nam has maintained a double digit growth rate of manufacturing output for five consecutive quarters. The overall growth of Viet Nam's economy has been driven by strength in export-oriented manufacturing, which continues to be driven by rising foreign direct investment. Indonesia's manufacturing output, which recently climbed to rank 10 of the largest world manufacturers, grew by 3.7 per cent in the first quarter of 2016. India's manufacturing output, which had achieved impressive growth rates in the last quarters, fell by 2.2 per cent. The high cost of borrowing and poor demand played a major role in the pre-mature reversal of India's manufacturing growth in 2016. Manufacturing production also dropped in Pakistan in the first quarter of 2016.

Estimates based on the limited available data indicate that manufacturing output in Africa has dropped by 0.8 per cent. The loss in growth was attributable to two major African economies - Egypt and South Africa. Egypt's manufacturing output dropped by 1.4 per cent and South Africa's by 0.8 per cent compared to the same period of the previous year. The manufacturing output of Senegal and Tunisia decreased as well. The weaker growth of manufacturing output is primarily credited to low capital inflow and reduced exports. Positive growth was maintained by Côte d'Ivoire and Morocco.

### 3. Findings by industry group

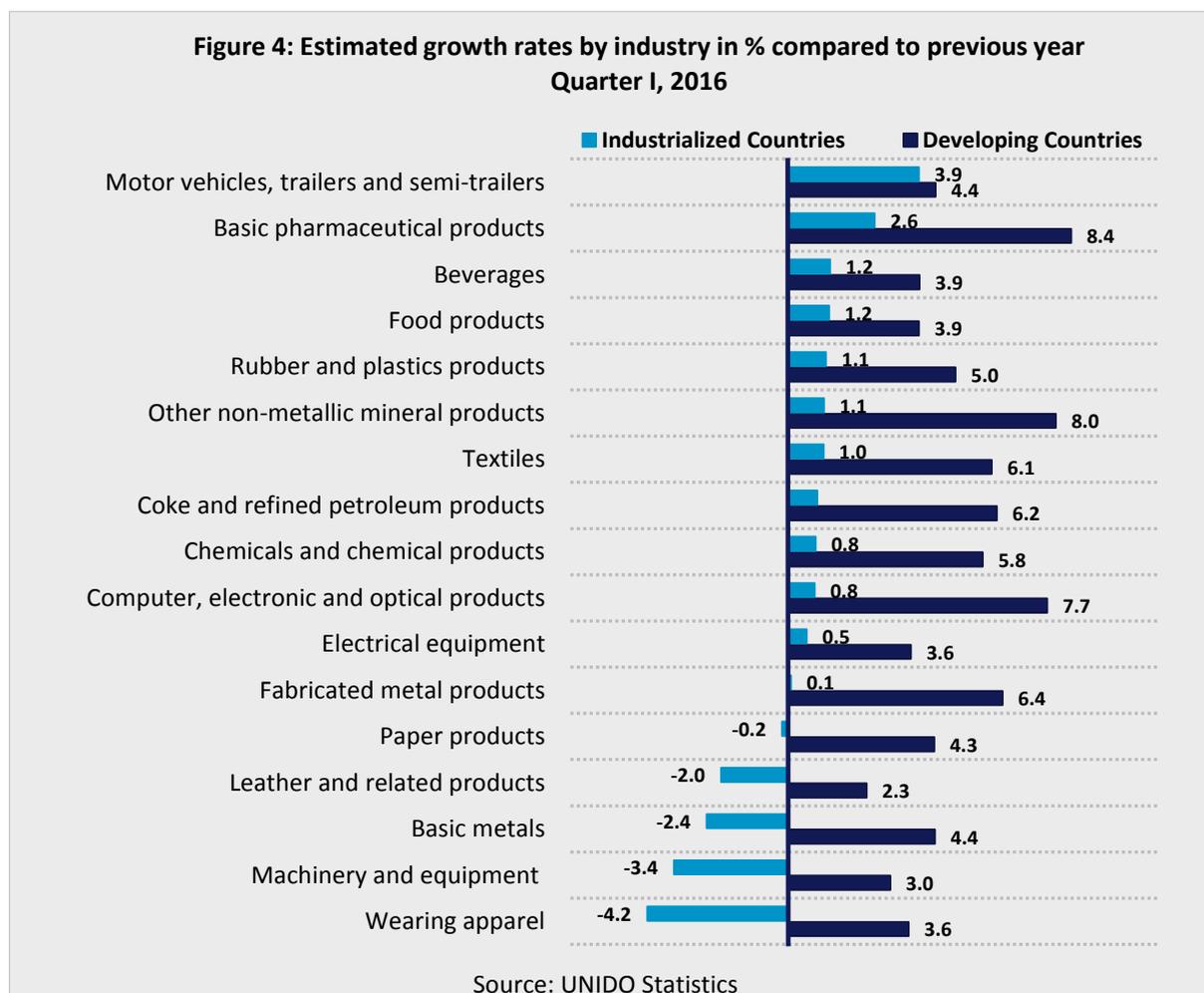
Global manufacturing production maintained a positive growth in nearly all industries in the first quarter of 2016. However, against the backdrop of falling investment in capital goods, the production of machinery and equipment declined by 1.1 per cent worldwide. The biggest loss was recorded by the tobacco industry, with worldwide production declining by 3.4 per cent. By contrast, the production of pharmaceutical products rose by 4.8 per cent. Among other fast growing industries, the production of textiles rose by 4.9 per cent and motor vehicles by 4.1 per cent.

Disaggregated data by industrialized and developing economies show that industrialized countries performed relatively well in the production of high-technology industries such as pharmaceutical products, motor vehicles, chemicals and electronics. The fastest growing industry in industrialized economies was the production of motor vehicles which rose by 3.9 per cent in the first quarter of 2016. Among them, vehicle production in Canada rose by 11.8 per cent, by 9.4 per cent in Italy and by 7.1 per cent in France. However, in Japan the production of motor vehicles fell by 5.3 per cent.

In general, the growth performance of developing and emerging industrial economies was far better in nearly all manufacturing industries, including several high-technology industries. The production of pharmaceutical products in developing and emerging industrial economies rose by the highest rate of 8.4 per cent. A significant contribution to the growth of pharmaceutical products was made by African countries, namely Egypt and Senegal.

As shown in the Figure 4, developing economies maintained a relatively higher growth rate in the production of basic consumer goods. The manufacture of food products rose by 3.9 per cent, textile by 6.1 per cent and wearing apparel by 3.6 per cent. The most significant growth rate among developing economies in the production of wearing apparel was observed in Turkey at 12.2 per cent in the first quarter of 2016. The production of other consumer goods rose at a higher rate in developing and emerging industrial economies. Among other industries, the production of chemicals and chemical products grew by 5.8 per cent and basic metals by 4.4 per cent.

The growth rates for selected industries are presented below.



The production of electronic and optical products registered one of the highest growth figures at 7.7 per cent in developing and emerging industrial economies. Similarly, the manufacture of other non-metallic mineral products that essentially supply construction materials rose by nearly 8.0 per cent.

Additional statistics on the growth rates in the first 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 I, 2016

	Share in world MVA (2010)	Compared to the previous quarter	Compared to the same period of the previous year
World	100.0	5.2	2.1
Industrialized Economies	63.4	-0.3	0.3
North America	20.6	0.3	0.9
Europe	24.1	0.8	2.3
East Asia	15.4	-2.9	-2.9
Developing and EIE (by development group)	36.6	12.7	4.7
China	19.9	20.2	7.4
Emerging Industrial Economies	14.5	0.2	-0.6
Other Developing Countries	1.9	-1.5	1.4
Developing and EIE (by region)	36.6	12.7	4.7
Africa	1.2	0.0	-0.8
Asia & Pacific	26.0	16.5	6.3
Latin-America	6.6	-0.7	-3.2
Others	2.8	1.5	3.8

Source: UNIDO Statistics.

Notes: Not all subgroups in this group 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 I, 2016

	Developing and Emerging Industrial Economies	Industrialized Economies	World
Food products	3.9	1.2	2.4
Beverages	3.8	1.5	2.6
Tobacco products	-5.4	2.0	-3.4
Textiles	6.1	1.0	4.9
Wearing apparel	3.6	-4.2	2.1
Leather and related products	2.3	-2.0	1.3
Wood products (excl. furniture)	4.3	3.3	3.7
Paper products	4.3	-0.2	1.8
Printing	3.4	-0.2	0.6
Coke and refined petroleum products	6.2	0.9	3.5
Chemicals and chemical products	5.8	0.8	3.1
Basic pharmaceutical products	8.4	2.6	4.8
Rubber and plastics products	5.0	1.1	2.6
Other non-metallic mineral products	8.0	1.1	5.0
Basic metals	4.4	-2.4	2.1
Fabricated metal products	6.4	0.1	2.2
Computer, electronic and optical products	7.7	0.8	3.9
Electrical equipment	3.6	0.5	2.0
Machinery and equipment	3.0	-3.4	-1.1
Motor vehicles, trailers, semi-trailers	4.4	3.9	4.1
Other transport equipment	5.7	-0.3	1.2
Furniture	5.4	3.1	3.9
Other manufacturing	5.8	-0.3	1.5
<b>Total manufacturing</b>	<b>4.7</b>	<b>0.3</b>	<b>2.1</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 I, 2016

	Developing and Emerging Industrial Economies	Industrialized Economies	World
Food products	10.7	0.5	4.6
Beverages	8.3	1.1	4.5
Tobacco products	-20.6	1.2	-15.3
Textiles	18.9	0.3	14.1
Wearing apparel	22.2	-1.3	17.3
Leather and related products	21.0	-0.3	15.2
Wood products (excl. furniture)	23.1	1.4	8.9
Paper products	17.5	-0.1	7.1
Printing	4.0	-0.1	0.9
Coke and refined petroleum products	8.4	-0.3	3.9
Chemicals and chemical products	11.5	0.1	5.2
Basic pharmaceutical products	11.3	2.2	5.5
Rubber and plastics products	14.8	0.0	5.2
Other non-metallic mineral products	20.6	0.8	11.5
Basic metals	9.4	0.4	6.4
Fabricated metal products	18.2	1.3	6.6
Computer, electronic and optical products	28.5	0.0	11.6
Electrical equipment	17.4	0.6	8.2
Machinery and equipment	21.2	-0.8	6.4
Motor vehicles, trailers, semi-trailers	3.5	0.7	1.7
Other transport equipment	5.2	-0.1	1.3
Furniture	11.1	0.9	4.3
Other manufacturing	7.9	0.8	2.9
<b>Total manufacturing</b>	<b>12.7</b>	<b>-0.3</b>	<b>5.2</b>

Source: UNIDO Statistics.

Note: Seasonally adjusted data.

**Table 4:****Estimated growth rates of world manufacturing industry**

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

Quarter IV, 2015 (revised)

	Share in world MVA (2010)	Compared to the previous quarter	Compared to the same period of the previous year
World	100.0	-0.8	1.8
Industrialized Economies	63.4	0.6	0.2
North America	20.6	-0.1	0.1
Europe	24.1	0.8	1.3
East Asia	15.4	1.3	-0.7
Developing and EIE (by development group)	36.6	-2.5	4.5
China	19.9	-3.9	7.1
Emerging Industrial Economies	14.5	-0.4	-0.1
Other Developing Countries	1.9	3.3	2.7
Developing and EIE (by region)	36.6	-2.5	4.5
Africa	1.2	0.0	-0.5
Asia & Pacific	26.0	-3.1	6.5
Latin-America	6.6	-1.1	-4.6
Others	2.8	1.7	4.7

Source: UNIDO Statistics.

Note: Not all subgroups in this group 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 IV, 2015 (revised)

	Developing and Emerging Industrial Economies	Industrialized Economies	World
Food products	4.7	0.5	2.2
Beverages	4.9	-0.4	2.1
Tobacco products	9.5	0.6	7.2
Textiles	4.9	0.3	3.6
Wearing apparel	1.8	-1.6	1.1
Leather and related products	1.5	-3.1	0.2
Wood products (excl. furniture)	3.6	2.2	2.6
Paper products	3.0	-0.1	1.2
Printing	2.8	-0.7	0.1
Coke and refined petroleum products	1.6	2.4	2.0
Chemicals and chemical products	6.5	1.8	3.9
Basic pharmaceutical products	7.0	3.8	5.0
Rubber and plastics products	4.1	1.5	2.4
Other non-metallic mineral products	4.1	0.2	2.3
Basic metals	6.1	-4.3	2.4
Fabricated metal products	4.8	-1.4	0.5
Computer, electronic and optical products	6.4	1.3	3.3
Electrical equipment	2.6	-0.2	1.0
Machinery and equipment	0.6	-3.5	-2.2
Motor vehicles, trailers, semi-trailers	3.9	4.4	4.2
Other transport equipment	6.7	-1.3	0.7
Furniture	3.6	2.4	2.8
Other manufacturing	3.1	-1.5	-0.2
<b>Total manufacturing</b>	<b>4.5</b>	<b>0.2</b>	<b>1.8</b>

Source: UNIDO Statistics.

Note: Seasonally adjusted data.