



World Manufacturing Production

Statistics for Quarter IV, 2015

Statistics Unit

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UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION

Report on world manufacturing production Quarter IV, 2015

UNIDO Statistics presents this report on growth estimates based on the indices of industrial production for the fourth quarter of 2015. Reports on earlier quarters are available on UNIDO's website. Users are advised to take note that MVA refers to output net of intermediate consumption, whereas quarterly indices are based on gross output. Interested users can access methodological documents on the estimation procedure of annual growth rates and a compilation of quarterly indices on the statistical web pages of UNIDO's website.

UNIDO's quarterly reports on world manufacturing have been regularly published since the first quarter of 2011. Earlier reports included index figures for some countries that were not seasonally adjusted or for which no information was available where seasonal adjustments were made at the national level. Since 2013, growth figures based on seasonally adjusted index numbers have been published. The seasonal adjustment of index numbers is achieved using the TRAMO/SEATS method¹ in Demetra+ software. The purpose of seasonal adjustment is to filter out any fluctuations or calendar effects within time series shifts.

Data on index numbers are obtained from national statistical sources. The sample covers around 95.0 per cent of world MVA. In case of missing data, UNIDO performs imputations or projections where appropriate. UNIDO estimates are generally replaced as soon as the officially reported values become available in national statistical publications. This report presents estimates for the fourth quarter of 2015 as well as revised estimates for the third quarter of 2015. Growth rates are calculated from the national index numbers which are aggregated to the country groups or world regions using weights based on the country's contribution to world manufacturing value added. Details on the country groups are provided in the 2013 edition of the International Yearbook of Industrial Statistics. The country grouping is based on economic territories rather than on political boundaries. This report presents the growth figures for country groups by stage of industrial development and by geographic region.

¹ 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 analysis.

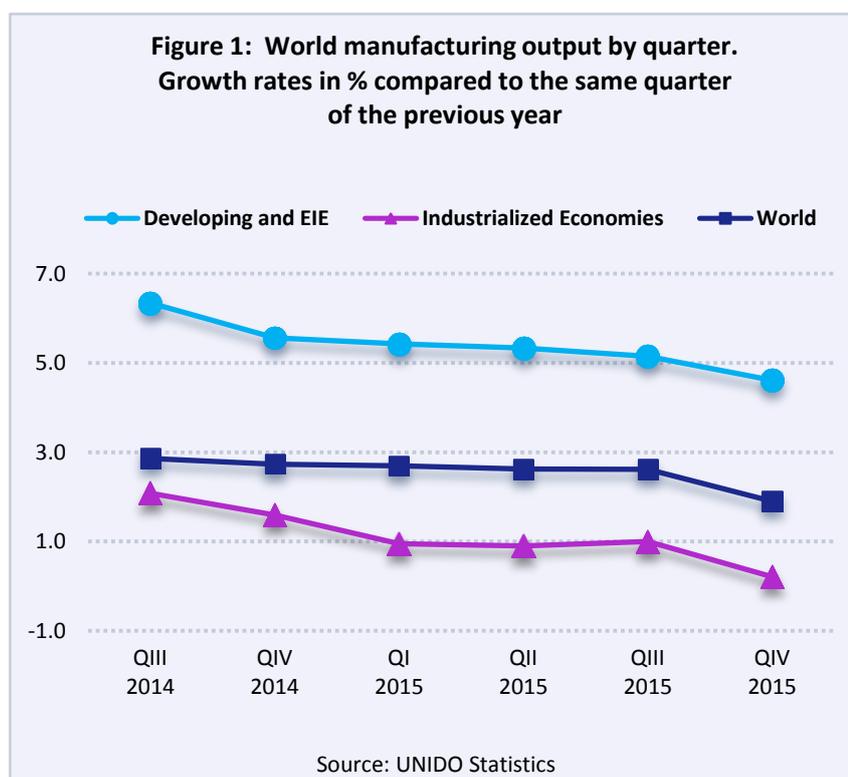
Major findings

1. World manufacturing growth in the fourth quarter of 2015

World manufacturing growth slowed down further in the fourth quarter of 2015, with growth rates in both industrialized and developing economies decreasing. Weak business investment and sluggish consumer demand are among the major causes of the deceleration of global manufacturing output growth.

Growth in major emerging industrial economies has weakened, continuing the trend of the first quarter of 2014. China's slowdown and the sharp decline in manufacturing output of Latin American economies are the primary causes for the country group's weaker growth rate. The fall in commodity prices has affected some key emerging commodity export-dependent countries, namely Brazil and South Africa, and has resulted in currency depreciation.

The upturn in manufacturing growth observed in industrialized economies in the third quarter of 2015 did not continue in the fourth quarter of 2015, and this country group's production output decreased significantly. The slowdown in Europe and North America, along with a further decline in East Asian economies, resulted in a sharp deceleration in the country group's



manufacturing output growth. In the United States, manufacturing exports slowed as a result of the strong US dollar and the low oil prices. Continued decline in China has also weakened Chinese demand for imports from Europe.

Global manufacturing output growth rose by merely 1.9 per cent in the fourth quarter of 2015, down from a 2.6 per cent revised growth estimate in the third quarter. Slow investment growth, lower commodity and energy prices, weak global demand and geopolitical tensions are among the main causes of the overall flat-lining growth. However, these factors are having different effects on different economies. For example, favourable oil prices have reduced the business costs in oil importing countries, especially in industrialized economies, while oil exporting economies have been subject to increasing financial pressure.

The manufacturing output of industrialized countries rose by 0.2 per cent in the fourth quarter of 2015. This slow growth is attributable to a mixture of weaker growth figures in the United States and Europe and a decline in East Asia's manufacturing output. The question of the robustness of recovery in industrialized economies has been raised in earlier quarterly reports.

The growth of manufacturing output in developing and emerging industrial economies decreased to 4.6 per cent, down from 5.2 per cent growth in the previous quarter. The growth outlook varies between different developing and emerging regions and groups; e.g. manufacturing output grew by 6.1 per cent in developing countries in Asia and the Pacific compared to the same period of the previous year, while it declined by 4.0 per cent in the Latin America region. Manufacturing output has also declined slightly (0.2 per cent) in Africa.

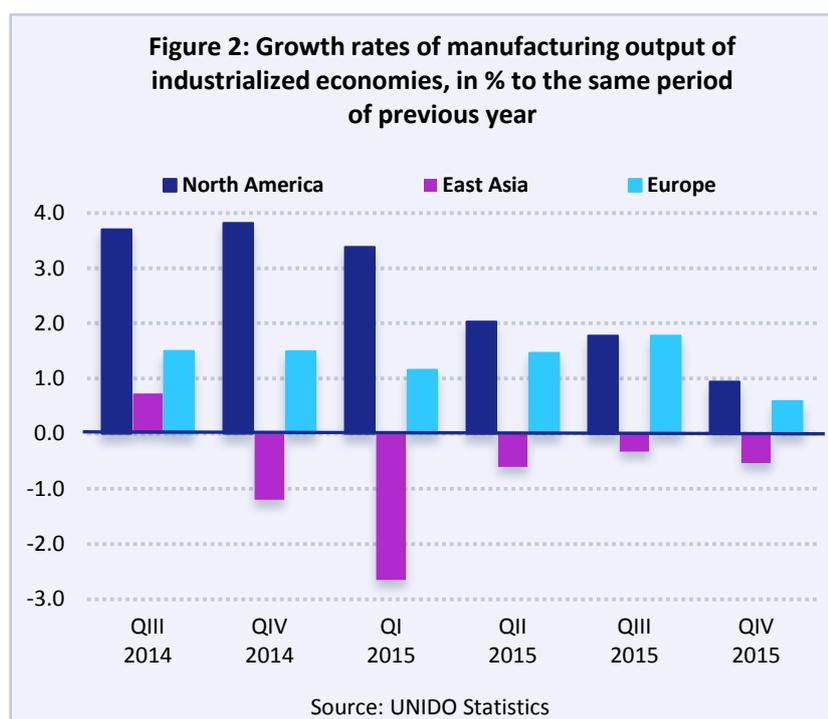
Despite the slower pace of growth, developing and emerging industrial economies were the main drivers of global manufacturing growth. Their combined contribution to global manufacturing growth was around 80 per cent. This indicates the significance of manufacturing activities within the group for the overall global picture.

2. By country group

Industrialized economies

The overall growth trend of industrialized countries decelerated significantly in the last quarter of 2015. Manufacturing output rose by a mere 0.2 per cent compared to the same period of the previous year, down from 1.0 per cent growth observed in the previous quarter.

The European economy grew by 0.6 per cent in the fourth quarter of 2015 compared to the same quarter of the previous year. Yet, the manufacturing output of the eurozone economies rose by 1.5 per cent. As revealed by the figures, Switzerland recorded a 14.7 per cent



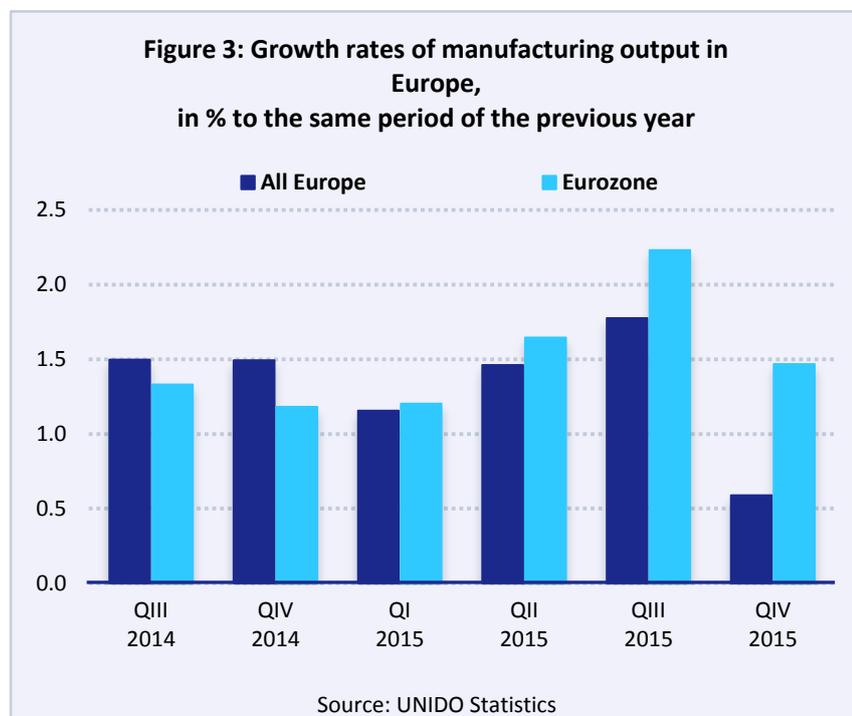
decline in manufacturing output and dragged down the overall growth rate of industrialized Europe. The consequences of the Swiss franc-euro exchange rate became more visible in the last two quarters of 2015 and have affected the country's exports, which have become more expensive for consumers.

The industrial production index in North America rose by 0.9 per cent in the fourth quarter of 2015 on account of the growth of manufacturing output in the United States. Despite this, the growth of the US manufacturing sector has weakened, rising by only 1.1 per cent as overseas demand remained slow. A strong US dollar hit exports and domestic sales of American manufactured products, indicating a loss in competitiveness to cheaper imported goods. In addition, demand

for machinery goods from the energy sector declined due to lower oil prices. Manufacturing output dropped by 1.0 per cent in Canada due to the decline in petroleum and coal prices.

In East Asia, negative growth rates were observed in the major economies, namely Japan, the Republic of Korea and Singapore, in the fourth quarter of 2015, declining by 0.6 per cent, 0.6 per cent and 6.8 per cent, respectively. On the other hand, manufacturing output rose by 4.9 per cent in Malaysia compared to the same period of the previous year.

As already mentioned, Europe's overall growth rate was dragged down by a significant decline in the Swiss economy. This has increased the gap between the output growth of the eurozone and of Europe as a whole, with eurozone



countries registering a much higher manufacturing growth due to lower energy prices and a weaker euro. Growth was especially strong in Ireland (15.7 per cent), in Slovakia (7.3 per cent) and in Spain (5.8 per cent).

Across non-euro countries, manufacturing output declined in Norway, Switzerland and the United Kingdom. The downturn in Norway by 7.6 per cent is attributed to a decrease in the production of oil- and gas-related industries. The setback in the UK's manufacturing sector by 1.0 per cent resulted from a strong currency and weak global demand. At the same time, the output of manufacturing

activities increased by 3.9 per cent in the Czech Republic, by 9.4 per cent in Hungary, and 3.7 per cent in Sweden in the fourth quarter of 2015. The manufacture of motor vehicles was the main driver of growth in Hungary's manufacturing sector.

The decline in the Russian Federation's manufacturing sector continued, with output decreasing by 5.7 per cent and currency depreciation deteriorating.

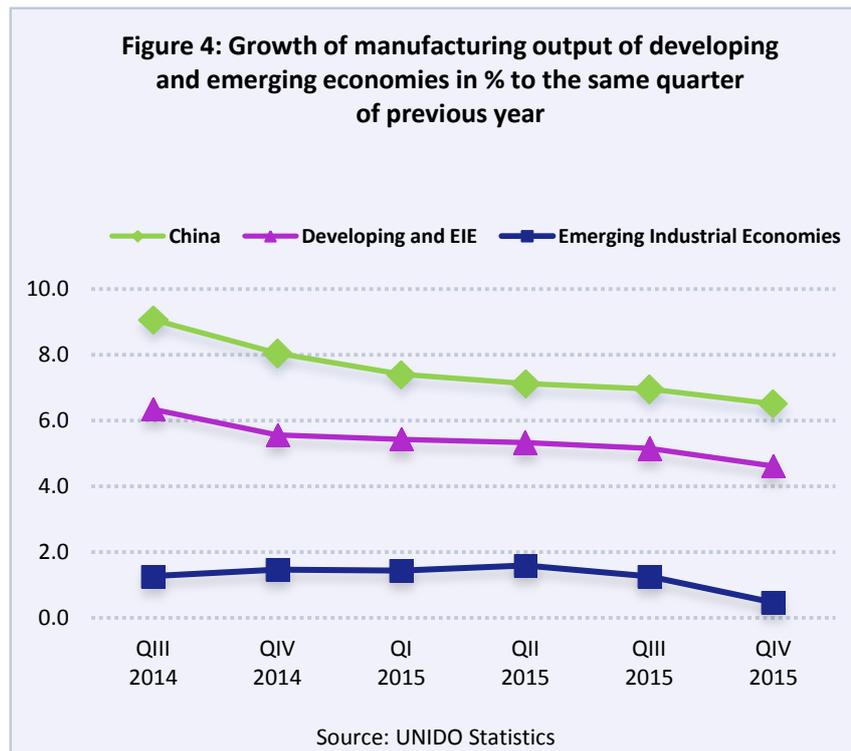
Despite the overall positive growth in industrialized economies as a whole, growth rates remained low. Appropriate monetary policies are required that can boost demand and increase investment.

Developing and emerging industrial economies

A decrease in the growth rate of manufacturing output in developing and emerging industrial economies continued in the fourth quarter of 2015. Industrial production rose by 4.6 per cent as a result of the relatively lower growth in Asian economies (mainly China) and a notable decline in Latin America. Growth in emerging economies, excluding China, continued to decelerate.

As mentioned in earlier reports, China is in a transition period of shifting its economy from the manufacturing sector towards the services sector. As a result of the structural change in the economy, China's manufacturing output rose by 6.5 per cent in the fourth quarter of 2015, the slowest growth rate since 2005 and down from 7.0 per cent in the previous quarter. Recently, the Government of China announced the two-child policy, which could accelerate economic growth in the near future. This will significantly boost internal demand for consumer goods within the country.

The Latin America region is struggling to overcome a deep recession as demonstrated by the decline in manufacturing output by 4.0 per cent in the fourth quarter, lower than the 2.9 per cent drop recorded in the previous quarter. The industrial production



index decreased in nearly all economies with the exception of Mexico, where output grew by 2.2 per cent on a year-to-year basis. In Brazil, the recession continued and manufacturing output fell by 12.4 per cent in the fourth quarter of 2015 as the internal political crisis remained unresolved and commodity prices declined. Among the other major economies in the region, manufacturing output dropped by 0.9 per cent in Argentina, by 1.5 per cent in Chile, by 0.4 per cent in Columbia and by 0.8 per cent in Peru.

Manufacturing output fell slightly in Africa (by 0.2 per cent), however, negative growth has only been observed in one country in the region while the rest of the region registered positive growth figures. Manufacturing output grew by 1.1 per cent in Egypt, by 0.4 per cent in Morocco, by 5.8 per cent in Senegal and by 0.8 per cent in Tunisia. A decline of 1.4 per cent was registered in South Africa where the economy – as an exporter – has been hit by the low commodity prices.

Among other developing countries, a strong growth of 12.4 per cent was registered by Viet Nam. Industrial production also grew by 5.3 per cent in Bosnia and Herzegovina in the fourth quarter of 2015 on a year-to-year basis.

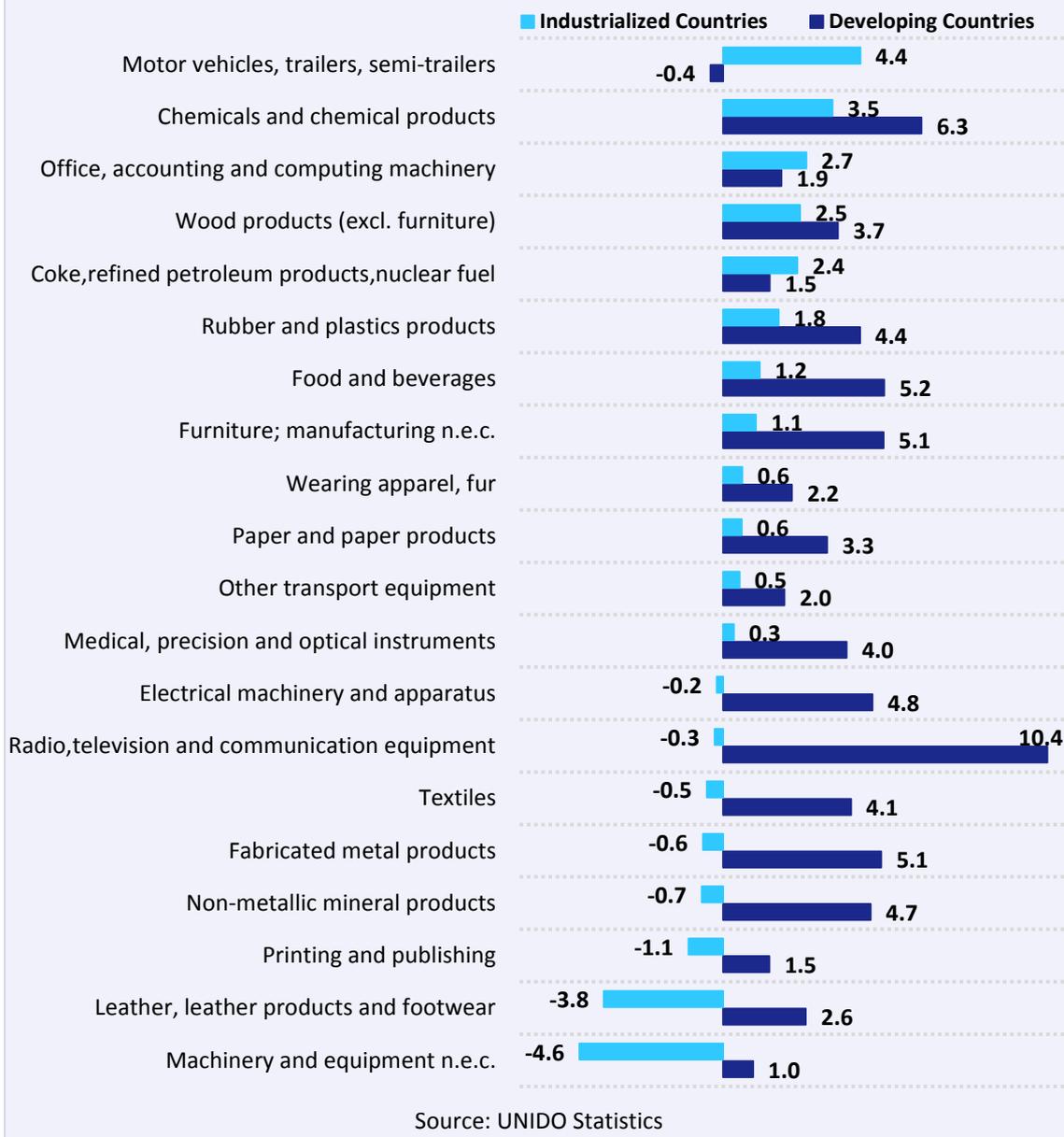
3. Findings by industry group

This section presents growth estimates in manufacturing by industry group for both industrialized and developing and emerging industrial economies in the fourth quarter of 2015.

On a year-to-year comparison, world manufacturing production grew in all manufacturing sectors in the fourth quarter 2015, with the exception of the manufacture of machinery and equipment and printing and publishing. The global decline in the production output of the manufacture of machinery is attributable to low energy prices. Higher growth rates have been observed in the manufacture of radio and television and of chemicals and chemical products. Growth was positive across all industries in developing and emerging industrial economies, except a slight decline in the manufacture of motor vehicles. Industrialized countries registered negative growth in eight manufacturing industries.

Among the consumer goods production industries, output of wearing apparel grew by 2.2 per cent in developing and emerging markets and by 0.6 per cent in the industrialized country group. The industry's output grew by 16.9 per cent in the Czech Republic, by 14.6 per cent in the United Kingdom, by 12.8 per cent in Egypt, and by 12.3 per cent in Mexico. However, the manufacturing output of the wearing apparel fell sharply in Brazil and Indonesia, by 12.9 per cent and 16.4 per cent, respectively. A significant decline was also observed in wearing apparel production in Canada and Estonia. The production of textiles grew by 4.1 per cent in developing countries while industrialized countries registered a decline of 0.5 per cent in this production. At country level, impressive growth in textiles production was recorded in Argentina, Estonia and Hungary whereas it dropped sharply in Brazil and Senegal. The production of food and beverages grew at a higher rate (5.2 per cent) in developing countries. As such, output grew by 7.8 per cent in China, by 7.3 per cent in Indonesia and by 5.2 per cent in Romania. Output declined by 10.3 per cent in Tunisia and by 7.0 per cent in Egypt. The food sector was the only manufacturing industry with a positive, albeit poor, growth in Brazil.

**Figure 5: Estimated growth rates by sector in % compared to previous year
Quarter IV, 2015**



The notable growth rate of 10.4 per cent was observed in the manufacture of radio, television and communication equipment in developing and emerging countries, with China, Egypt and India being the leading manufacturers. In industrialized markets, the highest growth rate in this manufacturing sector was seen in France.

The production of motor vehicles fell marginally by 0.4 per cent in developing countries, attributed mainly to the decline in the industry in Latin American

economies. The industry's output rose by 4.4 per cent in industrialized countries, with Italy, Spain and Sweden being the top producers worldwide in the fourth quarter of 2015. The manufacturing production of other transport equipment increased at a higher rate in developing countries.

The manufacture of chemicals and chemical products increased considerably in China, Senegal and Tunisia, as well as in Ireland, Netherlands and the Russian Federation. The chemical industry was one of the few industries in the Russian Federation recording a higher growth rate, with a 6.6 per cent increase compared to the previous year.

The production of basic metals, which includes the production of basic iron, basic steel, basic precious and non-ferrous metals, rose by 5.9 per cent in developing countries compared to the same period of the previous year, but dropped by 4.8 per cent in industrialized countries in comparison to the previous year. Manufacturing output grew in China, Indonesia and Macedonia, while it fell in all Latin American economies and in Africa.

In the United States, as the largest driver of growth in industrialized economies, the manufacture of electrical machinery and apparatus and motor vehicles remained strong in the fourth quarter of 2015. However, other industries showed either a decline or a decrease in production output. The combination of low energy prices and expensive currency contributed to the economic slowdown of the United States.

Despite its slow economic growth, China's manufacturing output in most industries increased compared to the same period of the previous year. China recorded its highest growth rates in the manufacture of radio and television (10.1 per cent), chemicals and chemical products (9.8 per cent) and the manufacture of basic metals (8.9 per cent).

Further statistics on the growth rates in the fourth quarter of 2015 are presented in the Statistical Annex.

Statistical Tables

Table 1:

Estimated growth rates of world manufacturing output in %

Quarter IV, 2015

	Share in world MVA (2010)	Compared to the previous quarter	Compared to the same period of the previous year
World	100	-0.5	1.9
Industrialized Economies	67.7	0.2	0.2
North America	22.4	0.1	0.9
Europe	24.7	-0.1	0.6
East Asia	17.2	1.4	-0.5
Developing and EIE (by development group)	32.3	-1.5	4.6
China	15.3	-2.2	6.5
Emerging Industrial Economies (excl. China)	13.8	-0.5	0.5
Other Developing Countries	2.7	2.1	4.1
Developing and EIE (by region)	32.3	-1.5	4.6
Africa	1.5	1.2	-0.2
Asia & Pacific	21.7	-2.0	6.1
Latin-America	5.8	-1.2	-4.0
Others	3.3	1.9	4.7

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 IV, 2015.

	Developing and Emerging Industrial Economies	Industrialized Economies	World
Food and beverages	5.2	1.2	3.1
Tobacco products	9.8	0.1	8.9
Textiles	4.1	-0.5	2.8
Wearing apparel, fur	2.2	0.6	1.8
Leather, leather products and footwear	2.6	-3.8	0.9
Wood products (excl. furniture)	3.7	2.5	2.9
Paper and paper products	3.3	0.6	1.5
Printing and publishing	1.5	-1.1	-0.6
Coke ,refined petroleum products, nuclear fuel	1.5	2.4	1.9
Chemicals and chemical products	6.3	3.5	4.5
Rubber and plastics products	4.4	1.8	2.8
Non-metallic mineral products	4.7	-0.7	2.2
Basic metals	5.9	-4.8	2.1
Fabricated metal products	5.1	-0.6	0.9
Machinery and equipment n.e.c.	1.0	-4.6	-2.6
Office, accounting and computing machinery	1.9	2.7	2.7
Electrical machinery and apparatus	4.8	-0.2	2.7
Radio, television and communication equipment	10.4	-0.3	6.9
Medical, precision and optical instruments	4.0	0.3	0.9
Motor vehicles, trailers, semi-trailers	-0.4	4.4	3.4
Other transport equipment	2.0	0.5	1.3
Furniture; manufacturing n.e.c.	5.1	1.1	3.9
Total Manufacturing	4.6	0.2	1.9

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, 2015

	Developing and Emerging Industrial Economies	Industrialized Economies	World
Food and beverages	2.9	-0.8	1.0
Tobacco products	7.3	-0.2	6.6
Textiles	-2.3	0.1	-1.6
Wearing apparel, fur	-2.0	-1.7	-1.9
Leather, leather products and footwear	-0.5	-2.9	-1.2
Wood products (excl. furniture)	-3.8	2.0	-0.1
Paper and paper products	-1.1	0.5	-0.1
Printing and publishing	1.1	0.4	0.5
Coke, refined petroleum products, nuclear fuel	1.3	1.1	1.2
Chemicals and chemical products	-3.5	1.0	-0.7
Rubber and plastics products	-2.7	0.4	-0.8
Non-metallic mineral products	-2.0	0.4	-0.9
Basic metals	-3.0	-0.9	-2.3
Fabricated metal products	-5.1	-0.7	-2.0
Machinery and equipment n.e.c.	-4.3	-1.3	-2.4
Office, accounting and computing machinery	-6.5	0.8	0.1
Electrical machinery and apparatus	-8.1	0.9	-4.4
Radio, television and communication equipment	-3.1	0.9	-1.9
Medical, precision and optical instruments	-4.7	-1.8	-2.3
Motor vehicles, trailers, semi-trailers	-0.9	0.3	0.1
Other transport equipment	2.3	0.1	1.3
Furniture; manufacturing n.e.c.	-0.5	0.0	-0.3
Total Manufacturing	-1.5	0.2	-0.5

Source: UNIDO Statistics.

Note: Seasonally adjusted data.

Table 4:**Estimated growth rates of world manufacturing output in %**

Quarter III, 2015 (revised)

	Share in world MVA (2010)	Compared to the previous quarter	Compared to the same period of the previous year
World	100	-0.7	2.6
Industrialized Economies	67.7	-0.1	1.0
North America	22.4	0.8	1.8
Europe	24.7	-0.3	1.8
East Asia	17.2	-1.4	-0.3
Developing and EIE (by development group)	32.3	-1.7	5.2
China	15.3	-2.5	7.0
Emerging Industrial Economies (excl. China)	13.8	-0.2	1.3
Other Developing Countries	2.7	2.1	4.9
Developing and EIE (by region)	32.3	-1.7	5.2
Africa	1.5	1.5	0.4
Asia & Pacific	21.7	-2.1	6.7
Latin-America	5.8	-0.9	-2.9
Others	3.3	0.5	3.7

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 III, 2015 (revised)

	Developing and Emerging Industrial Economies	Industrialized Economies	World
Food and beverages	4.4	2.6	3.5
Tobacco products	-1.2	-4.8	-1.5
Textiles	4.4	-1.8	2.7
Wearing apparel, fur	3.0	3.6	3.2
Leather, leather products and footwear	2.3	-5.1	0.2
Wood products (excl. furniture)	5.3	0.8	2.3
Paper and paper products	4.9	-0.1	1.6
Printing and publishing	3.2	-1.6	-0.7
Coke, refined petroleum products, nuclear fuel	3.2	2.5	2.9
Chemicals and chemical products	6.4	4.7	5.3
Rubber and plastics products	6.7	1.2	3.3
Non-metallic mineral products	5.6	-1.2	2.5
Basic metals	6.3	-3.7	2.8
Fabricated metal products	5.0	0.3	1.6
Machinery and equipment n.e.c.	2.4	-3.1	-1.1
Office, accounting and computing machinery	3.6	2.5	2.7
Electrical machinery and apparatus	8.4	-0.3	4.8
Radio, television and communication equipment	9.4	5.0	8.1
Medical, precision and optical instruments	3.3	3.4	3.4
Motor vehicles, trailers, semi-trailers	2.5	4.0	3.7
Other transport equipment	4.9	0.1	2.7
Furniture; manufacturing n.e.c.	9.1	0.6	6.5
Total Manufacturing	5.2	1.0	2.6

Source: UNIDO Statistics.

Note: Seasonally adjusted data.