

# World Manufacturing Production

Statistics for Quarter IV, 2019



# Report on world manufacturing production

This report presents the observed growth rates and growth estimates of world manufacturing production for the fourth quarter of 2019. 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 should 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. Since 2013, growth figures have been published based on seasonally adjusted index numbers. Since 2017, seasonal adjustments are made using the TRAMO/SEATS method<sup>1</sup> in the JDemetra+software. The purpose of seasonal adjustment 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 was provided to users. The full list of economies used in the country groupings is available in the International Yearbook of Industrial Statistics $^2$ .

UNIDO Statistics

<sup>&</sup>lt;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  $4)^3$  in the quarterly data. For countries that publish monthly/quarterly index numbers based on ISIC Rev 4, national data are used in their original form. For countries that still produce index numbers based on ISIC Rev 3, growth figures are estimated at the 2-digit level of Rev 4 using correspondence tables. In both cases, data on index numbers are derived from national statistical sources. In case of missing data, UNIDO conducts imputations or projections, where appropriate. These estimates are generally replaced as soon as the officially reported values become available in national statistical publications.

Growth rates are calculated from the national index numbers that are aggregated to

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

Users can find further information on the methodology of index numbers, estimation procedure or compilation of country groups' indices in a methodological document<sup>4</sup> which is available on the statistical pages of UNIDO's website, together with the indices themselves published in UNIDO's Quarterly IIP database, available on the UNIDO Statistics Data Portal<sup>5</sup>.

This report presents estimates for the fourth quarter of 2019 as well as revised estimates for the third quarter of 2019.

<sup>&</sup>lt;sup>3</sup>https://unstats.un.org/unsd/publication/seriesM/seriesm\_4rev4e.pdf

<sup>&</sup>lt;sup>4</sup>https://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

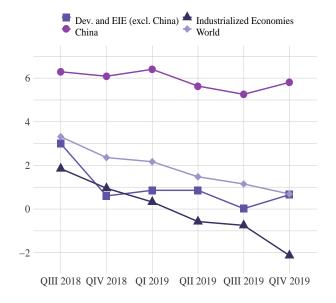
<sup>&</sup>lt;sup>5</sup>https://stat.unido.org/

# World manufacturing growth in Quarter IV 2019

World manufacturing has experienced a consistent decline in production growth, indicating an overall economic slowdown, which will result in job losses, fall in consumer demand and a deterioration of living standards. This downward trend continued in the fourth quarter of 2019, as manufacturing output growth fell below the landmark of 1 per cent and remained at 0.7 per cent, following a growth rate of 1.1 per cent in the third quarter of 2019. The overall decline in growth in the year 2019 is primarily influenced by tariffs and trade tensions between the world's most dominant economies, namely the United States, China and Europe. The widespread slowdown is observed in nearly all regions and country groups, whereas major industrial economies, in particular, such as Germany, Japan or the United States suffered reductions in manufacturing output.

Industrialized economies, which account for more than half of the world's industrial output, registered a noticeable contraction of manufacturing production. Manufacturing output fell by 2.1 per cent in these countries compared to the fourth quarter of 2018. The growth rate of industrialized countries was already negative in the previous two quarters following a period of economic expansion that lasted more than three years.

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



North America's manufacturing output declined by 1.3 per cent in the fourth quarter of 2019, experiencing negative growth for the second consecutive quarter in 2019 according to seasonally adjusted index numbers. The decisive factor for this development is the throttled production in the United States due to the subsiding fiscal stimulus of 2018 as well as uncertainties regarding trade restrictions. Manufacturing output also dropped by 2.5 per cent in Europe's industrialized economies and by 3.6 per cent in East Asia.

China, the world's largest manufacturer, maintained a stable year-over-year growth rate of 5.8 per cent in the fourth quarter of 2019, following a rise in output of 5.3 per cent in the preceding quarter.

Developing and emerging industrial economies (excluding China) recorded an increase in manufacturing production of 0.7 per cent in the fourth quarter of 2019, following a phase of sluggish growth after the abrupt decline in the country group's growth performance at the end of 2018.

Developing economies in Asia and the Pacific, which until recently were deemed fast growing economies, recorded a year-over-year growth rate of 0.4 per cent in the fourth quarter of 2019. India's manufacturing output dropped by 0.1 per cent for the second consecutive quarter. Indonesia and Viet Nam were among the few countries in the region that maintained a high manufacturing growth rate, their manufacturing output rising by 4.0 per cent and 7.7 per cent, respectively.

Latin America witnessed a reduction of manufacturing output by 0.3 per cent compared to the fourth quarter in 2018. While Colombia and Brazil recorded growth rates of 1.0 per cent and 0.8 per cent, respectively, Argentina's and Mexico's output dropped by 1.8 per cent and 1.4 per cent, respectively.

Estimates based on limited data on

Africa's manufacturing output indicated weak growth of 0.6 per cent in the previous quarter. One year ago, the growth rate was still at 1.8 per cent but has continuously declined during the last year.

Other developing economies witnessed a high year-over-year growth rate of 2.9 per cent in manufacturing output due to the recent strong performance of Turkey, the region's largest manufacturer. Turkey's output growth of 6.2 per cent was exceptional for the relevant quarter, following a year of huge reductions in output. By contrast, Romania experienced further negative growth of 5.2 per cent on a year-over-year basis, which seems to mark an end of its dynamic expansion for nearly a decade.

Overall, the pace of global manufacturing growth is clearly decelerating due to increased risks and uncertainties, including higher trade barriers and regulations. As manufacturing is considered an engine of overall economic growth, the global decline of manufacturing production has serious impacts on the global economy and poses a major threat to the achievement of the Agenda 2030's sustainable development goals. The OECD<sup>6</sup> also emphasizes the recent volatile economic situation and the need of governments to react immediately and to collaborate at global level. The extent to which the global economies will be affected by the various risks in the near future remains to be seen.

<sup>&</sup>lt;sup>6</sup>OECD: Economic Outlook (November 2019), https://www.oecd.org/economic-outlook/

## Findings by country group

#### Industrialized economies

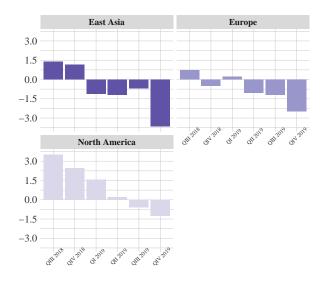
The manufacturing output growth of industrialized economies has been continuously declining since the end of 2018. According to UNIDO's most recent seasonally adjusted estimates, manufacturing output contracted further in the fourth quarter of 2019. Compared to the same period of 2018, manufacturing production shrank by 2.1 per cent, following a decrease of 0.7 per cent in the third quarter. A more detailed look at selected industrialized regions provides further insights.

When looking at a year-over-year comparison, North America's manufacturing output decreased by 1.3 per cent in the fourth quarter of 2019. This development has primarily been attributable to the manufacturing activity of the United States, whose production decreased by 1.2 per cent, following an initial decrease by 0.6 per cent in the previous quarter.

East Asia's industrialized countries continue to be greatly affected by the widespread decline of manufacturing output. The country group's output diminished by 3.6 per cent in the fourth quarter of 2019. This severe reduction in output is mainly due to the throttled production of Japan, the region's largest manufacturer, whose production dropped by 6.3 per

cent. Singapore's manufacturing output contracted by 2.2 per cent. By contrast, other countries of this group like Malaysia (2.9 per cent), Taiwan, Province of China (1.3 per cent), and the Republic of Korea (0.9 per cent) were able to increase their manufacturing outputs.

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

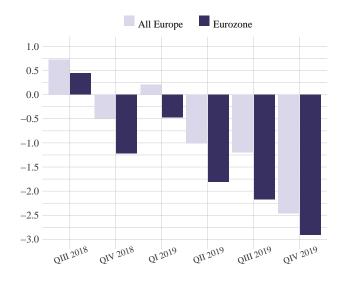


In the fourth quarter of 2019, manufacturing production in European industrialized economies fell further by 2.5 per cent. The previous two quarters already witnessed major decreases

of at least 1.0 per cent. The European economy as a whole and especially export-oriented countries have been adversely affected by Brexit as well as other trade restrictions that breed uncertainty for businesses and reduce their production and investments.

Disaggregated data on industrialized economies in Europe show a comparatively lower manufacturing output growth in eurozone countries over the last year (Figure 3).

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



Seasonal adjusted data for the fourth quarter of 2019 indicate a decline of manufacturing output in three leading eurozone economies: Germany registered one of the steepest declines of 5.7 per cent. Italy's output fell by 2.3 per cent and France's by 0.8 per cent, primarily due to

the decrease in the production of motor vehicles, which was one of the most affected industries. By contrast, compared to the fourth quarter of 2018, Spain witnessed a slight expansion of its manufacturing output by 0.2 per cent.

Other eurozone economies showed varying growth patterns. Compared to the same period of the previous year, manufacturing output rose by 2.5 per cent in Slovenia, 2.2 per cent in Finland, 1.8 per cent in Malta and 0.6 per cent in Lithuania, while it dropped in Luxembourg, Slovakia and Portugal.

Beyond the eurozone, manufacturing output climbed visibly in Hungary by 2.3 per cent while Sweden, Czechia and Denmark registered output decreases of 1.8 per cent, 1.7 per cent and 0.7 per cent, respectively. Manufacturing output dropped in the United Kingdom as well by 2.5 per cent. Due to the remaining uncertainties linked to Brexit, the trade relations between the United Kingdom and the European Union remain extremely volatile.

Among the non-EU and other industrialized economies, year-over-year manufacturing output grew by 6.2 per cent in Israel, 3.6 per cent in Belarus, 2.7 per cent in the Russian Federation and 1.1 per cent in Norway. Switzerland, one of the world's most advanced economies, registered weak output growth at 0.6 per cent compared to the fourth quarter of the previous year, whereas the country's manufacturing output has expanded by at least 5.0 per cent in previous quarters.

#### Developing and emerging industrial economies

Following the country grouping of UNIDO Statistics, China is presented separately from other country groups due to its size and the new characteristics of its economy. Sustained high growth rates over the past several years have been rapidly transforming China into an industrialized economy, although the pace of growth of China's manufacturing sector is slowing as well.

#### China

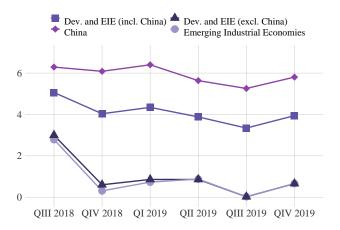
In the fourth quarter of 2019, China's manufacturing output expanded at a rate of 5.8 per cent in a year-over-year comparison, following a growth rate of 5.3 per cent in the third quarter of 2019. Focusing on Chinese industries, widespread growth was measured in the recent quarter, with only a few industries exhibiting negative growth rates. Computer electronics (9.5 per cent), basic metals (8.6 per cent) as well as motor vehicles (7.3 per cent) continued to show strong increases in the fourth quarter. Wearing apparel (1.0 per cent) and leather production (0.6 per cent) registered negative growth rates.

# Developing and emerging industrial economies (excl. China)

Following a rapid slowdown in manufacturing output growth in the last quarter of 2018, developing and emerging industrial economies stabilized in the first as well as in the second

quarters of 2019. The growth rate of the fourth quarter of 2019 increased again to 0.7 per cent following a period of stagnation in the third quarter.

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



The growth performance of Asia and the Pacific reached 0.4 per cent compared to the same period of the previous year. The growth rates have signalled a major reduction since the end of 2018 compared to those registered in previous years in which growth rates of at least 4.0 per cent were common. A closer look at specific countries in this region reveals a diverse picture. The growth rate of Viet Nam's, Indonesia's and Sri Lanka's manufacturing output contributed to the positive trend with 7.7 per cent, 4.0 per cent and 0.7 per cent, respectively. By contrast,

India, Pakistan, Thailand and the Philippines registered a decrease of their manufacturing output by 0.1 per cent, 1.5 per cent, 6.6 per cent and 8.9 per cent, respectively.

Latin America's manufacturing output declined by 0.3 per cent in the fourth quarter of 2019 on a year-over-year basis, following a sluggish economic development since the fourth quarter of 2018. Argentina is still facing a recession with a continuing drop in manufacturing output by 1.8 per cent in the fourth quarter of 2019, while output diminished less dramatically than in previous quarters. The region's two largest manufacturers, Brazil and Mexico, revealed diverse growth patterns, as did other countries of this group. Brazil's economy increased by 0.8 per cent and Mexico's production output decreased by 1.4 per cent while it was the reverse in the previous quarter (Brazil -1.4) per cent and Mexico +0.6 per cent). Such inconsistent developments might point to further economic uncertainties in the near future.

Compared to the fourth quarter of 2018, growth estimates based on limited data for African countries generally indicate a stagnation of manufacturing output after three years of varying growth. Among others, Nigeria's and Egypt's manufacturing output rose by 2.1 per cent and 1.0 per cent, whereas South Africa's and Senegal's output decreased by 3.3 per cent and 0.2 per cent, respectively.

Regarding other developing economies, the manufacturing output of Eastern European countries increased noticeably by 2.9 per cent compared to the same period of the previous year. This expansion of manufacturing output was mainly generated by Turkey whose production rose by 6.2 per cent in the fourth quarter of 2019 after a year of reductions in output. It remains to be seen whether this is a clear sign that Turkey's economy and manufacturing sector is on a sustainable path towards stabilization. Other countries with a noteworthy growth rate in their production sector include Moldova (4.3 per cent), Cyprus (4.4 per cent), Serbia (4.1 per cent) and Poland (3.2 per cent). By contrast, Bosnia and Herzegovina's, Romania's and Croatia's manufacturing output fell by 8.0 per cent, 5.2 per cent and 2.5 per cent, respectively, compared to the fourth quarter of 2018.

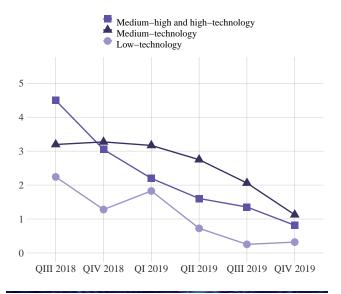
## Findings by industry group

Industries grouped by technological intensity showed a wide range of growth rates in recent periods, although these rates have declined markedly since the beginning of 2018. Figure 5 illustrates this reduction in growth over the last quarters.

In the fourth quarter of 2019, the yearover-year growth rate of medium high- and hightechnology industries slowed down to 0.8 per cent, whereas the third quarter of 2018 had still recorded a growth rate of 4.5 per cent. The decisive factors for this gradual decline from 2018 onwards have been the ongoing economic uncertainties, which strongly affect, inter alia, consumer decisions and demand. Consequently, the manufacturing of machinery or motor vehicles has seen a reduction in output over the last quarters, whereas other industries like computers, electronics and optical products as well as pharmaceuticals and chemicals achieved noteworthy positive growth rates in recent quarters. Investments in new sustainable technologies continue to represent a major component for innovation to promote the future of manufacturing in both advanced and emerging economies.

The growth rate of manufacturing output of medium-technology industries has rapidly declined from the beginning of 2019. Compared to the same quarter of the previous year, a growth rate of 1.1 per cent was measured, which was mainly attributable to the manufacturing of basic metals. China, the world's largest producer of basic metals, reported a high output growth of 8.6 per cent in the recent quarter. India also expanded its year-over-year output of basic metals in the same quarter, with a two-digit growth rate of 12.3 per cent and still a significant share of global basic metal production.

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



Among other industries, rubber, leather as well as printing experienced negative growth rates of 1.2 per cent, 1.7 per cent and 2.7 per

cent, respectively, compared to the fourth quarter of 2018. During the same period, the output of electrical equipment and non-metallic mineral products increased on a year-over-year basis by 2.0 per cent and 1.9 per cent, respectively.

Figure 6 presents detailed growth rates of various industries by country group. In the fourth quarter of 2019, only three industries achieved a positive year-over-year growth rate in all country groups, namely basic pharmaceu-

tical products, beverages as well as food products. Especially food products and beverages represent essential basic consumer goods, which registered positive developments from the very beginning since UNIDO started compiling the quarterly index.

Additional data on growth rates in the fourth quarter of 2019 are available in the Statistical Tables.

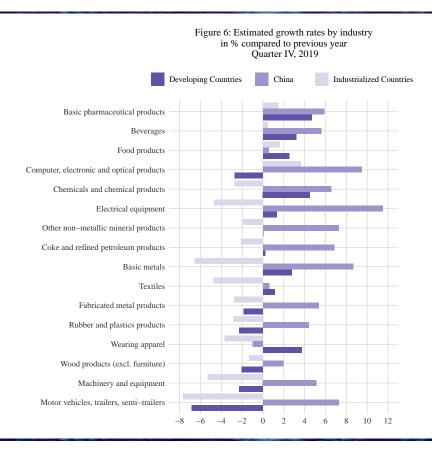


Table 1 Estimated growth rates of world manufacturing output In % compared to the previous quarter and same period of the previous year

Quarter IV, 2019

	Share in world MVA (2010)	Compared to previous quarter	Compared to same period of the previous year
World	100.0	0.0	0.7
Industrialized Economies	63.2	-1.1	-2.1
North America	20.0	-0.3	-1.3
Europe	23.5	-1.2	-2.5
East Asia	16.4	-2.3	-3.6
China	19.2	1.7	5.8
Dev. and EIE excl. China (by development group)	17.6	0.1	0.7
Emerging Industrial Economies	15.9	0.0	0.7
Other Developing Economies	1.5	0.1	-0.7
Dev. and EIE excl. China (by region)	17.6	0.1	0.7
Africa	1.3	0.3	0.0
Asia & Pacific	7.3	0.1	0.4
Latin America	6.2	-0.7	-0.3
Others	2.7	1.0	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 IV, 2019

	Developing and Emerging Industrial Economies excl. China	China	Industrialized Economies	World
Food products	2.5	0.5	1.6	1.6
Beverages	3.2	5.6	0.5	2.5
Tobacco products	-4.1	1.6	-2.4	-0.7
Textiles	1.1	0.6	-4.7	-0.5
Wearing apparel	3.7	-1.0	-3.7	0.1
Leather and related products	-1.9	-0.6	-3.7	-1.7
Wood products (excl. furniture)	-2.0	2.0	-1.3	-0.6
Paper products	-0.8	5.4	-2.8	-0.2
Printing	0.4	0.6	-3.9	-2.7
Coke and refined petroleum products	0.2	6.9	-2.1	0.5
Chemicals and chemical products	4.5	6.5	-2.7	1.3
Basic pharmaceutical products	4.7	5.9	1.5	3.0
Rubber and plastics products	-2.3	4.4	-2.8	-1.2
Other non-metallic mineral products	0.0	7.3	-2.0	1.9
Basic metals	2.8	8.6	-6.6	2.7
Fabricated metal products	-1.8	5.4	-2.7	-0.8
Computer, electronic and optical products	-2.7	9.5	3.6	5.6
Electrical equipment	1.3	11.5	-4.7	2.0
Machinery and equipment	-2.3	5.1	-5.3	-2.0
Motor vehicles, trailers, semi-trailers	-6.8	7.3	-7.6	-4.5
Other transport equipment	0.0	-0.3	1.6	1.1
Furniture	-1.1	2.4	-0.6	-0.1
Other manufacturing	-4.4	-1.2	0.1	-0.6
Total Manufacturing	0.7	5.8	-2.1	0.7

Source: UNIDO Statistics Note: Seasonally adjusted data

Table 3  ${\bf Estimated\ growth\ rates\ of\ output\ by\ manufacturing\ industry}$  In % compared to the previous quarter

Quarter IV, 2019

	Developing and Emerging Industrial Economies excl. China	China	Industrialized Economies	World
Food products	0.1	0.1	0.0	0.1
Beverages	1.3	2.0	0.1	0.9
Tobacco products	0.6	-0.5	0.2	-0.1
Textiles	0.2	0.1	-2.0	-0.4
Wearing apparel	0.2	-0.2	0.7	0.1
Leather and related products	-1.1	-0.2	-1.2	-0.6
Wood products (excl. furniture)	-0.2	1.7	-0.3	0.2
Paper products	-0.1	1.4	-0.8	0.0
Printing	-2.4	1.1	-1.5	-1.2
Coke and refined petroleum products	1.0	2.9	-1.9	-0.1
Chemicals and chemical products	2.2	2.4	-1.3	0.4
Basic pharmaceutical products	1.6	0.8	-1.5	-0.5
Rubber and plastics products	0.1	0.6	-0.8	-0.3
Other non-metallic mineral products	0.9	1.7	-0.2	0.8
Basic metals	0.1	1.8	-2.2	0.3
Fabricated metal products	0.8	2.1	-1.1	-0.2
Computer, electronic and optical products	-3.4	3.0	1.1	1.6
Electrical equipment	0.5	3.5	-1.7	0.6
Machinery and equipment	-0.4	2.7	-1.8	-0.3
Motor vehicles, trailers, semi-trailers	-3.1	3.6	-4.6	-2.6
Other transport equipment	-2.1	-2.4	0.7	-0.1
Furniture	1.4	1.1	-0.7	0.0
Other manufacturing	-1.9	-0.5	-0.9	-1.0
Total Manufacturing	0.1	1.7	-1.1	0.0

Source: UNIDO Statistics Note: Seasonally adjusted data

Quarter III, 2019 (revised)

	Share in world MVA (2010)	Compared to previous quarter	Compared to same period of the previous year
World	100.0	0.3	1.1
Industrialized Economies	63.2	-0.1	-0.7
North America	20.0	0.2	-0.6
Europe	23.5	-0.7	-1.2
East Asia	16.4	0.4	-0.7
China	19.2	1.2	5.3
Dev. and EIE excl. China (by development group)	17.6	0.0	0.0
Emerging Industrial Economies	15.9	0.0	0.0
Other Developing Economies	1.5	-0.2	-1.4
Dev. and EIE excl. China (by region)	17.6	0.0	0.0
Africa	1.3	0.2	0.6
Asia & Pacific	7.3	0.1	0.3
Latin America	6.2	-0.2	-0.6
Others	2.7	0.3	-0.1

Source: UNIDO Statistics

Note: Not all subgroups are presented; seasonally adjusted data

Quarter III, 2019 (revised)

	Developing and Emerging Industrial Economies excl. China	China	Industrialized Economies	World
Food products	2.6	1.6	1.2	1.7
Beverages	2.7	6.1	-0.7	1.9
Tobacco products	-3.3	1.7	-4.5	-1.0
Textiles	-1.2	0.9	-3.5	-0.6
Wearing apparel	4.6	-0.5	-6.1	0.2
Leather and related products	-0.1	1.5	-2.9	0.1
Wood products (excl. furniture)	-4.5	0.0	-1.9	-1.7
Paper products	-2.0	4.4	-2.4	-0.5
Printing	4.9	0.7	-3.4	-1.8
Coke and refined petroleum products	-4.7	4.2	-0.6	-0.6
Chemicals and chemical products	0.1	3.9	-1.3	0.6
Basic pharmaceutical products	3.8	7.5	2.4	3.7
Rubber and plastics products	-4.2	4.8	-1.7	-0.8
Other non-metallic mineral products	-2.4	8.3	-1.4	1.9
Basic metals	2.9	9.6	-3.6	4.1
Fabricated metal products	-4.3	3.8	-1.1	-0.3
Computer, electronic and optical products	2.8	8.2	2.6	4.7
Electrical equipment	0.0	10.7	-3.3	2.1
Machinery and equipment	-3.3	3.5	-3.1	-1.1
Motor vehicles, trailers, semi-trailers	-4.7	0.4	-1.5	-1.7
Other transport equipment	2.2	6.4	2.3	3.0
Furniture	-2.2	1.6	0.7	0.3
Other manufacturing	-0.8	0.6	2.1	1.4
Total Manufacturing	0.0	5.3	-0.7	1.1

Source: UNIDO Statistics Note: Seasonally adjusted data