

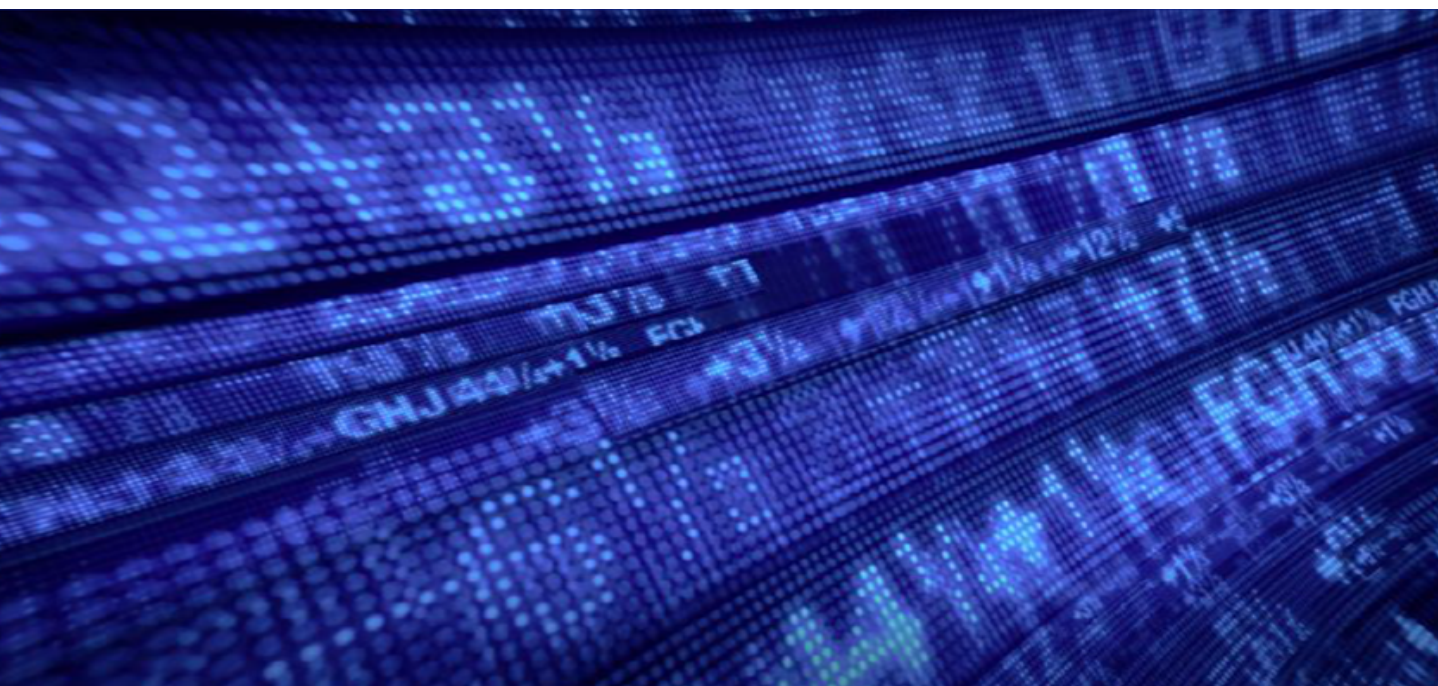


UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION

World Manufacturing Production

Statistics for Quarter IV 2020

A recovery at two speeds



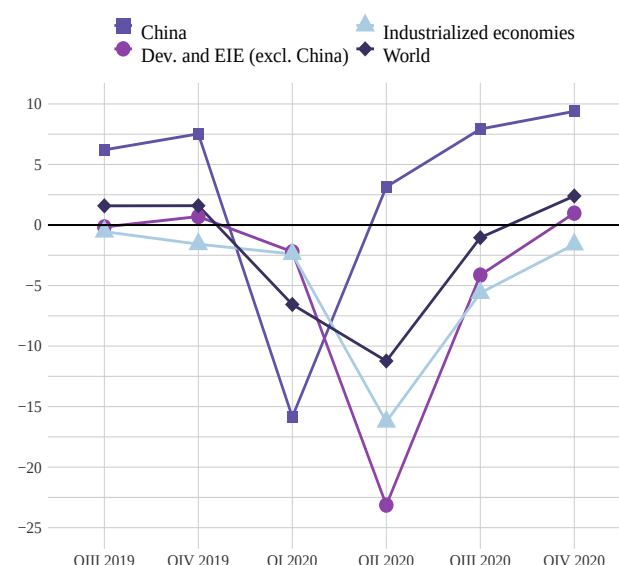
World manufacturing growth in Quarter IV 2020

In the first half of 2020, the world endured a disruptive economic crisis triggered by the COVID-19 pandemic, which further exacerbated the overall economic slowdown observed since 2019. The economic shock was severe but unavoidable given the social and economic lockdowns imposed around the world. These measures have had severe impacts on both demand and supply due to uncertainties triggered by the negative employment and income prospects, a worldwide halt of production for several months and other factors.

In the fourth quarter of 2020, most economies showed signs of recovery but with uneven intensity. Many industrialized countries have experienced a new wave of coronavirus infections since October 2020, and re-introduced stricter containment measures. Vaccination campaigns started in (mostly industrialized) countries, although it remains unclear how soon this will lead to an easing of the ongoing restrictions. However, experts claim that a fair and global vaccine distribution through programmes such as COVAX should be enforced to decelerate the spread of the virus and minimize negative economic consequences around the world.¹

Global manufacturing output recovered following a significant drop of 11.2 per cent due to COVID-19 containment measures in the second quarter of 2020, and grew by 2.4 per cent in the fourth quarter of 2020 in a year-over-year comparison.

Figure 1: Growth of world manufacturing output, percentage change compared to the same quarter of the previous year



Industrialized economies continued to record a reduction in manufacturing production in the last quarter of 2020, and have still not fully recovered from the contractions of 16.2 per

¹IMF (2021), World Economic Outlook Update (January 2021): Policy Support and Vaccines Expected to Lift Activity. Available at <https://www.imf.org/en/Publications/WEO/Issues/2021/01/26/2021-world-economic-outlook-update>

cent and 5.6 per cent in the previous two quarters.

The pandemic had a strong impact on China, the world's largest manufacturer, in the first quarter of 2020, but the country's manufacturing sector quickly bounced back. According to seasonally adjusted index numbers, China's manufacturing output increased by 9.4 per cent in the fourth quarter of 2020 in a year-over-year comparison, following a growth rate of 7.9 per cent in the third quarter.

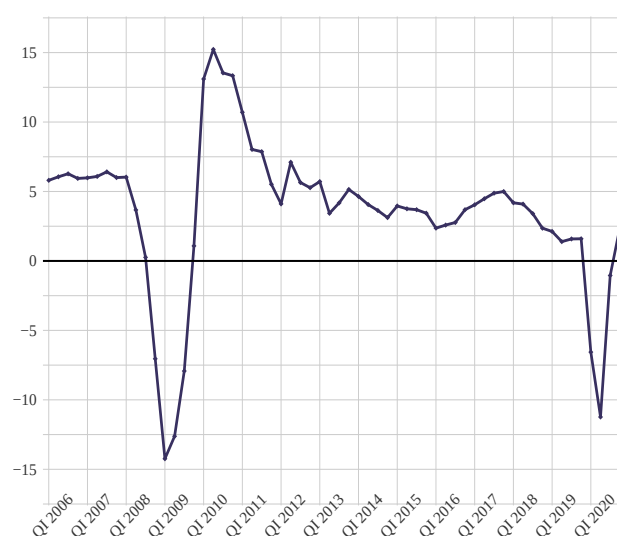
Manufacturing production in developing and emerging industrial economies² (excluding China) registered an increase of 1.0 per cent in the last quarter of 2020, following COVID-19 related declines of 23.1 per cent and 4.1 per cent in the second and the third quarters, respectively.

The economic downturn of 2020 is the first of such magnitude since the financial crisis of 2008/2009 (Figure 2). During that crisis, substantial reductions in production were recorded for four consecutive quarters, but exceptionally high increases in production were reported in subsequent quarters. It remains to be seen whether the current economic crisis will follow a similar path to recovery.

The most recent figures reflect the global shock caused by the COVID-19 pandemic as well as the incipient recovery. Trends in 2020 were dominated by COVID-19, and previous challenges and uncertainties (such as the rise

of trade protectionism or Brexit) moved to the background. The ongoing pandemic will continue to pressure governments around the world to actively support their economies and business activity.

Figure 2: Growth of world manufacturing output in percentage change compared to the same quarter of the previous year



Analysts have emphasized the possibility of diverging, short-term scenarios, which may strongly depend on the development of further virus mutations and global vaccine distribution.³ The upcoming months will also determine whether a permanent redistribution of global manufacturing production will take place after the pandemic ends, as countries seek to significantly reduce their import dependence on essential goods.

²Referred to in the rest of the report as "Dev. and EIE".

³OECD (2020), Economic Outlook (December 2020). Available at <http://www.oecd.org/economic-outlook/>

Findings by country group

Industrialized economies

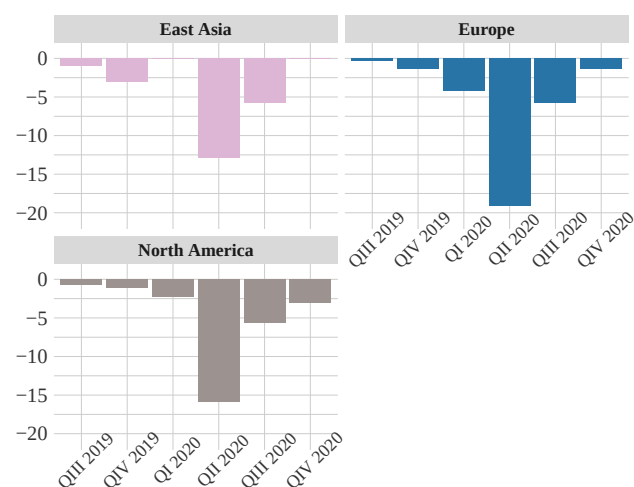
Industrialized countries reported output losses of 1.6 per cent in the fourth quarter of 2020, compared to decreases of 16.2 per cent and 5.6 per cent in the second and third quarters, respectively. The contractions registered in the second half of 2019 were mostly caused by prevailing trade and tariff uncertainties in commodity trading between the United States, China and the European Union (EU), but these were clearly overshadowed by COVID-19 in 2020. Detailed figures presented in this report provide further insights into different industrialized regions.

In a year-over-year comparison, North America's manufacturing output fell by 3.1 per cent in the fourth quarter, after falling 15.9 per cent and 5.6 per cent in the second and third quarters of 2020, respectively. This development is primarily linked to manufacturing activity in the United States, where output dropped by 3.0 per cent, 5.6 per cent and 15.5 per cent in the last three quarters of 2020.

The manufacturing output of East Asia's industrialized economies increased by 0.1 per cent in the fourth quarter of 2020, barely touching positive territory after plummeting 12.9 per cent and 5.8 per cent in the second and

third quarters, respectively. Japan's output, the largest manufacturer in this group, declined by 3.5 per cent in the latest quarter of 2020, following a decrease of 20.5 per cent in the second quarter, triggered by COVID-19. However, the Republic of Korea (+2.1 per cent), Taiwan, Province of China (+8.2 per cent) and Singapore (+11.4 per cent) recorded notable increases during the fourth quarter due to the positive performance of the computer and electronics as well as the pharmaceuticals industries.

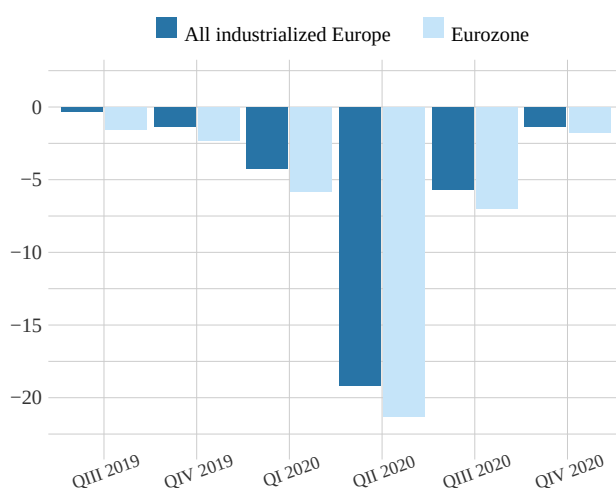
Figure 3: Growth rates of manufacturing output of industrialized regions, percentage change compared to the same period of the previous year



The manufacturing production of European industrialized economies fell by 1.3 per cent in the fourth quarter of 2020. The downward trend witnessed prior to the outbreak of the COVID-19 crisis had already affected export-oriented countries in particular, and was mainly attributable to ongoing trade frictions with the United States as well as the uncertainties related to the Brexit negotiations.

Disaggregated data for Europe's industrialized countries show comparatively weaker manufacturing figures in eurozone countries in preceding quarters.

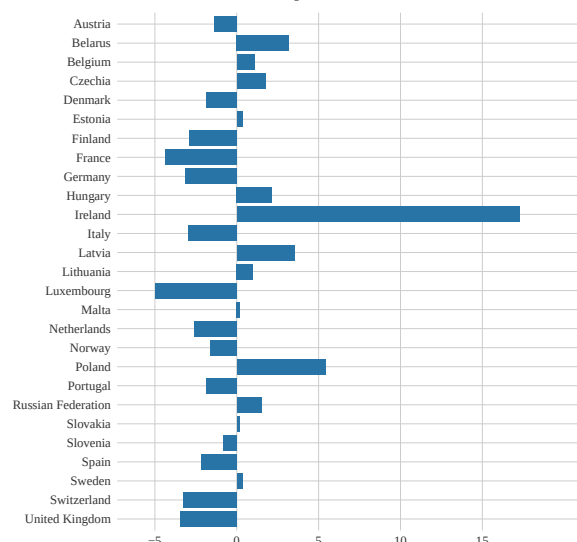
Figure 4: Growth rates of manufacturing output in European industrialized economies, percentage change compared to the same period of the previous year



Country-level data for the fourth quarter of 2020 indicate varying growth patterns of manufacturing output in industrialized European economies (Figure 5). Countries with the largest manufacturing sectors remained among those worst affected by the economic disruption:

Spain's manufacturing output fell by 2.2 per cent, Italy's by 3.0 per cent, Germany suffered a decrease of 3.1 per cent and France of 4.4 per cent. Manufacturing output in Ireland grew by an impressive 17.3 per cent in the fourth quarter of 2020, and also reported the lowest level of losses among all European countries during the COVID-19 affected second quarter.

Figure 5: Growth rates of European industrialized countries, percentage change compared to previous year, quarter IV 2020



Focusing on non-EU industrialized economies, output in the United Kingdom fell by 3.5 per cent in the last quarter, following a drop of 7.1 per cent in the third quarter. It remains to be seen whether the now completed Brexit will further impact the United Kingdom's and the EU's manufacturing output in the post-pandemic era. Switzerland also registered a significant reduction in output by 3.3 per cent in the fourth quarter of 2020 compared to the same

quarter in 2019, while the Russian Federation registered a modest growth of 1.5 per cent during the same period.

It is still unclear how severely and for how long industrialized countries will be affected by the pandemic's aftermath, considering that

the global hotspot for the coronavirus pandemic shifted to Europe and the United States during the last months of 2020. However, mass vaccination campaigns have begun in many of these countries, and there is renewed hope for an imminent end to the strict lockdown measures.

Developing and emerging industrial economies

In accordance with UNIDO Statistics' country groups, China is presented separately from other country groups due to its size and the specific characteristics of its economy. Sustained high growth rates over the past several years have been rapidly transforming China into an industrialized economy.

China

The latest seasonally adjusted figures indicate that China's manufacturing output climbed 9.4 per cent in the fourth quarter of 2020, following an increase by 7.9 per cent in the previous quarter, the period during which China reached (and exceeded) its pre-crisis output level. The majority of Chinese industries experienced growth in the last quarter of 2020, with only a few exceptions, such as wearing apparel (-5.5 per cent) and leather products (-8.5 per cent). Medium high- and high-technology industries, such as pharmaceuticals (12.4 per cent), computer electronics (11.0 per cent) and automobiles (14.0 per cent), recorded high year-over-year output growth in the fourth quarter of 2020.

It remains uncertain, however, whether China's export-oriented manufacturing sector can maintain high growth rates in production if global demand for manufactured goods remains subdued.

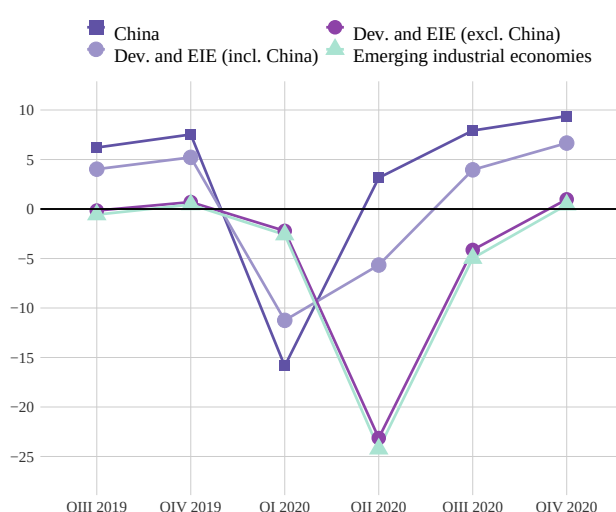
Other developing and emerging industrial economies

The manufacturing output of developing and emerging industrial economies increased by 1.0 per cent in the fourth quarter of 2020, following a plunge of 23.1 per cent due to COVID-19 containment measures during the second quarter of that year. This group's growth performance was already sluggish in 2019 after a steady decline in growth throughout 2018.

Asia and the Pacific reported a year-over-year drop in manufacturing output of 0.7 per cent in the fourth quarter of 2020, following reductions of 25.4 per cent and 6.4 per cent in the second and third quarters, respectively. The shrinking growth rates that have been recorded since the end of 2018 onwards already marked a downward trend, following higher year-over-year

increases in previous quarters. A closer look at specific countries in this region reveals varying trends in sectoral production. For example, manufacturing output in India increased by 1.3 per cent, in Viet Nam by 9.0 per cent and in Pakistan by 10.9 per cent. By contrast, it decreased by 1.0 per cent in Sri Lanka, by 1.9 per cent in Thailand, by 3.1 per cent in Indonesia, by 7.5 per cent in the Philippines and by 10.2 per cent in Mongolia.

Figure 6: Growth of manufacturing output of developing and emerging industrial economies, percentage change compared to the same quarter of the previous year



In the fourth quarter of 2020, Latin America's manufacturing output grew by 2.2 per cent following declines of 24.2 per cent and 3.9 per cent in the second and third quarters on a year-over-year basis. This country group has experienced sluggish economic growth since 2018. The region's two largest manufacturers, Mexico (-0.5 per cent) and Brazil (+5.2 per cent) recorded di-

verging trends in manufacturing output, as did other countries in this region. Costa Rica's, Argentina's and Uruguay's outputs increased by 4.6 cent, 2.2 per cent and 0.7 per cent, respectively, while Colombia witnessed stagnation and Honduras' output dropped by 7.5 per cent.

Compared to the fourth quarter of 2019, growth estimates based on limited data availability for African countries indicate a decrease of manufacturing output by 1.3 per cent. By contrast, in the second quarter, output dropped by 15.7 per cent as COVID-19 forced many countries to impose containment measures. While Senegal's and Rwanda's manufacturing output increased by 10.4 per cent and 5.8 per cent, respectively, that of Nigeria, South Africa and Tunisia dropped by 0.5 per cent, 2.2 per cent and 2.7 per cent, respectively.

The manufacturing output of other developing economies experienced a comparatively high year-over-year growth in manufacturing production of 6.6 per cent in the fourth quarter of 2020, after suffering a drop of 17.6 per cent in the second quarter. Turkey, the largest manufacturer in this group, registered a significant rise in output of 10.9 per cent in the fourth quarter of 2020. However, other countries in this group showed varying production growth patterns. For instance, manufacturing output in Greece, Romania and Croatia increased by 1.5 per cent, 0.6 per cent and 0.2 per cent, respectively, while decreases were observed in Bulgaria by 3.2 per cent, in the Republic of Moldova by 4.4 per cent and in Ukraine by 8.1 per cent.

Findings by industry group

In addition to the COVID-19 crisis in 2020, uncertainties related to rising trade restrictions had a major influence on producers and had led to a gradual slowdown since 2018, albeit with varying impacts on different industrial sectors.

Figure 7: Growth of manufacturing industries by technological intensity, percentage change compared to the same quarter of the previous year

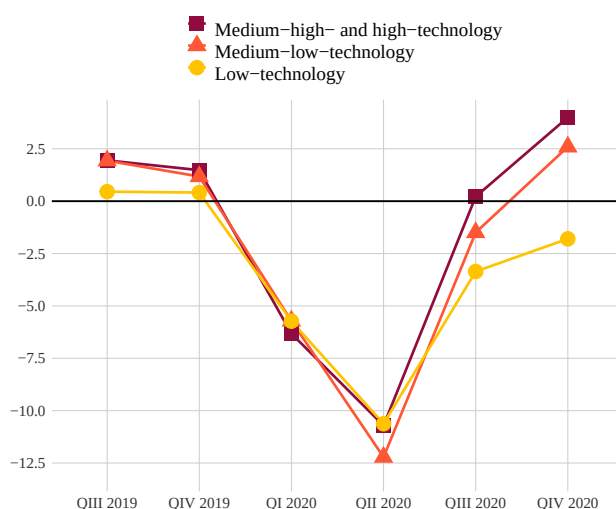


Figure 7 illustrates the severe impact the COVID-19 measures have had on growth across industrial groups. The three groups, classified according to technological intensity, saw decreases in output of at least 5 per cent in the first, and a minimum of 10 per cent in the second quarter of 2020. In the fourth quarter,

medium high- and high- as well as medium low-technology industries recovered faster. The output of low-technology industries continued to register a negative growth rate of 1.8 per cent.

The output of medium high- and high-technology industries increased by 4.0 per cent in the fourth quarter of 2020, after already registering a growth rate of 0.2 per cent in the preceding quarter. This is a positive development following the reduction by 10.7 per cent observed in the second quarter of 2020. The manufacturing of machinery and motor vehicles saw substantial drops in output over the last quarters, but reported growth rates of 1.5 per cent and 3.9 per cent, respectively, in the final quarter of 2020. On the other hand, the output of computers, electronics and optical products, electrical equipment as well as chemicals and pharmaceuticals had already been growing for at least the last two quarters, leading to increases of 7.5 per cent, 8.8 per cent, 3.6 per cent and 3.2 per cent, respectively, in the fourth quarter of 2020.

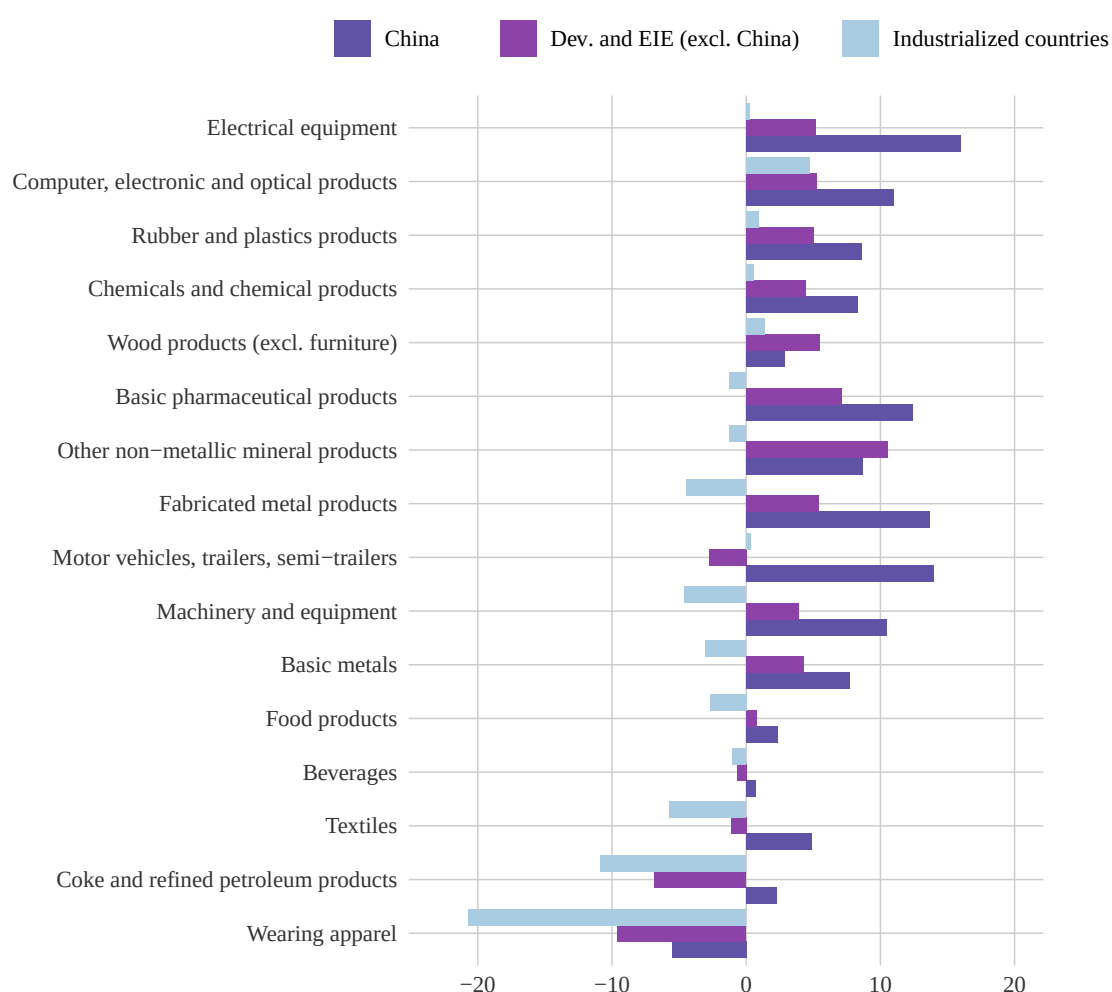
Figure 8 presents a detailed picture of various industries by country group. In the fourth quarter of 2020, some industries, such as computer and electronics, rubber and plastic and chemical products reported moderate growth in all country groups, while fabricated metals, basic pharmaceutical products and others saw de-

creases in industrialized countries only. Textiles, wearing apparel or coke and refined petroleum products experienced considerable reductions in a year-over-year comparison in nearly all coun-

try groups in the fourth quarter of 2020.

Revised detailed data for the third quarter of 2020 are reported in the Statistical Tables of this report.

Figure 8: Estimated growth rates by industry in percentage change compared to previous year, quarter IV 2020



Annual world manufacturing growth

With the release of data for the fourth quarter of 2020, we now have a complete picture of 2020 and the impact of the global outbreak of COVID-19 throughout the year. The complete data confirms the major decrease in manufacturing production registered in 2020. Global manufacturing production dropped by 4.1 per cent in 2020, primarily due to virus containment strategies in the majority of countries. The previous year had already pointed towards a slow-down in manufacturing growth, mainly due to ongoing trade and tariff tensions between China and the United States.

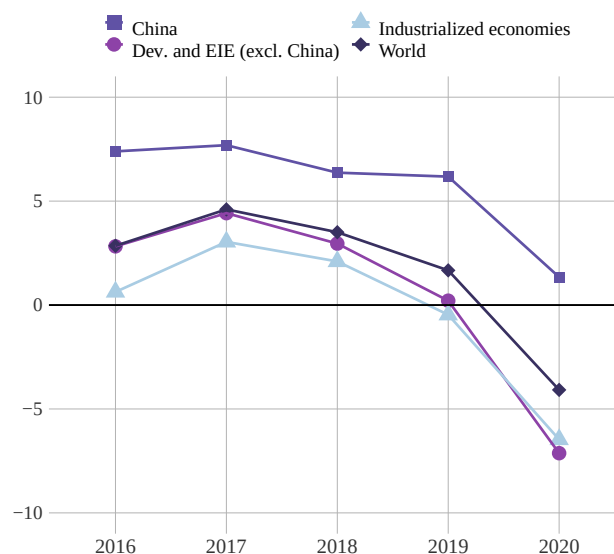
The annual manufacturing production of industrialized economies dropped by 6.5 per cent in 2020. A closer look provides further insights: manufacturing production in North America dropped 6.7 per cent in 2020 following stagnation in 2019. In European industrialized countries, annual manufacturing production fell by 7.6 per cent in 2020, while in 2019, it had already decreased by 0.3 per cent, mainly because of the trade and tariff frictions between the United States and Europe and the uncertainties over Brexit. East Asia experienced a decline in both years: 4.7 per cent in 2020, preceded by 1.6 per cent in 2019.

China's manufacturing sector recorded a growth in production of 1.3 per cent in 2020, a positive rate yet significantly lower than the

increase of 6.2 per cent registered in 2019.

The manufacturing output of developing and emerging industrial economies (excl. China) dropped by 7.1 per cent in 2020, following a slight increase of 0.2 per cent in 2019.

Figure 9: Annual growth rates in manufacturing production output



In Latin America, negative growth had already been observed in 2019, a trend that was further exacerbated in 2020, with a decline in manufacturing production of 7.3 per cent. In countries from Asia and the Pacific, manufacturing production decreased by 8.8 per cent in 2020. Limited data for Africa show a decline in output of 5.4 per cent for 2020, following an increase of 2.5 per cent in 2019.

Statistical Tables

Table 1

Estimated growth rates of world manufacturing output

Percentage change compared to the previous quarter and same period of the previous year

Quarter IV 2020

	Share in world MVA (2015)	Compared to previous quarter	Compared to same period of the previous year
World	100.0	3.9	2.4
Industrialized economies	56.2	3.4	-1.6
North America	19.3	2.6	-3.1
Europe	22.3	3.5	-1.3
East Asia	13.3	4.4	0.1
China	27.6	4.0	9.4
Dev. and EIE excl. China	16.2	5.7	1.0
Emerging industrial economies	14.5	6.0	0.4
Other developing economies	1.4	2.6	4.0
Africa	1.7	1.8	-1.3
Asia & Pacific	7.6	7.0	-0.7
Latin America	5.0	5.7	2.2
Others	2.0	4.3	6.6

Source: UNIDO Statistics.

Note: Not all subgroups are presented; seasonally adjusted data.

Table 2

Estimated growth rates of output by manufacturing industry

Percentage change compared to the same period of the previous year

Quarter IV 2020

	Developing and emerging industrial economies excl. China	China	Industrialized economies	World
Food products	0.8	2.4	-2.7	-0.7
Beverages	-0.7	0.7	-1.0	-0.6
Tobacco products	-7.3	-0.8	-0.5	-2.8
Textiles	-1.1	4.9	-5.7	1.1
Wearing apparel	-9.6	-5.5	-20.7	-9.2
Leather and related products	-3.8	-8.5	-17.8	-9.3
Wood products (excl. furniture)	5.5	2.9	1.4	2.2
Paper products	-0.4	4.3	-1.6	-0.2
Printing	-9.1	2.5	-8.4	-5.9
Coke and refined petroleum products	-6.9	2.3	-10.9	-7.0
Chemicals and chemical products	4.4	8.3	0.6	3.6
Basic pharmaceutical products	7.1	12.4	-1.3	3.2
Rubber and plastics products	5.0	8.6	0.9	3.6
Other non-metallic mineral products	10.5	8.7	-1.2	5.3
Basic metals	4.3	7.7	-3.0	3.3
Fabricated metal products	5.4	13.7	-4.4	0.5
Computer, electronic and optical products	5.2	11.0	4.7	7.5
Electrical equipment	5.2	16.0	0.3	8.8
Machinery and equipment	3.9	10.5	-4.6	1.5
Motor vehicles, trailers, semi-trailers	-2.8	14.0	0.3	3.9
Other transport equipment	-10.4	3.9	-11.6	-8.5
Furniture	4.9	2.2	-3.5	-0.9
Other manufacturing	-3.8	2.1	-2.8	-1.5
Total Manufacturing	1.0	9.4	-1.6	2.4

Source: UNIDO Statistics.

Note: Seasonally adjusted data.

Table 3

Estimated growth rates of output by manufacturing industry

Percentage change compared to the previous quarter

Quarter IV 2020

	Developing and emerging industrial economies excl. China	China	Industrialized economies	World
Food products	0.5	1.1	-1.3	-0.3
Beverages	2.5	1.2	-1.7	-0.1
Tobacco products	0.3	-1.1	-1.5	-0.9
Textiles	3.0	4.4	0.0	3.1
Wearing apparel	8.8	-0.3	-6.8	1.4
Leather and related products	6.8	-1.3	-3.2	0.1
Wood products (excl. furniture)	4.3	4.0	2.6	3.1
Paper products	1.7	1.2	4.1	3.1
Printing	0.6	2.5	2.8	2.5
Coke and refined petroleum products	5.6	1.1	1.4	2.6
Chemicals and chemical products	2.1	3.6	3.5	3.3
Basic pharmaceutical products	1.8	6.3	-2.9	0.0
Rubber and plastics products	5.3	4.1	4.7	4.6
Other non-metallic mineral products	7.4	4.0	3.0	4.3
Basic metals	8.3	2.8	8.5	5.5
Fabricated metal products	3.6	5.6	3.4	3.9
Computer, electronic and optical products	3.0	4.0	2.0	2.9
Electrical equipment	6.6	4.2	5.4	4.8
Machinery and equipment	13.0	2.5	4.8	4.4
Motor vehicles, trailers, semi-trailers	10.0	5.5	7.1	6.9
Other transport equipment	5.9	1.3	5.6	4.6
Furniture	2.9	1.8	0.6	1.2
Other manufacturing	5.5	6.8	2.4	3.9
Total Manufacturing	5.7	4.0	3.4	3.9

Source: UNIDO Statistics.

Note: Seasonally adjusted data.

Table 4

Estimated growth rates of world manufacturing output

Percentage change compared to the previous quarter and same period of the previous year

Quarter III 2020 (revised)

	Share in world MVA (2015)	Compared to previous quarter	Compared to same period of the previous year
World	100.0	12.2	-1.0
Industrialized economies	56.2	12.6	-5.6
North America	19.3	12.3	-5.6
Europe	22.3	16.1	-5.7
East Asia	13.3	8.3	-5.8
China	27.6	7.2	7.9
Dev. and EIE excl. China	16.2	24.4	-4.1
Emerging industrial economies	14.5	25.0	-5.0
Other developing economies	1.4	18.1	1.6
Africa	1.7	14.6	-3.5
Asia & Pacific	7.6	25.1	-6.4
Latin America	5.0	26.1	-3.9
Others	2.0	26.0	3.7

Source: UNIDO Statistics.

Note: Not all subgroups are presented; seasonally adjusted data.

Table 5

Estimated growth rates of output by manufacturing industry

Percentage change compared to the same period of the previous year

Quarter III 2020 (revised)

	Developing and emerging industrial economies excl. China	China	Industrialized economies	World
Food products	0.5	0.8	-0.9	-0.2
Beverages	-2.7	-0.1	1.6	0.1
Tobacco products	-6.6	1.1	2.1	-1.0
Textiles	-3.9	2.0	-7.5	-1.6
Wearing apparel	-16.7	-6.9	-14.9	-11.2
Leather and related products	-11.2	-9.6	-17.2	-11.5
Wood products (excl. furniture)	-0.5	0.7	-0.9	-0.4
Paper products	-2.0	4.2	-5.8	-3.2
Printing	-13.3	1.1	-11.9	-9.1
Coke and refined petroleum products	-12.2	4.1	-13.6	-9.7
Chemicals and chemical products	4.0	6.8	-3.6	0.8
Basic pharmaceutical products	6.8	5.8	0.2	2.5
Rubber and plastics products	-1.3	5.9	-4.3	-1.2
Other non-metallic mineral products	3.5	6.8	-4.8	1.7
Basic metals	-2.8	6.8	-12.5	-1.7
Fabricated metal products	1.6	10.7	-8.6	-3.5
Computer, electronic and optical products	-2.9	10.3	3.9	6.4
Electrical equipment	-2.8	15.1	-6.5	4.7
Machinery and equipment	-8.8	10.3	-10.4	-2.9
Motor vehicles, trailers, semi-trailers	-16.3	13.8	-10.4	-4.6
Other transport equipment	-18.5	0.8	-15.9	-12.8
Furniture	3.8	0.1	-4.6	-2.2
Other manufacturing	-11.9	-2.6	-5.4	-5.2
Total Manufacturing	-4.1	7.9	-5.6	-1.0

Source: UNIDO Statistics.

Note: Seasonally adjusted data.

Table 6

Estimated annual growth rates of world manufacturing output

Percentage change compared to the previous year

	Share in world MVA (2015)	2018	2019	2020
World	100.0	3.5	1.5	-8.1
Industrialized economies	56.2	2.1	-0.5	-9.7
North America	19.3	2.7	0.0	-13.2
Europe	22.3	1.9	-0.2	-7.4
East Asia	13.3	1.9	-1.6	-4.8
China	27.6	6.3	5.7	1.3
Dev. and EIE excl. China	16.2	3.0	0.1	-21.7
Emerging industrial economies	14.5	2.7	-0.4	-16.5
Other developing economies	1.4	3.0	2.7	-50.8
Africa	1.7	2.3	2.6	-57.6
Asia & Pacific	7.6	4.7	0.0	-22.5
Latin America	5.0	1.0	-0.4	-16.9
Others	2.0	1.9	-0.6	-1.2

Source: UNIDO Statistics.

Note: Not all subgroups are presented; seasonally adjusted data.

Methodological note

This report presents observed growth rates and estimates of world manufacturing production for the fourth quarter of 2020, as well as revised estimates for the third quarter of 2020. The figures are based on 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 from national accounts generally refer to changes in MVA (i.e. output net of intermediate consumption), quarterly IIPs reflect the growth of gross output.⁴ Given the temporal nature of estimates, output growth provides the best approximation of value added growth, assuming that the input-output relationship remains stable during the observation period.

UNIDO has published quarterly reports on world manufacturing since 2011. The data compilation and presentation methods are reg-

ularly 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.⁵ Since 2017, seasonal adjustments are made using the TRAMO/SEATS⁶ method in the JDemetra+ software. The purpose of seasonal adjustment is to filter out any periodic fluctuations or calendar effects within time series. The individual parameters of the seasonal adjustment procedure for each time series are subject to regular revisions, normally at the beginning of each new reference year. Major economic uncertainties or other unusual events, such as the global pandemic of 2020, require frequent reviews of the underlying models based on the most recent available information.

This report refers to country groups in terms of economic territories rather than political boundaries. Economies are classified ac-

⁴For a description of the variable Manufacturing Value Added (MVA), see <https://stat.unido.org/content/learning-center/what-is-manufacturing-value-added%253f>

⁵<https://stat.unido.org/content/publications/seasonal-adjustment-of-iip>

⁶TRAMO 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.

cording to their stage of industrialization. This grouping is particularly useful for presenting growth estimates by country aggregates at different levels of industrialization. A comparative picture of growth trends in different parts of the world is provided to users based on these country groups. The full list of economies in the country groupings is available in the International Yearbook of Industrial Statistics.⁷

The present report implements revision 4 of the International Standard for Industrial Classification of All Economic Activities (ISIC Rev.4).⁸ For countries that publish monthly/quarterly indices 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 two-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 replaced as soon as the officially

reported values become available in national statistical publications.

Growth rates are calculated from the national index numbers aggregated to the given country group or geographical region using weights based on the countries' contribution to world manufacturing value added. Since the first quarter of 2020, the base year has been adjusted to 2015 in accordance with other UNIDO publications. 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 procedures and a compilation of country groups' indices in a methodological document⁹ that is available on the statistical pages of UNIDO's website. The indices themselves are published in UNIDO's Quarterly IIP database¹⁰, available on the UNIDO Statistics Data Portal. Since 2020, UNIDO also publishes monthly data on world manufacturing production with regular updates.¹¹

⁷<https://www.unido.org/resources/publications/flagship-publications/international-yearbook-industrial-statistics>

⁸https://unstats.un.org/unsd/publication/seriesM/seriesm_4rev4e.pdf

⁹<https://stat.unido.org/content/publications/world-manufacturing-production-%2528methodological-note%2529>

¹⁰<https://stat.unido.org/database/Quarterly%20IIP>

¹¹<https://stat.unido.org/database/Monthly%20IIP>