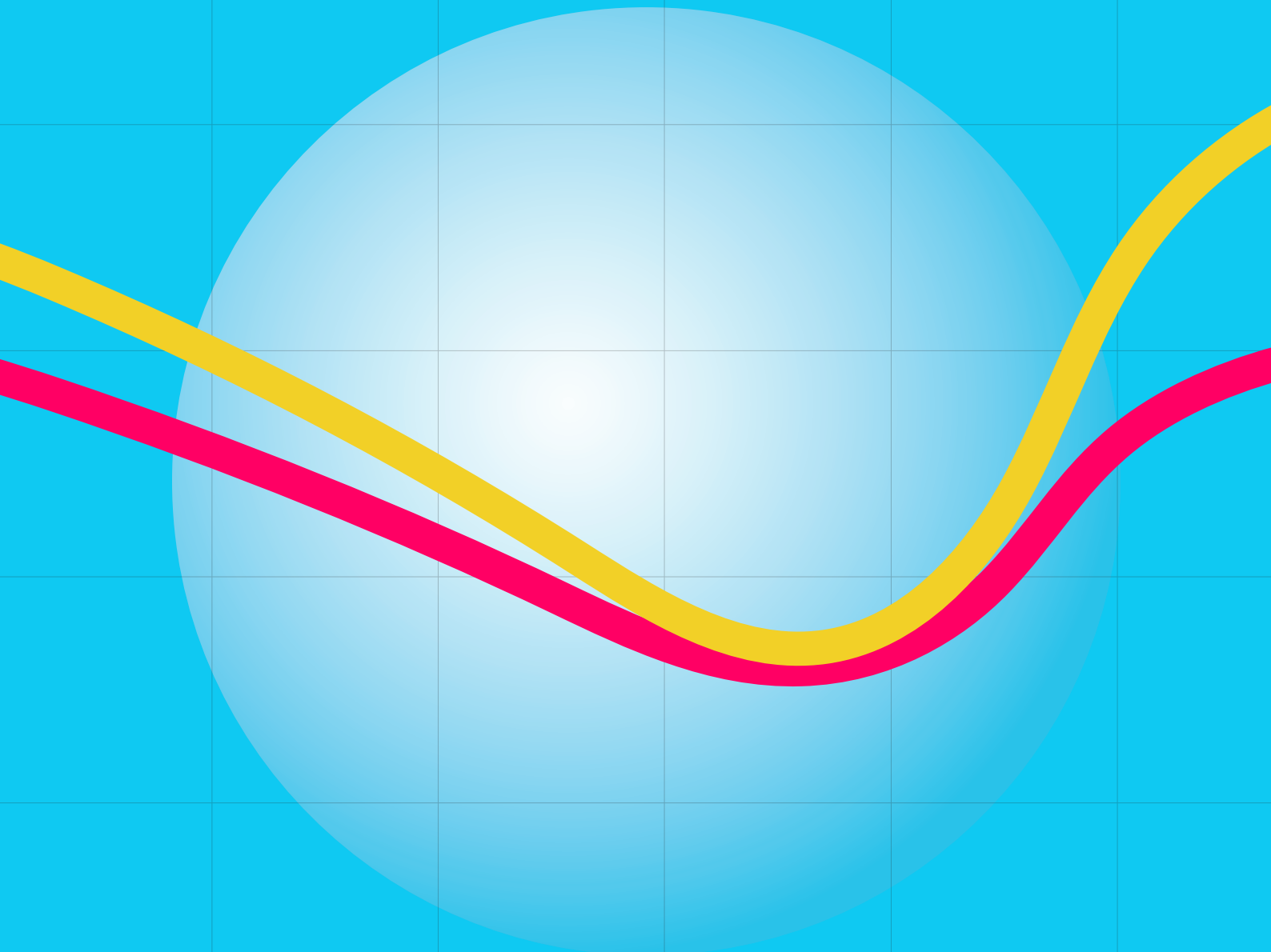
STATISTICAL OUTLOOK ON WORLD MANUFACTURING 2019

Addendum to the release of the 2019 edition of International Yearbook of Industrial Statistics



UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION

Statistical outlook on world Manufacturing 2019

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About this publication

The International Yearbook of Industrial Statistics published by UNIDO contains a wealth of information on the level, structure and growth of world manufacturing. Data are presented at the most detailed level of 155 manufacturing industries. While these data are used by researchers to carry out in-depth economic analyses of structural transformation, many users have requested more concise statistical information on overall growth trends and the structure of global manufacturing.

This publication serves as an addendum to the International Yearbook of Industrial Statistics 2019 and provides some important statistical information on global manufacturing. The publication is compiled from data published in the Yearbook and other data products of UNIDO Statistics.

The publication is compiled and disseminated by UNIDO Statistics.

For reference and citation, please use: United Nations Industrial Development Organization, 2019. Statistical outlook on world manufacturing 2019.Vienna.

Contents

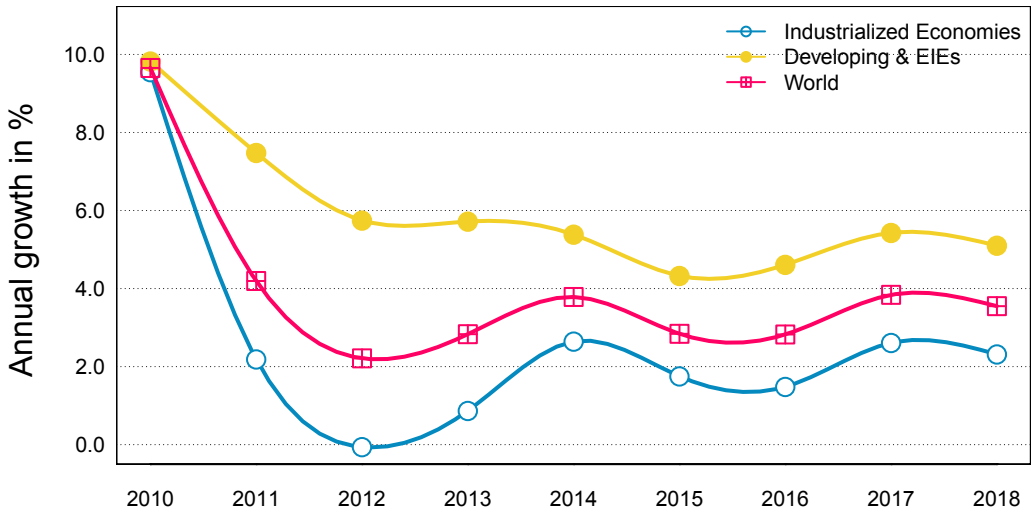
01. World manufacturing growth

This chapter presents figures illustrating the nature and trends of world manufacturing growth. Between 2010 and 2018, world manufacturing continued on a path of solid growth. MVA growth in developing and emerging economies has been particularly resilient. This is especially the case in many Asian developing economies, where MVA growth has gained momentum compared to the rest of the world. China is the obvious example, but MVA growth in other smaller emerging economies in the region has also demonstrated a dynamic upward trend. MVA growth in LDCs has improved overall as well, fuelled primarily by the success stories of some Asian countries such as Myanmar and Bangladesh, where major industrial policy reforms have been introduced. Although MVA growth in African LDCs has not replicated this positive dynamic trend, however, FDI inflows have increased in many African LDCs and it can therefore be expected that signs of more rapid MVA growth will be observed in coming years.

1.1 Annual growth of world MVA by country group

Following a period of economic recession, global manufacturing increased and remained at a steady rate of growth of 3.5 per cent until 2018. World MVA growth increased by 0.83 per cent in 2018 compared to 2015. The 2018 MVA growth rate of both industrialized and developing & emerging countries climbed 0.5 per cent (from 1.8 per cent to 2.3 per cent) and 0.8 per cent (4.3 per cent to 5.1 per cent), respectively, compared to 2015. The year 2018 was characterized by the consolidation of the relatively smooth trend emerging from 2015, with MVA growth remaining at a constant upward trend, despite the complex and declining financial situation at the global level. Developing and EIE economies—notwithstanding the boost China's solid performance provided—saw their growth rates lose some speed due to reduced demand from external markets between 2017 and 2018, although an average growth rate of 5.1 per cent gives grounds for optimism.

FIG. 1 Annual growth rates of world MVA in recent years by country group at 2010 constant prices

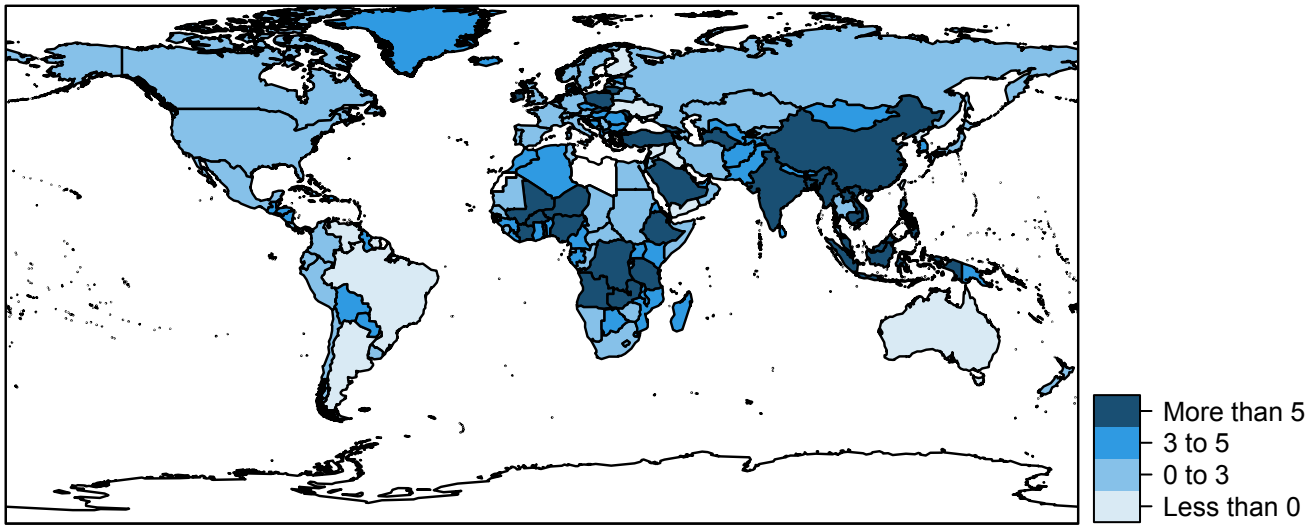


1.2 Average annual growth rate by country: 2010 – 2018

Figure 2 depicts the average annual global growth rates since 2010. The world map illustrates country variations. The period from 2010 to 2018 was characterized by a steady growth in industrialized countries. The average annual MVA growth of industrialized countries in Europe remained at around 2 per cent throughout this period. Manufacturing output grew 2.7 per cent in Germany and 1.5 per cent in the Netherlands. The entire European region followed this trend. The majority of LDCs, on the other hand, witnessed a much faster growth rate, with Ethiopia achieving a growth rate of 15 per cent and Angola of 10 per cent. China's growth rate remained stable at 7 per cent, as did Turkey's and India's.

The Asia-Pacific region as a whole is the most dynamic region in terms of average MVA growth, indicating that the industrialization model adopted by many of the region's countries, i.e. the best practices being implemented in the region—especially the models of the Republic of Korea and Malaysia—deliver promising results. The growth of South American countries, on the other hand, has slowed down, with the exception of Bolivia and Paraguay, which continue to achieve a steady growth rate of 4 per cent. The MVA of the two major economies of Latin America diverged, with Brazil's growth rate plummeting to -1.5 per cent and Mexico's growing at a rate of 2 per cent.

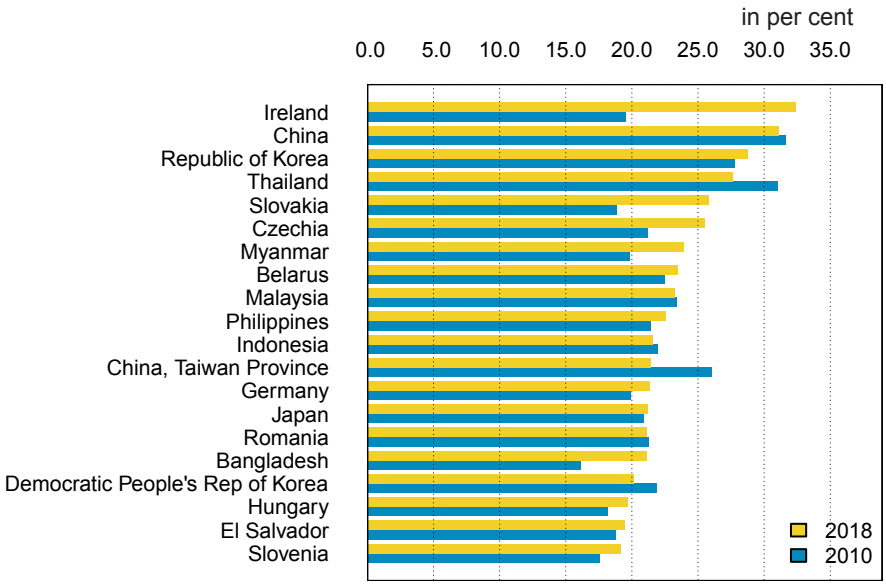
FIG. 2 Average annual growth rate by country: 2010 – 2018



1.3 Fast growing economies: Comparison of the growth of MVA as a share of GDP in 2010 vs. 2018 for selected countries

At the global level, the share of the manufacturing sector in gross domestic product between 2010 and 2018 was stable. The MVA share of GDP in the majority of countries in 2018 was the same as that attained in 2010. Some countries, however, registered a relatively large increase in their MVA share of GDP. Among developed countries, the 2018 MVA share of GDP in Ireland, Slovakia and Czechia grew between 4 to 13 per cent. The share of MVA in GDP fell slightly in Thailand, Taiwan, Province of China and in China, which may be the result of the increase in the share of the services sector in the region. Bangladesh is a good example of the dynamic trend in some Asian LDCs. Overall, this period is characterized by a consolidation of the manufacturing sector in fast growing economies, with an increasing presence of some Asian emerging economies.

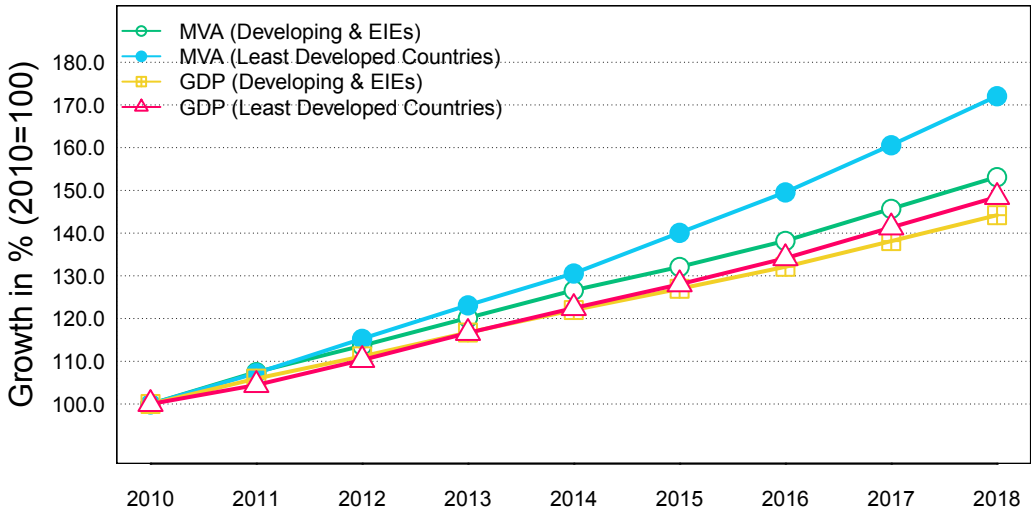
FIG. 3 Growth of MVA as a share of GDP 2010 vs. 2018 for selected countries



1.4 Economic and industrial growth trends of developing and emerging industrial economies at 2010 constant prices

Manufacturing remains a key driving force of overall economic growth in developing and emerging industrial economies, as well as in LDCs. MVA growth has been consistently higher in LDCs compared to GDP growth which represents overall economic output. By 2018, the MVA of developing and emerging industrial economies had increased by 30 per cent compared to 2010. During that same period, their GDP grew almost as much, indicating continuous and stable growth in both the industrial and economic spheres. Higher MVA growth has led to sustained economic growth in many developing countries, as manufacturing not only produces essential commodities for domestic consumption as well as for export, it also provides new technologies for other sectors of the economy. Long-term stable MVA growth allows countries to employ a much larger workforce in manufacturing activities, which contributes to the rise in income. Growth in manufacturing also contributes to a progressive diffusion of new technologies to other sectors of the economy such as agriculture, transportation and services, thus driving higher economic growth. In the case of LDCs, the growth of MVA increases much faster than GDP. This is most likely a sign of increased activity in the early stages of manufacturing, which is linked to the resources sector. This positive trend could be an indicator of continued industrialization in the least developed economies around the world.

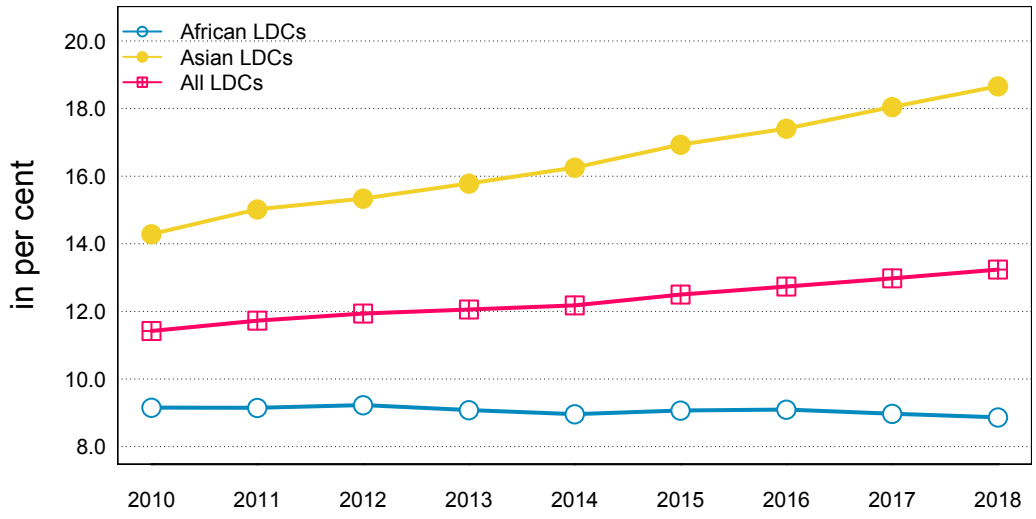
FIG. 4 Economic and industrial growth trends of developing and emerging industrial economies at 2010 constant prices



1.5 Share of MVA in GDP growth trends in least developed countries, 2010 – 2018

The group of least developed countries (LDCs) includes economies with specific geographic constraints such as lack of territorial access to the sea (landlocked countries) and remoteness and isolation from world markets (small island economies). In both cases, the limitation to external trade impedes production growth in these countries. There is still plenty of room for LDCs to further industrialize and catch up. The average MVA per capita of LDCs is 90 times lower than that of industrialized economies, indicating a weak industrial base. At the same time, some differences in growth trends between African and Asian LDCs have been observed. In comparison with their African counterparts, Asian LDCs have the advantage of closer proximity to fast growing economies. Over the last decade, the MVA of Asian LDCs grew by 4 per cent per annum compared to a 1 per cent retraction of MVA among African LDCs. This is most probably attributable to the development policies of East Asian countries, which place great emphasis on sequencing the industrialization process, scaling up from resource-based industries, boosted by FDI and export orientation.

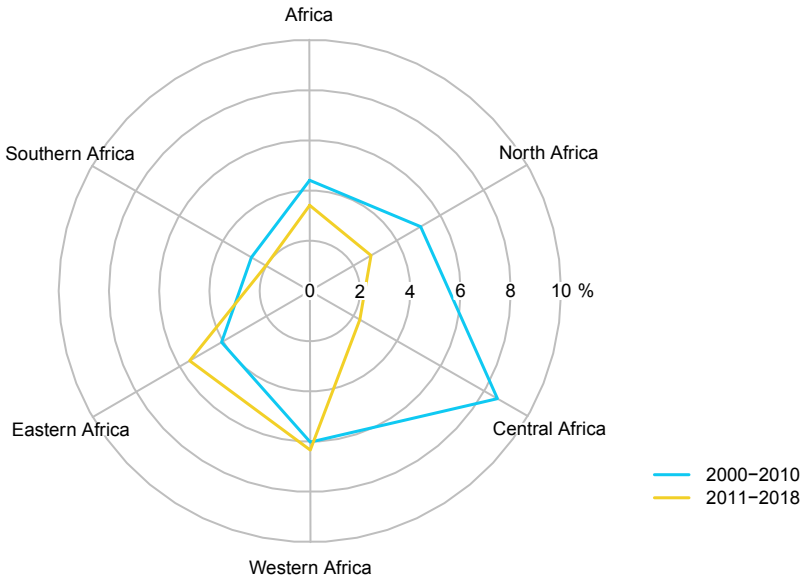
FIG. 5 MVA share in GDP in least developed countries, 2010 – 2018



1.6 Average MVA growth of the Africa region for selected periods at constant 2010 prices

Figure 6 depicts the growth of MVA in African countries. As the demand for raw materials by European industries declined, so did the average growth rate of MVA in several African regions. The exceptions were Eastern and Western Africa, which are more dependent on the production and export of petroleum and mineral products. Processing of primary goods originating from agricultural industries dominates the manufacturing activities of most African countries. European countries are the main destination for export. Over the last five years, some large players like China and the Republic of Korea have increased their imports from the region. The decreased rate of capital outflow to Africa has hampered new investment. These factors caused a slower pace of manufacturing growth in most African countries. The average annual MVA growth rate between 2011 and 2018 decreased in several regions compared to the period 2000-2010.

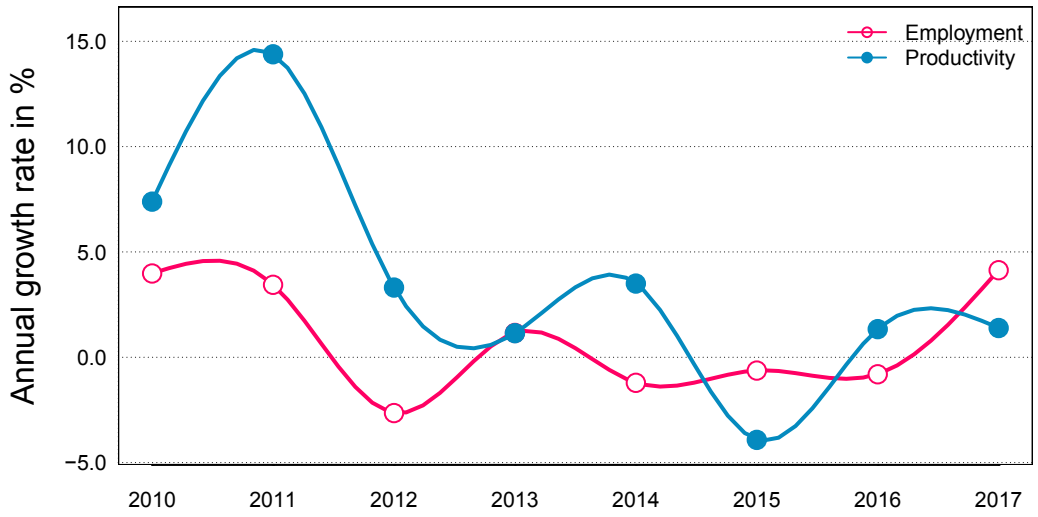
FIG. 6 Average MVA growth by region in Africa



1.7 Productivity and employment in major industrialized countries, 2010 – 2016

The manufacturing sector of industrialized countries has witnessed modest yet steady growth. This level of MVA growth has contributed to reversing the negative trend in manufacturing employment inherited from the end of the previous decade, with positive effects visible since 2012. Whereas it would be desired that employment growth would be accompanied by productivity growth, in reality both variables have an inverse relation. As Figure 7 illustrates, the growth rate of productivity in the manufacturing sector reflects the employment trend in an inverse manner: the higher the rate of employment growth, the more productivity drops. The major challenge for policymakers remains increasing the momentum of industrial dynamics and employment, while improving the labour force's efficiency in the manufacturing sector.

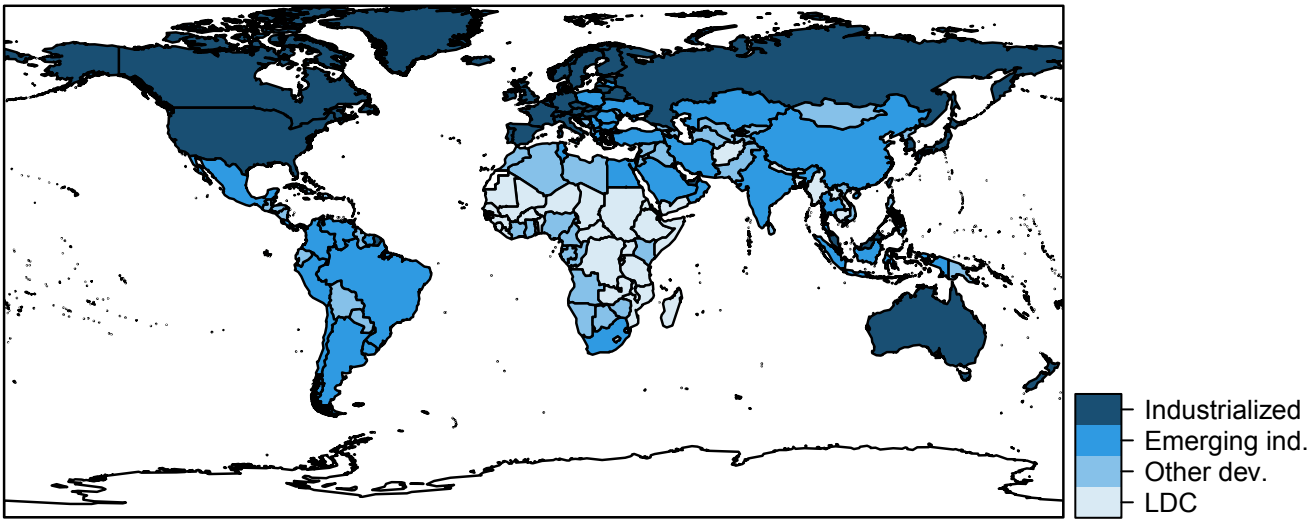
FIG. 7 Employment growth vs. productivity growth in the manufacturing sector



1.8 Countries by stage of industrial development

UNIDO Statistics applies country groupings by stage of development to aggregate and compile key statistics of world industrial development. The classification is based on countries' economic territory rather than their political boundaries and divides the world into four groups of economies (see map below). An economy is classified as being industrialized if its MVA per capita (adjusted to PPP) exceeds USD 2,500 at constant 2010 prices (exceptions may apply to some high income economies). The second grouping is emerging industrial economies with an adjusted MVA per capita of less than USD 2,500 but over USD 1,000 or with a share of more than 0.5 percent of world MVA. The remaining economies are categorized as 'Other developing countries' or 'Least developed countries' (LDCs), for which an official list is endorsed by the United Nations General Assembly.

FIG. 8 Countries by stage of development



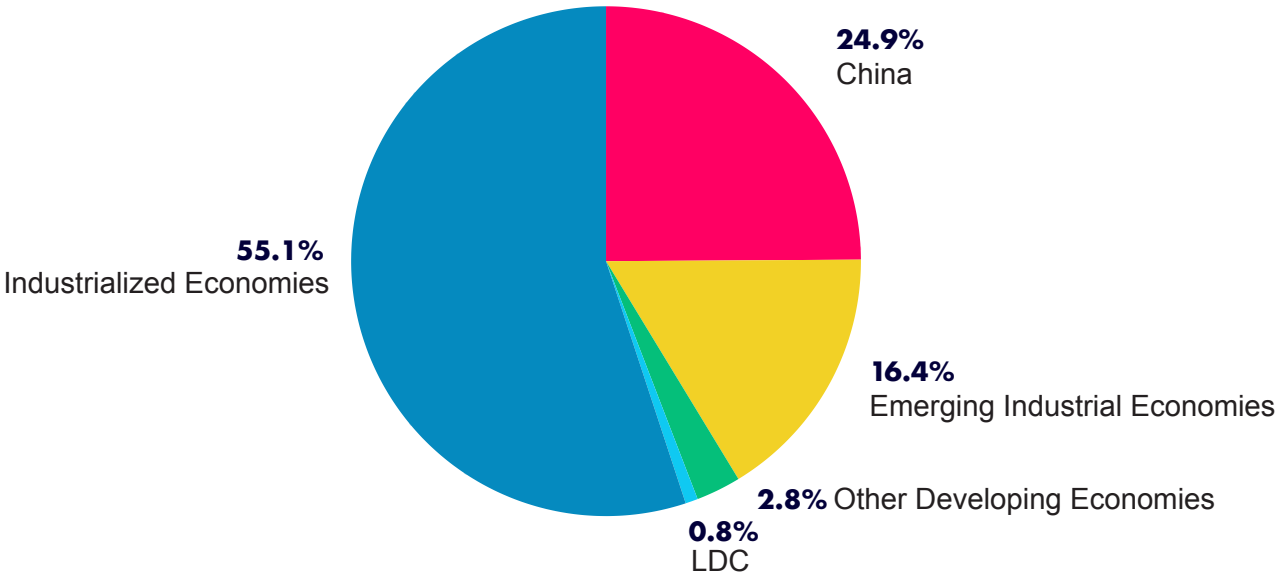
02. World manufacturing distribution

This section focuses on world manufacturing distribution by country groups and leading economies. The world distribution of manufacturing output is characterized by the dominant position of industrialized nations. Nevertheless, two emerging industrial economies, namely China and India, were among the top 10 world manufacturers in 2018. Developing economies have managed to increase their share in world total manufacturing output, although their global role remains marginal. Other Developing Economies and LDCs, despite some encouraging upward trends, are still unable to play a significant role in world MVA distribution. World manufacturing distribution generally still reveals a sharp contrast between industrialized and developing countries. The gap in MVA per capita between highly industrialized countries and LDCs has further increased in recent years. The MVA per capita of industrialized countries was nearly 50 times higher in 2018 compared to LDCs'.

2.1 Percentage distribution of world MVA by country group at constant 2010 prices

Industrialized countries account for nearly 55 per cent of world MVA. However, their share is decreasing due to low growth rates compared to that of major emerging and developing economies. China alone contributed to an impressive 24.9 per cent of world MVA, more than all other emerging industrial economies combined (16.4 per cent). Other Developing Economies and LDCs play a very marginal role, at a very modest 2.8 per cent and 0.8 per cent, respectively. It is especially worrisome that the MVA of these countries has remained almost unchanged over the last decade, considering that they represent over 20 per cent of the world population. Many LDCs have known geographical constraints for development. Some of them are small island economies with limited domestic markets, while others are landlocked countries with no access to sea transportation for trade. LDCs pose one of the major challenges not only for global industrialization, but for international development more generally, as most of them have not met the graduation criteria since 1971, when the United Nations introduced the concept for the first time.

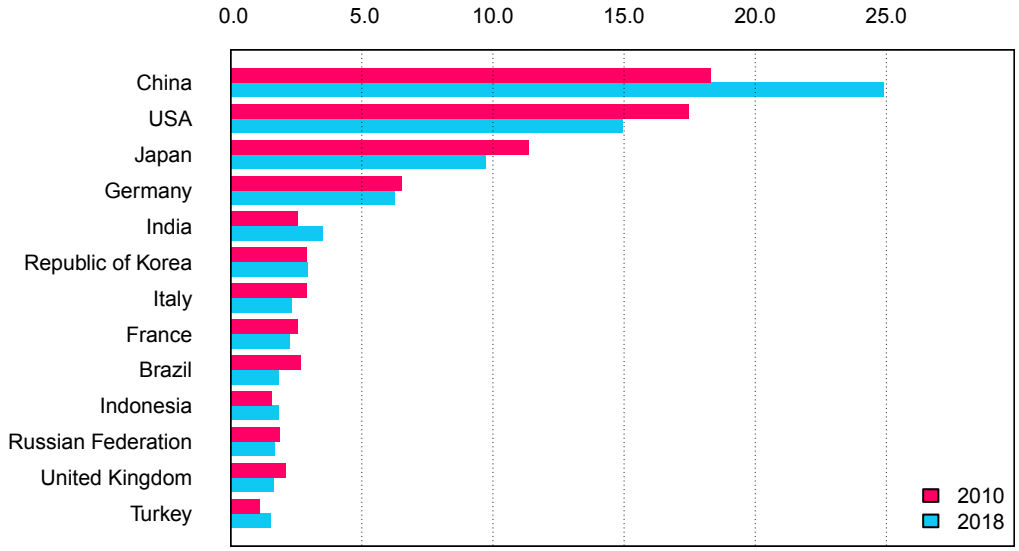
FIG. 9 Share of world MVA by country group – 2018



2.2 Share of leading manufacturers in world MVA, at constant 2010 prices

The share of major industrialized countries in world manufacturing output has fallen slightly in the last decade. The past trend in which the largest economies in the developing world—BRICS being the best example—rose through the ranks to become top manufacturers due to their comparably higher growth rates, has been reverted in recent years. The major exception is China, which has surpassed the United States as the leading manufacturer. India is also ranked among the 10 largest producers in the world and has successfully increased its MVA. The Republic of Korea continues to hold its manufacturing capacity, being the sixth largest manufacturer in the world. Canada and Mexico, which used to appear on the top 10 manufacturers list, are no longer included in 2018. The 13 countries shown in Figure 10 together represented 75.4 per cent of world MVA in 2018.

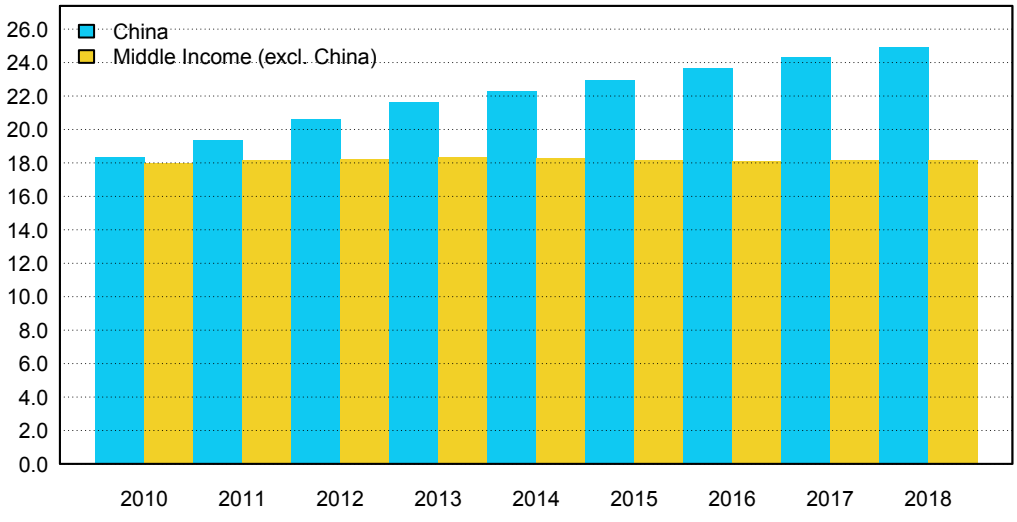
FIG. 10 Share of leading manufacturers in world MVA at 2010 constant prices



2.3 Percentage share of middle income countries in world MVA by year at constant 2010 prices

Middle income countries (MICs) represent a group of the most dynamic world economies that are moving from low to high income categories as defined by the World Development Indicators (WDI). Since 2010, MICs' share in world MVA has remained at a steady 18 per cent. Many of these economies also fall into the group of emerging industrial economies as defined by UNIDO Statistics. MICs account for over 40 per cent of world industrial production. China has gained a prominent position in this group, with its share in world MVA rising from around 30 per cent in 2000 to nearly two-thirds of MVA produced by MICs in 2018. China is a particularly interesting case, as it has been able to maintain its high growth rate compared to other countries that got stuck in the so-called Middle Income Trap.

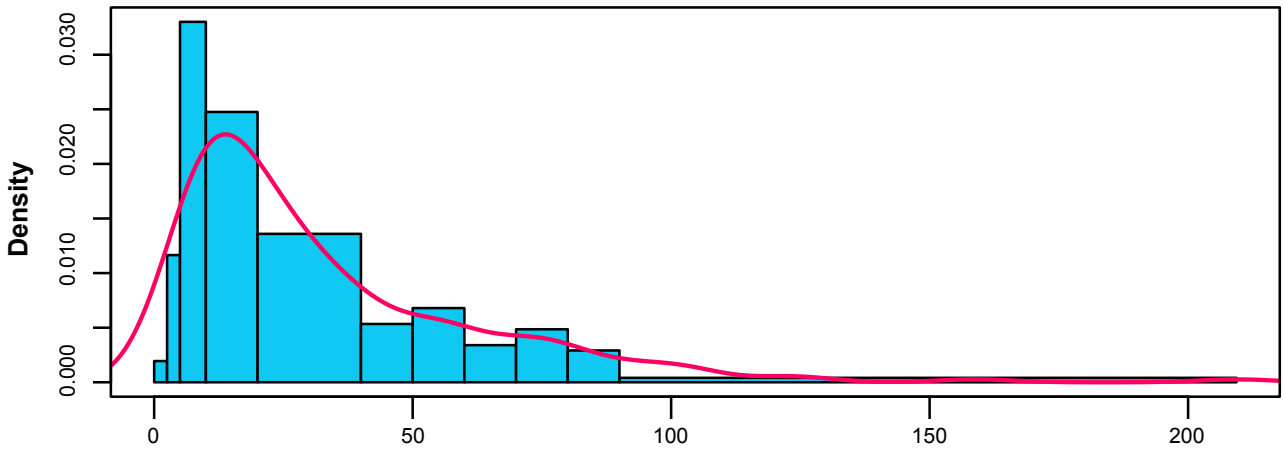
FIG. 11 Percentage share of middle income countries in world MVA in constant 2010 prices



2.4 Frequency distribution of countries by MVA per capita groups

In statistics, a distribution is considered normal or symmetric when the value of the mean and median are equal. In terms of distribution of world MVA, the mean and median diverge significantly. The average world MVA per capita is slightly higher than USD 2,000 (at 2010 constant prices), but the median value of that variable, which indicates the point at which the majority of countries is concentrated, lies at one-fourth of that figure, namely at only USD 500. This difference exposes a skewed distribution towards country groups with a lower MVA per capita (see Figure 12). In other words, there is still a large number of countries with a low MVA per capita, implying that industrialization is still very relevant for the international development programme agenda. Due to the higher MVA growth rate in developing countries in recent years, a large number of these countries has been able to attain accelerated MVA growth relative to their population size. For example, MVA per capita in LDCs has more than doubled in the last seven years, reaching USD 103 in 2017. Despite this, the per capita average is 20 times lower than the average. In many LDCs, the lack of industrial capacity to process locally available raw materials and their inability to produce and sell manufactured goods has been an obstacle to income generation and overall economic growth.

FIG. 12 Frequency distribution of countries by MVA per capita groups in 2018

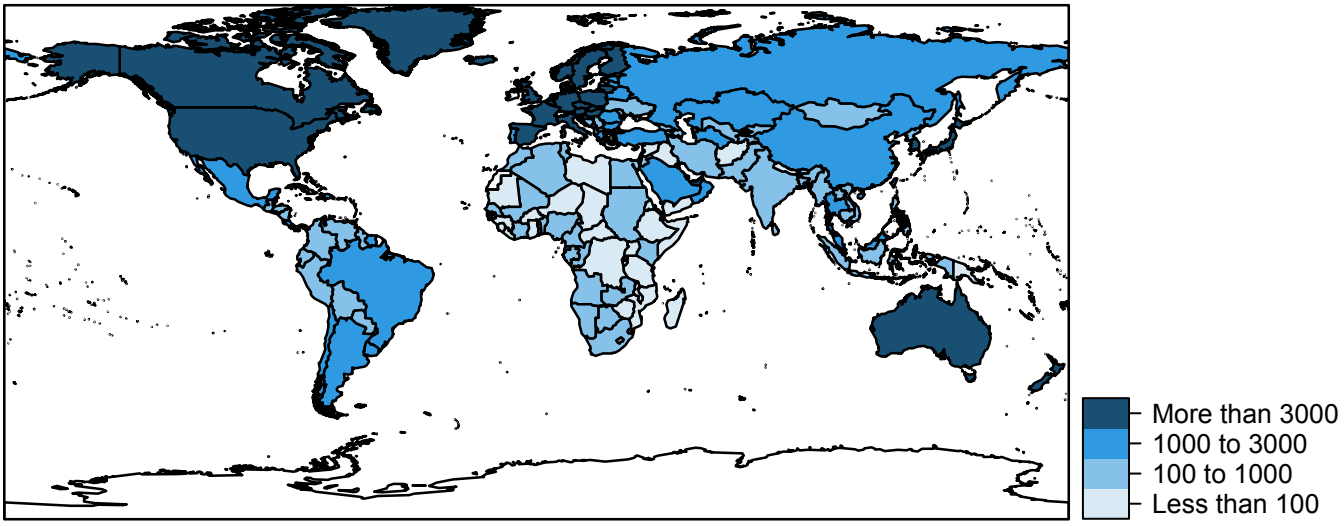


2.5 MVA per capita on the world map

Figure 13 illustrates MVA per capita on the world map. MVA per capita is widely used as a statistical indicator to reflect a country's level of industrialization. With the exception of a few island economies that focus highly on service activities such as financial intermediation or tourism, high income countries are usually also industrialized countries. East Asia, Europe and North America are regions with a high level of industrialization. Latin American, southern African and South East Asian countries are catching up to industrialized countries. By contrast, South Asian and sub-Saharan African countries are lagging far behind other countries. These two regions have the highest concentration of least developed countries, many of which are land-locked. The lack of access to the sea is a significant geographical constraint for these countries and limits their possibility to trade in the global market. The lack of an own port has not been a trade barrier in Europe, however, where land-locked countries such as Austria and Switzerland enjoy a high level of economic development. In Africa and South Asia, this problem is further complicated by the lack of infrastructure, such as roads and railway networks for the transportation of products to ports, as well as by a poor regulatory framework for the transit of consignments from one country through the territory of another.

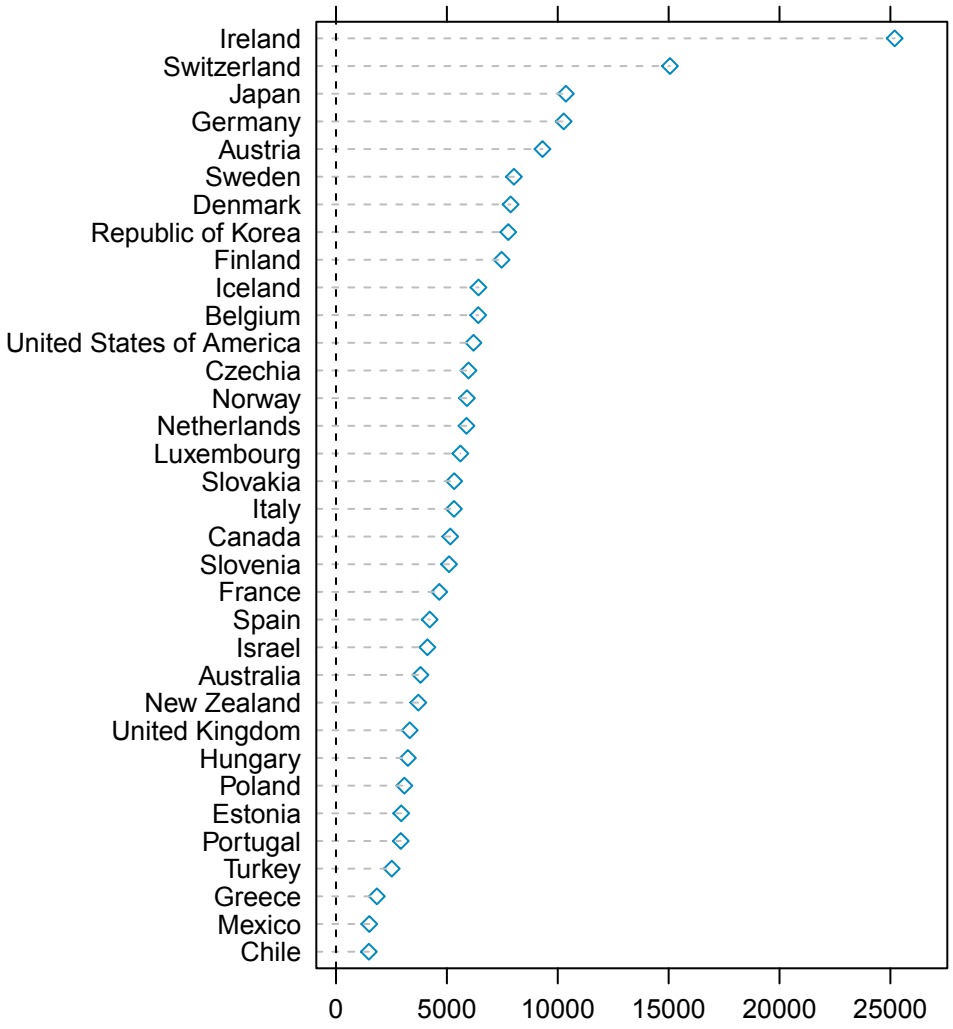
The following two figures (Figures 14 and 15) compare the value of MVA per capita in two very different groups of countries, namely in OECD states and in LDCs. Thirty-four OECD countries with about 18 per cent of the world population account for approximately 55 per cent of world manufacturing production, while 48 LDCs with around 12 per cent of the world population contribute a mere 0.8 per

FIG. 13 MVA per capita 2018



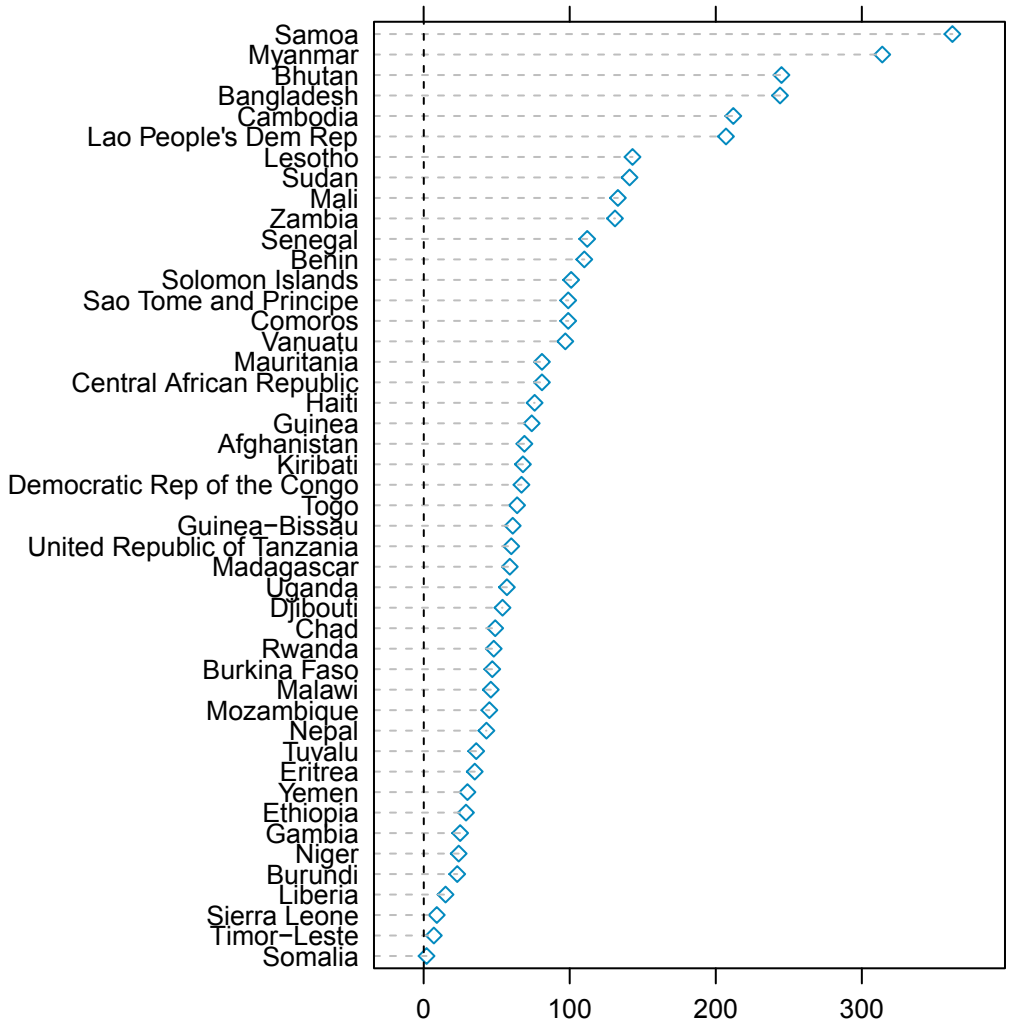
cent. The MVA per capita of some OECD countries such as Ireland (its MVA per capita has been boosted considerably by the relocation of a large number of companies for tax purposes) and Switzerland exceeded USD 15,000 at constant 2010 prices, while the average for LDCs was USD 150. This reflects an increase in the gap between the richest and the poorest countries. The MVA per capita of Somalia, Timor Leste and Sierra Leone is less than USD 10 or 2,500 times lower than Ireland's. Due to their high level of industrialization, most OECD countries are among the top countries for well-being indicators, as industrial development generates the necessary means to provide high levels of welfare assistance such as health, education and care for children and the elderly. Many LDCs lack such necessary means, and consequently hunger, disease and conflict prevail.

FIG. 14 OECD countries' MVA per capita in 2018 at constant 2010 USD prices



Most countries with a low MVA per capita, including the ten lowest ranking countries, are located in the sub-Saharan Africa region. The weak foundation for industrial development in African LDCs is attributable to several economic factors and geographical constraints. The decline in exports and capital inflow from industrialized countries has had a negative effect on African LDCs. The global economic slowdown has created new obstacles for these countries, resulting in low manufacturing growth.

FIG. 15 LDCs' MVA per capita 2018 at constant 2010 USD prices



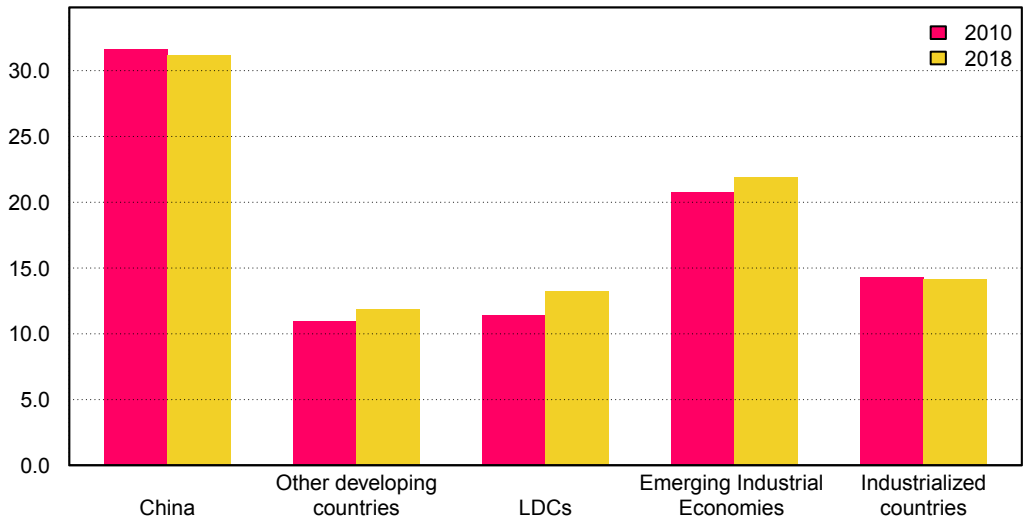
03. Structural change in world manufacturing

Structural transformation driven by industrial growth is analysed in terms of the contribution of manufacturing to the economy as a whole and the internal composition of manufacturing industries. The former is measured by share of MVA in GDP. Manufacturing plays a decisive role in economic growth, particularly when the share of MVA in GDP rises. This process gradually leads an economy to enter a higher stage of industrialization. Structural change within the manufacturing sector is characterized by a steady transformation of traditional resource-based and low-technology industries into knowledge-based, high-technology industries. A higher growth of the manufacturing sector compared to other sectors is achieved through the development of more productive and innovative industries. The share of high-technology industries in the total value of production is generally high in industrialized economies, whereas traditional agro-industries dominate the manufacturing sector of LDCs. It has been observed that developing economies such as Thailand, Colombia and Peru, among others, have introduced major policy initiatives to implement a development strategy based on upward industrialization. It is expected that in the context of the Sustainable Development Goals, more countries will join this trend, which will hopefully bring tangible results.

3.1 Share of MVA in GDP of industrialized and developing countries at constant 2010 prices

The contribution of the manufacturing sector to GDP has remained almost constant in all countries. Manufacturing in 2018 only accounted for slightly over 10 per cent of total output in developing countries. Industrialized countries' share of MVA in GDP slightly decreased in 2018. This has been attributed to the massive outsourcing of production activities in 2010, including the shift of production plants to developing countries and the increasing share of the services sector in industrialized countries; it seems that this trend had slowed down by 2018. One additional factor to be considered is the current economic accounting method which is based on local economic activity units. A modern manufacturing company in an industrialized country may host the product design and engineering unit, warehouse, transportation and communication facilities considered ancillary services. The value of services rendered is included in the manufacturing unit's total output. When the production unit is transferred to another country, the ancillary service units become independent activity units and are classified as service activities, even if they continue to serve the same manufacturing plant. Developing economies that are recipients of large amounts of foreign direct investment (FDI) have consistently increased their MVA share in GDP.

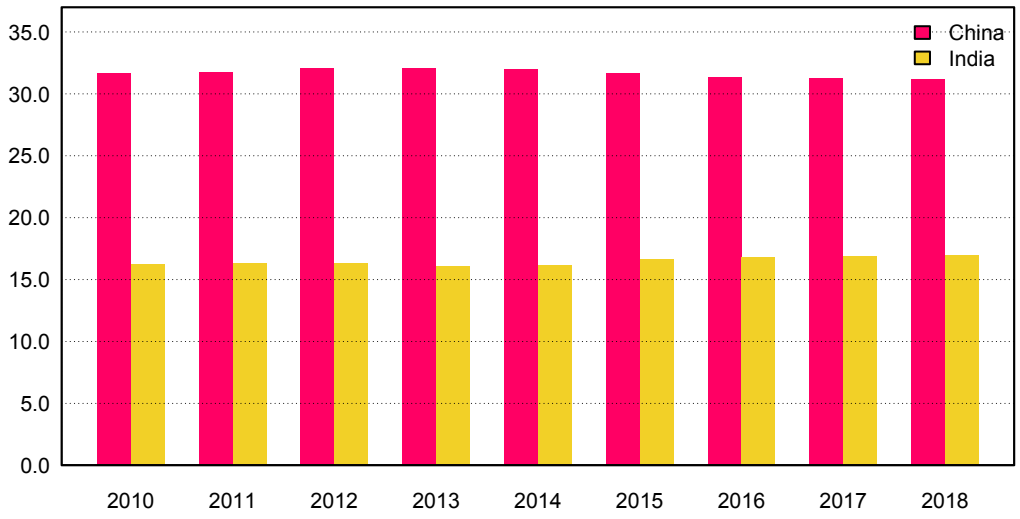
FIG. 16 Share of MVA in GDP by country group at constant 2010 prices



3.2 Share of MVA in GDP in China and India

China and India are the largest emerging industrial economies ranked among the top 10 leading world manufacturers. While China and other emerging industrial economies had a much higher share of MVA in GDP during the industrialization process, the relative growth of India's manufacturing sector to the overall economy slowed at an early stage. Over the last decade, China's share of MVA in GDP remained within the range of 30 per cent to 32 per cent, while India's share was less than half that figure. This is often explained by the rapid growth of the services sector in India. Other factors, however, such as the low level of productivity and inadequate technological upgrading, have also been cited as constraints to India's domestic value addition in manufacturing. In 2012, the Government of India announced a new manufacturing policy with the target of increasing the share of MVA in GDP by up to 25 per cent by 2025, although so far, not much progress has been observed. China has already reached its peak and the share of MVA has remained relatively stable. The highest MVA share in GDP in China was registered in 2013 at 32.1 per cent; it has gradually fallen since then and was 31.1 per cent in 2018.

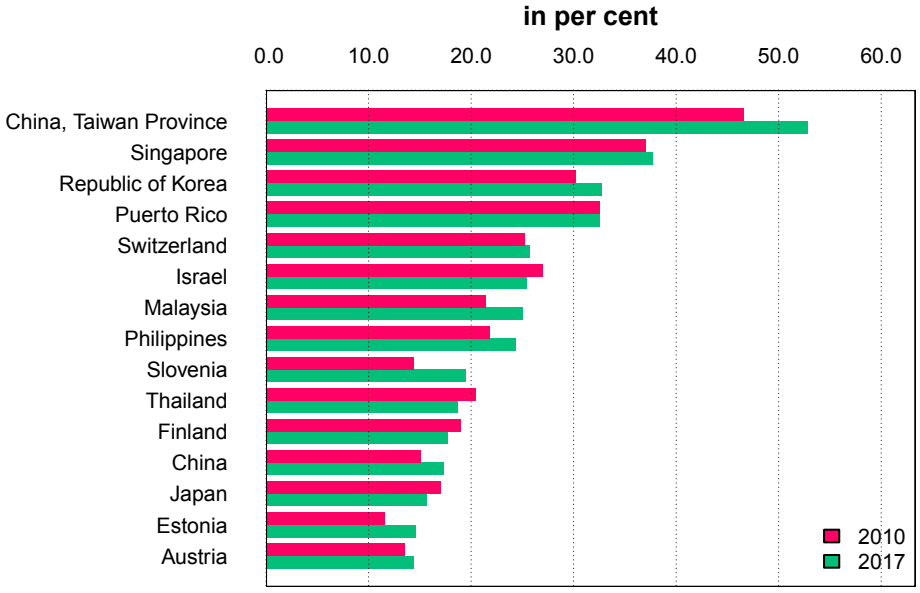
FIG. 17 Share of MVA in GDP at constant 2010 prices in China and India



3.3 ICT and resource-based manufacturing in MVA

The following figures present the relevance of traditional agro-industrial sectors and modern information and communication technology (ICT) sectors in different countries. Industrialization drives the economy to shift from traditional sectors based on the processing of natural resources and agricultural raw materials to knowledge-based, high-technology industries. ICT sectors typically account for 10 per cent to 20 per cent of MVA in industrialized countries. Some emerging industrial economies such as Philippines and Thailand are heading down the same path. This trend was stronger in 2010, whereas after 2016, the expansion of ICT sectors seems to have slightly decelerated. This is also evident when looking at the share of agro-industrial sectors in total MVA in those three countries, which slightly increased in 2016 compared to 2010. The share of MHT in total MVA rose from 46.6 per cent to 53.1 per cent in other developing countries. Taiwan, Province of China, has the highest share of ICT in total MVA, followed by Singapore and the Republic of Korea, evidencing an ICT stronghold in the Asia Pacific region. Solid developed economies like Switzerland and Japan, oscillated between 17 per cent and 22 per cent.

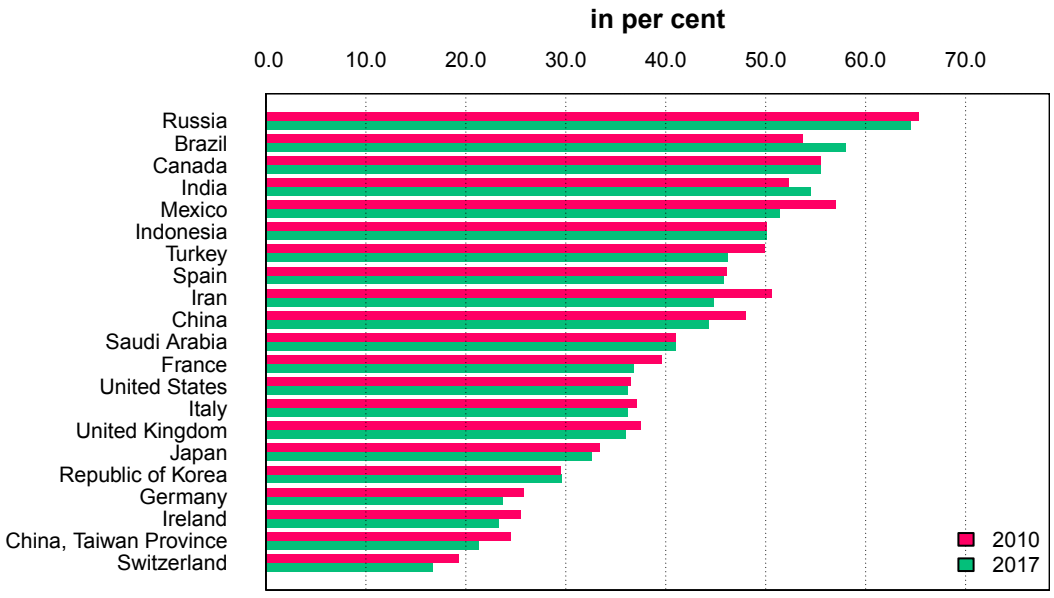
FIG. 18 Share of ICT in MVA



The share of ICT dropped in many emerging economies, primarily due to low investment in research and development and increased dependence on agro-based products. In recent years, FDI in industries in emerging economies has decreased, and the effects of the year 2018 are still to be observed. FDI is not the only source of capital, but is also a major factor for the technological upgrading.

Resource-based (RB) industries are usually the first step in the path to structural change, i.e. early stages of industrialization. Figure 19 illustrates this trend, with many thriving economies among the largest players. The selection of the portrayed economies responds to the need of reflecting the resource based share proportion across different levels of development. All BRICS, for example, are among the economies with the largest share of RB in MVA. In some of these countries, the share decreased slightly in 2018 compared to 2016, whereas it slightly rose in others. This depicts the existence of a solid and notable RB sector, representing the engine of further industrial development. A good example of an early industrialization trend can be observed in Indonesia, where the share of the RB sector in MVA increased from 50 per cent in 2010 to 56.3 per cent in 2016. The share in developed economies, on the other hand, is relatively low, as these are economies in which the share of medium high-technology and ICT sectors are more relevant for MVA composition.

FIG. 19 Resource-based industry in total MVA in selected economies



Appendix

A.1 COUNTRY CLASSIFICATION BY DEVELOPMENT STAGE

INDUSTRIALIZED ECONOMIES				
Andorra	Aruba	Australia	Austria	Bahrain
Belarus	Belgium	Bermuda	British Virgin Islands	Canada
Cayman Islands	China, Hong Kong SAR	China, Macao SAR	China, Taiwan Province	Curaçao
Czechia	Denmark	Estonia	Finland	France
French Polynesia	Germany	Greenland	Hungary	Iceland
Ireland	Israel	Italy	Japan	Kuwait
Liechtenstein	Lithuania	Luxembourg	Malaysia	Malta
Netherlands	New Caledonia	New Zealand	Norway	Portugal
Puerto Rico	Qatar	Republic of Korea	Russian Federation	San Marino
Singapore	Slovakia	Slovenia	Spain	Sweden
Switzerland	Trinidad and Tobago	United Arab Emirates	United Kingdom	United States of America

DEVELOPING AND EMERGING INDUSTRIALIZED ECONOMIES				
Emerging industrial economies				
Argentina	Brazil	Brunei Darussalam	Bulgaria	Chile
China	Colombia	Costa Rica	Croatia	Cyprus
Egypt	Greece	India	Indonesia	Iran
Kazakhstan	Latvia	Mauritius	Mexico	Oman
Peru	Poland	Romania	Saudi Arabia	Serbia
South Africa	Suriname	Thailand	North Macedonia	Tunisia
Turkey	Ukraine	Uruguay	Venezuela	
Puerto Rico	Qatar	Republic of Korea	Russian Federation	San Marino
Singapore	Slovakia	Slovenia	Spain	Sweden
Switzerland	Trinidad and Tobago	United Arab Emirates	United Kingdom	United States of America
Other developing countries				
Albania	Algeria	Angola	Anguilla	Antigua and Barbuda
Armenia	Azerbaijan	Bahamas	Barbados	Belize
Bolivia	Bosnia and Herzegovina	Botswana	Cabo Verde	Cameroon
Congo	Cook Islands	Côte d'Ivoire	Cuba	Democratic People's Rep of Korea
Dominica	Dominican Republic	Ecuador	El Salvador	Fiji
Gabon	Georgia	Ghana	Grenada	Guatemala
Guyana	Honduras	Iraq	Jamaica	Jordan
Kenya	Kyrgyzstan	Lebanon	Libya	Maldives
Marshall Islands	Mongolia	Montenegro	Montserrat	Morocco
Namibia	Nicaragua	Nigeria	Pakistan	Palau
Panama	Papua New Guinea	Paraguay	Philippines	Republic of Moldova
Saint Kitts and Nevis	Saint Lucia	Saint Vincent and the Grenadines	Seychelles	Sri Lanka
State of Palestine	Swaziland	Syrian Arab Republic	Tajikistan	Tonga
Turkmenistan	Uzbekistan	Viet Nam	Zimbabwe	

Least developed countries				
Afghanistan	Bangladesh	Benin	Bhutan	Burkina Faso
Burundi	Cambodia	Central African Republic	Chad	Comoros
Democratic Rep of the Congo	Djibouti	Eritrea	Ethiopia	Gambia
Guinea	Guinea-Bissau	Haiti	Kiribati	Lao People's Dem Rep
Lesotho	Liberia	Madagascar	Malawi	Mali
Mauritania	Mozambique	Myanmar	Nepal	Niger
Rwanda	Samoa	Sao Tome and Principe	Senegal	Sierra Leone
Solomon Islands	Somalia	Sudan	Timor-Leste	Togo
Tuvalu	Uganda	United Republic of Tanzania	Vanuatu	Yemen
Zambia				

A.2 MEDIUM-HIGH AND HIGH TECHNOLOGY (MHT) MANUFACTURING CATEGORIES

Description	ISIC Rev. 3
Manufacture of chemicals and chemical products	24
Manufacture of machinery and equipment	29
Manufacture of office, accounting and computing machinery	30
Manufacture of electrical machinery and apparatus	31
Manufacture of radio, television and communication equipment and apparatus	32
Manufacture of medical, precision and optical instruments, matches and clocks	33
Manufacture of motor vehicles, trailers and semi-trailers	34
Manufacture of other transport equipment, excluding: ISIC Revision 3: • 351=Building and repairing of ships and boats ISIC Revision 4: • 3011=Building of ships and floating structures • 3012=Building of pleasure and sporting boats • 3315=Repair of transport equipment, except motor vehicles	35

SOURCE | OECD 2003, 2011 AND UNIDO 2010.