Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
Target 9.b: Support domestic technology development, research and innovation in developing countries, including by ensuring a conducive policy environment for, inter alia, industrial diversification and value addition to commodities
Indicator 9.b.1: Proportion of medium and high-tech industry value added in total value added

Institutional information

Organization:
United Nations Industrial Development Organization (UNIDO)

Concepts and definitions

Definition:
The proportion of medium and high-tech industry (MHT hereafter) value added in total value added of manufacturing (MVA hereafter) is a ratio value between the value added of MHT industry and MVA.

Rationale:
Industrial development generally entails a structural transition from resource-based and low technology activities to MHT activities. A modern, highly complex production structure offers better opportunities for skills development and technological innovation. MHT activities are also the high value addition industries of manufacturing with higher technological intensity and labour productivity. Increasing the share of MHT sectors also reflects the impact of innovation.

Concepts:
The MHT industry is defined using OECD classification as the following by International Standard Industrial Classification of All Economic Activities (ISIC hereafter) Revision 3 and Revision 4 Division respectively:

ISIC Rev.4	Description	ISIC Rev.3	Description
20	Manufacture of chemicals and chemical products	24	Manufacture of chemicals and chemical products
21	Manufacture of basic pharmaceutical products and pharmaceutical preparations	242	Manufacture of other chemical products
26	Manufacture of computer, electronic and optical products	321	Manufacture of electronic valves and tubes and other electronic components
27	Manufacture of electrical equipment	31	Manufacture of electrical machinery and apparatus n.e.c.
28	Manufacture of machinery and equipment n.e.c.	29	Manufacture of machinery and equipment n.e.c.
29	Manufacture of motor vehicles, trailers and semi-trailers	34	Manufacture of motor vehicles, trailers and semi-trailers
30*	Manufacture of other transport equipment	35**	Manufacture of other transport equipment

* Excluding 301 (Building of ships and boats)
** Excluding 351 (Building and repairing of ships and boats)

MVA is the value added of manufacturing industry, which is Section C of ISIC Rev.4, and Section D of ISIC Rev.3.

Comments and limitations:
Value added by economic activity should be reported at least at 3-digit ISIC for compiling MHT values.

Methodology

Computation Method:
The indicator is calculated as the share of the sum of the value added from MHT economic activities to MVA.

$$\frac{\text{Sum of value added in MHT economic activities}}{\text{MVA}} * 100$$

Disaggregation:
No disaggregation available.

Treatment of missing values:

- At country level
  Missing values are imputed based on the methodology from Competitive Industrial Performance Report (UNIDO, 2014)

- At regional and global levels
  No regional and global aggregates currently available.

Regional aggregates:
No regional aggregates compiled.

Sources of discrepancies:
Conversion to USD or difference in ISIC combinations may cause discrepancy between national and international figures.

Methods and guidance available to countries for the compilation of the data at the national level:
UNIDO (2010), Industrial Statistics - Guidelines and Methodology: This publication is intended to serve as a handbook for statisticians involved in the regular industrial statistics programmes of NSOs or line ministries. It describes the statistical methods related to the major stages of industrial statistics operation. http://www.unido.org/publications/cross-cutting-services/industrial-statistics-guidelines-and-methodology.html

International Recommendations for Industrial Statistics (IRIS) 2008
https://unstats.un.org/unsd/publication/seriesM/seriesm_90e.pdf

System of National Accounts (SNA) 2008
https://unstats.un.org/unsd/publication/seriesf/SeriesF_2Rev5e.pdf

International Standard Industrial Classification of All Economic Activities (ISIC)
https://unstats.un.org/unsd/cr/registry/regcst.asp?Cl=27

Quality assurance
UNIDO (2009), UNIDO Data Quality: A quality assurance framework for UNIDO statistical activities https://open.unido.org/api/documents/4814740/download/UNIDO-Publication-2009-4814740

Data Sources

Description:
Data can be found in UNIDO INDSTAT4 Database by ISIC Revision 3 and ISIC Revision 4 respectively.

Collection process:
Data are collected using General Industrial Statistics Questionnaire which is filled by NSOs and submitted to UNIDO annually. Data for OECD countries are obtained directly from OECD. Country data are also collected from official publications and official web-sites.

Data Availability

Description:
More than 140 economies

Time series:
1990 onwards with 3 years lag to the current calendar year

Calendar

Data collection:
Data are collected annually from NSOs and OECD

Data release:
UNIDO INDSTAT database is updated between March and April every year.

Data providers

National statistical offices (NSOs) in non-OECD countries, and OECD countries by OECD

Data compilers

Name:
United Nations Industrial Development Organization (UNIDO)

References

URL:
www.unido.org/statistics
https://stat.unido.org/

References:
UNIDO Publication - The Industrial Competitiveness of Nations 2013
Competitive Industrial Performance (CIP) report 2016
International Standard Industrial Classification of All Economic Activities 2008