Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

Target 9.2: Promote inclusive and sustainable industrialization and, by 2030, significantly raise industry's share of employment and gross domestic product, in line with national circumstances, and double its share in least developed countries

Indicator 9.2.2: Manufacturing employment as a proportion of total employment

Institutional information

Organization(s):

United Nations Industrial Development Organization (UNIDO)

(with the collaboration of the International Labour Organization – ILO)

Concepts and definitions

Definition:

This indicator presents the share of manufacturing employment in total employment.

Concepts:

Employment comprises all persons of working age who during a short reference period (one week), were engaged in any activity to produce goods or provide services for pay or profit. The working-age population is usually defined as all persons aged 15 and above. For further clarification, see: Resolution concerning statistics of work, employment and labour underutilization (2013), available from http://ilo.org/global/statistics-and-databases/standards-and-guidelines/resolutions-adopted-by-international-conferences-of-labour-statisticians/WCMS_230304/lang--en/index.htm.

No distinction is made between persons employed full time and those working less than full time.

The manufacturing sector is defined according to the International Standard Industrial Classification of all Economic Activities (ISIC) revision 4 (2008, the latest) or revision 3 (1990). It refers to industries belonging to sector C in revision 4 or sector D in revision 3.

Rationale:

This indicator conveys the contribution of manufacturing in total employment. It measures the ability of the manufacturing sector to absorb surplus labour from agricultural and other traditional sectors. However, in developed countries an opposite trend is expected where emphasis has shifted to reduction in labor in manufacturing as part of cost-cutting measures, to promote more capital-intensive industries.

Comments and limitations:

The characteristics of the data source impact the international comparability of the data, especially in cases where the coverage of the source is less than comprehensive (either in terms of country territory or economic activities). In the absence of a labour force survey (the preferred source of data for this indicator), some countries may use an establishment survey to derive this indicator, but these usually have a minimum establishement size cut-off point and small units which are not officially registered (whether in manufacturing or not) would thus not be included in the survey. Consequently, employment data may be underestimated. Discrepancies can also be caused by differences in the definition of employment or the working–age population.

Methodology

Computation method:

(Total employment in manufacturing activities/Total employment in all economic activities) x 100

Treatment of missing values:

- ***At country level:***

Multivariate regression and cross-validation techniques are used to impute missing values at the country level. The additional variables used for the imputation include a range of indicators, including labour market and economic data. However, the imputed missing country values are only used to calculate the global and regional estimates; they are not used for international reporting on the SDG indicators by the ILO. For further information on the estimates, please refer to the the ILO modelled estimates methodological overview, available at https://www.ilo.org/ilostat-files/Documents/TEM.pdf.

- ***At regional and global levels:***

The aggregates are derived from the ILO modelled estimates that are used to produce global and regional estimates of, amongst others, employment by economic activity. These models use multivariate regression and cross-validation techniques to impute missing values at the country level, which are then aggregated to produce regional and global estimates. The regional and global shares of employment in manufacturing are obtained by first adding up, across countries, the numerator and denominator of the formula that defines the manufacturing employment as a proportion of total employment - outlined above. Once both magnitudes are produced at the desired level of aggregation, the ratio between the two is used to compute the share for each regional grouping and the global level. Notice that this direct aggregation method can be used due to the imputation of missing observations. For further information on the estimates, please refer to the the ILO modelled estimates methodological overview, available at https://www.ilo.org/ilostat-files/Documents/TEM.pdf.

Regional aggregates:

The global and regional aggregates are calculated after direct summation of country values within country groups.

Sources of discrepancies:

The difference may arise due to: a) discrepancies in data sources; b) ISIC Revision used by a country; c) informal employment; d) coverage of data source (geographical coverage, economic activities covered, types of establishments covered, etc.); e) working-age population definition.

Data sources

Description:

The preferred official national data source for this indicator is a household-based labour force survey.

In the absence of a labour force survey, a population census and/or other type of household survey with an appropriate employment module may also be used to obtain the required data.

Where no household survey exists, establishment surveys or some types of administrative records may be used to derive the required data, keeping into account the limitations of these sources in their coverage. Specifically, these sources may exclude some types of establishments, establishments of certain sizes, some economic activities or some geographical areas.

Collection process:

The ILO Department of Statistics sends out its annual ILOSTAT questionnaire to all relevant agencies within each country (national statistical office, labour ministry, etc.) requesting the latest annual data and any revisions on numerous labour market topics and indicators, including many SDG indicators. Indicator 9.2.2 is calculated from statistics submitted to the ILO via this questionnaire as well as through special agreements with regional and national statistical offices or through ILO processing of microdatasets of national labour force surveys.

UNIDO employment data are collected using General Industrial Statistics Questionnaire which is filled by NSOs and submitted to UNIDO annually.

Data availability

Description:

Data is available in ILOSTAT for around 170 countries and territories.

Time series:

Data for this indicator is available as of 2000 in the UN Global SDG Database, but longer time series are available in ILOSTAT.

Disaggregation:

This indicator can be disaggregated by sex, occupation, age, region and others.

Calendar

Data collection:

The ILO Department of Statistics sends out its annual ILOSTAT questionnaire, usually in the 2nd quarter, with a view to receiving the requested statistics by the 3rd quarter or the end of the year at the latest. Data received in batch from regional and national statistical offices and data obtained through the processing of microdata sets of national household surveys by the ILO Department of Statistics are continuously updated in ILOSTAT (as they become available).

Data release:

The ILO's online database ILOSTAT is continuously updated to reflect statistics compiled and processed every week. In general, statistics for EUROSTAT and OECD countries are available around the 2nd or 3rd quarter of the year following the year of reference, whereas they are usually available around the 3rd or 4th quarter of the year following the year of reference for the other countries.

Data providers

Mainly national statistical offices, and in some cases labour ministries or other related agencies, at the country-level. In some cases, regional or international statistical offices can also act as data providers.

Data compilers

United Nations Industrial Development Organization (UNIDO) and International Labour Organization (ILO)

References

URL:

https://ilostat.ilo.org/

https://ilostat.ilo.org/resources/methods/description-employment-by-economic-activity/

www.unido.org/statistics

https://stat.unido.org/

References:

ILO Guidebook - Decent Work and the Sustainable Development Goals: A Guidebook on SDG Labour Market Indicators (https://www.ilo.org/stat/Publications/WCMS_647109/lang--en/index.htm)

Decent Work Indicators Manual: http://www.ilo.org/wcmsp5/groups/public/---dgreports/---stat/documents/publication/wcms_223121.pdf

Resolution concerning statistics of work, employment and labour underutilization, adopted by the 19th ICLS in 2013: http://www.ilo.org/global/statistics-and-databases/standards-and-guidelines/resolutions-adoptedby-international-conferences-of-labour-statisticians/WCMS_230304/lang--en/index.htm

ILOSTAT database: https://ilostat.ilo.org

ILOSTAT Metadata – Indicator Descriptions (https://ilostat.ilo.org/resources/methods/description-employment-by-economic-activity/)

International Standard Industrial Classification of All Economic Activities 2008 (https://unstats.un.org/unsd/publication/seriesm/seriesm_4rev4e.pdf)