Goal: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

Target: Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value added and labour-intensive sectors

Indicator: 8.2.1: Annual growth rate of real GDP per employed person

Institutional information

Organization(s):

ILO

Concepts and definitions

Definition:

Annual growth rate of real GDP per employed person conveys the annual percentage change in real Gross Domestic Product per employed person.

Concepts:

Gross Domestic Product (GDP): It is the main measure of national output, representing the total value of all final goods and services within the System of National Accounts (SNA) production boundary produced in a particular economy (that is, the dollar value of all goods and services within the SNA production boundary produced within a country's borders in a given year). According to the SNA, "GDP is the sum of gross value added of all resident producer units plus that part (possibly the total) of taxes on products, less subsidies on products, that is not included in the valuation of output … GDP is also equal to the sum of the final uses of goods and services (all uses except intermediate consumption) measured at purchasers' prices, less the value of imports of goods and services GDP is also equal to the sum of primary incomes distributed by resident producer units."

Real Gross Domestic Product (GDP): Real GDP refers to GDP calculated at constant prices, that is, the volume level of GDP, excluding the effect of inflation and favouring comparisons of quantities beyond price changes. Constant price estimates of GDP are calculated by expressing values in terms of a base period. In theory, the price and quantity components of a value are identified and the price in the base period is substituted for that in the current period.

Employed persons: Persons of working age (usually defined as persons aged 15 and above) who, during a short reference period such as a week, performed work for others in exchange for pay or profit (as stated in the *Resolution concerning statistics of work, employment and labour underutilization* adopted by the 19th International Conference of Labour Statisticians).

Rationale:

The real GDP per employed person being a measure of labour productivity, this indicator represents a measure of labour productivity growth, thus providing information on the evolution, efficiency and quality of human capital in the production process.

Economic growth in a country can be ascribed either to increased employment or to more effective work by those who are employed. This indicator casts light on the latter effect, being therefore a key measure of economic performance. Labour productivity (and growth) estimates can support the formulation of labour market policies and monitor their effects. They can also contribute to the understanding of how labour market performance affects living standards.

Comments and limitations:

Output measures are obtained from national accounts and represent, as much as possible, GDP at market prices for the aggregate economy. However, despite common principles that are mostly based on the United Nations System of National Accounts, there are still significant problems in international consistency of national accounts estimates, based on factors such as differences in the treatment of output in services sectors, differences in methods used to correct output measures for price changes (in particular, the use of different weighting systems to obtain deflators) and differences in the degree of coverage of informal economic activities.

Data on employment used in the denominator of this indicator refer, as much as possible, to the average number of persons with one or more paid jobs during the year. That is, the reliability of the employment data is also dependent on the degree of coverage of informal activities by the statistical source used.

Methodology

Computation method:

$$\text{Real GDP per employed person} = \frac{\text{GDP at constant prices}}{\text{Total employment}}$$

The numerator and denominator of the equation above should refer to the same reference period, for example, the same calendar year.

If we call the real GDP per employed person “LabProd”, then the annual growth rate of real GDP per employed person is calculated as follows:

$$\text{Annual growth rate of real GDP per employed person} = \frac{(\text{LabProd in year n}) - (\text{LabProd in year n} - 1)}{(\text{LabProd in year n} - 1)} \times 100$$

Treatment of missing values:

- At country level

Multivariate regression techniques are used to impute missing employment values at the country level.

For a detailed description of the methodology used, please refer to Trends Econometric Models: A Review of Methodology (ILO, Geneva, 2010), available at http://www.ilo.org/empelm/pubs/WCMS_120382/lang--en/index.htm.

- At regional and global levels

Regional aggregates:

To address the problem of missing data, the ILO designed several econometric models which are used to produce estimates of labour market indicators in the countries and years for which real data are not available. The employment data derived from the Trends Econometric Models (TEM) are used to produce estimates on labour productivity. These models use multivariate regression techniques to impute missing values at the country level, which are then aggregated to produce regional and global estimates. For further information on the TEM, please refer to the technical background papers available at: http://www.ilo.org/empelm/projects/WCMS_114246/lang--en/index.htm.

Sources of discrepancies:

Methods and guidance available to countries for the compilation of the data at the national level:

See:

Estimates and projections of labour market indicators (http://www.ilo.org/empelm/projects/WCMS_114246/lang--en/index.htm)

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)

ILO Manual – Decent Work Indicators, Concepts and Definitions – Chapter 1, Economic and social context for decent work http://www.ilo.org/integration/resources/pubs/WCMS_229374/lang--en/index.htm (second version, page 214)

Resolution concerning statistics of work, employment and labour underutilization http://www.ilo.ch/global/statistics-and-databases/standards-and-guidelines/resolutions-adopted-by-international-conferences-of-labour-statisticians/WCMS_230304/lang--en/index.htm

System of National Accounts 2008 http://unstats.un.org/unsd/nationalaccount/sna2008.asp

Trends Econometric Models: A Review of Methodology http://www.ilo.org/empelm/pubs/WCMS_120382/lang--en/index.htm

ILOSTAT Database (www.ilo.org/ilostat)

ILOSTAT Database – Metadata – Indicator Descriptions (Labour productivity, at: http://www.ilo.org/ilostat-files/Documents/description_PRODY_EN.pdf).

Quality assurance:

Data sources

Description:

Output measures used in the numerator of this indicator (Gross Domestic Product) are best obtained from the production side of national accounts and represent, as much as possible, GDP at market prices for the aggregate economy (adjusted for inflation, in constant prices).

Employment data used in the denominator are preferably derived from labour force or other household surveys with an employment module. In the absence of a household survey, establishment surveys, administrative records or official estimates based on reliable sources can be used as well as population censuses. It is however important to note that employment data from establishment surveys will capture the number of jobs and not the number of persons employed as preferred for the denominator. Also, establishment surveys cover, in many cases, the formal sector and employers and employees only, not accounting for the whole economy.

When calculating this indicator, it is important to ensure that the coverage of the employment data is consistent with that of the national accounts.

Collection process:

For the purposes of international reporting on the SDG indicators, the ILO uses country-level estimates of GDP in constant 2010 US$ from the World Bank’s World Development Indicators database and country-level estimates on employment from household surveys or derived from the ILO’s TEM to calculate levels and growth rates of labour productivity at the country, regional and global levels.

Data availability

Description:

Time series:

Data for this indicator is available as of 2000 in the SDG Indicators Global Database, but time series going back to 1991 and including projections up to 2022 are available in ILOSTAT.

Disaggregation:

No disaggregation required for this indicator.

Calendar

Data collection:

Data release:

ILO estimates of labour productivity are part of the ILO Estimates and Projections series, analysed in the ILO's World Employment and Social Outlook reports. Both the underlying ILO estimates and the WESO are released twice a year (May and January).

Data providers

National Statistical Offices, and in some cases Labour Ministries or other related agencies.

Data compilers

ILO.

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)

Estimates and projections of labour market indicators (http://www.ilo.org/empelm/projects/WCMS_114246/lang--en/index.htm)

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Resolution concerning statistics of work, employment and labour underutilization http://www.ilo.ch/global/statistics-and-databases/standards-and-guidelines/resolutions-adopted-by-international-conferences-of-labour-statisticians/WCMS_230304/lang--en/index.htm

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Related indicators