Purchasing power parities in Europe and the world

Statistics Explained

Data from April 2014
Planned article update: December 2019

This article presents a summary of the results of the latest (2011) round of the International Comparison Program (ICP). The ICP is a worldwide statistical partnership to collect comparative price data and compile detailed expenditure values of countries' gross domestic product (GDP) , and to estimate purchasing power parities (PPPs) of the world's economies. Using PPPs instead of market exchange rates to convert currencies makes it possible to compare the output of economies and the material welfare of their inhabitants in real terms (that is, controlling for differences in price levels).In total, 177 countries participated fully in the 2011 round of the ICP[1]. The complete results can be found on the ICP website . Eurostat is a partner in the ICP and provides the required data for the 28 EU Member States , three EFTA Member States, four candidate countries and two potential candidate countries. This article focuses on the position of the EU-28 in the world. The positions of individual European countries within the EU can be found here .

The results of the new 2017 ICP round are expected to be published by the end of 2019.

Shares in world GDP

In 2011, the gross domestic product (GDP) of the EU-28 represented 18.6% of the world's GDP, expressed in purchasing power standards (PPS) . The United States was the second biggest economy with a share of 17.1% and China[2]the third biggest with 14.9%, followed by India and Japan, with 6.4% and 4.8% respectively. Figure 1 shows the shares of all countries (outside the EU) that have a share larger than 1%. For comparison: Germany is the largest EU country with a share in world GDP of 3.7%.

[1]Including countries that do not participate at full GDP level, the total number is 199.

[2]The National Bureau of Statistics (NBS) of China expressed reservations over some aspects of the methodology employed and does not endorse these results as official statistics.

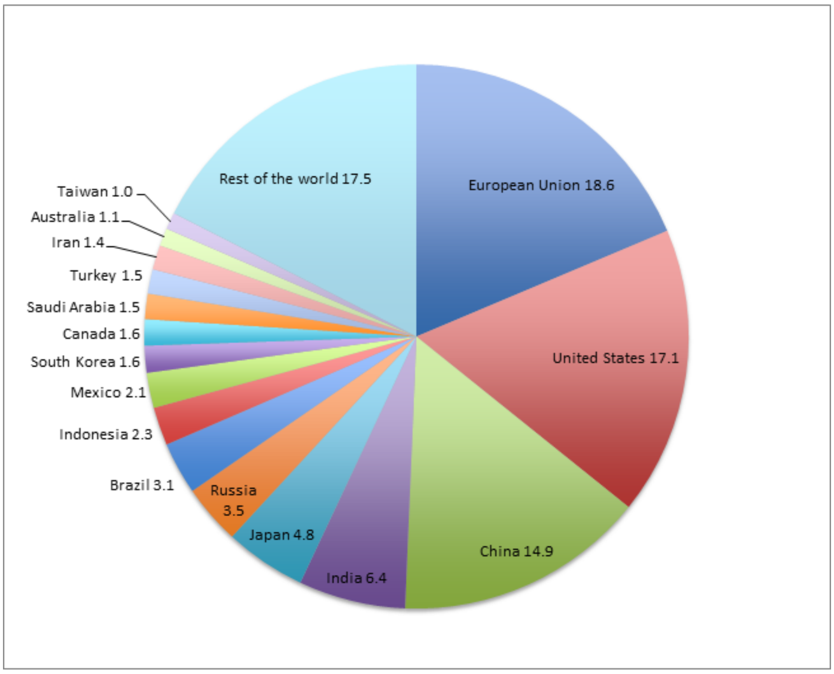

Figure 1: Shares in world GDP in PPS, 2011

GDP and actual individual consumption (AIC) per capita in PPS

Table 1 shows indices of GDP and actual individual consumption (AIC) per capita in PPS, with EU-28=100, for a selection of countries. All countries that are included in Figure 1 are included in Table 1, plus those countries in the world and in the EU-28 that score highest or lowest on either indicator. While GDP per capita is mainly an indicator of the level of economic activity, AIC per capita is an alternative indicator better adapted to describe the material welfare of households . AIC consists of goods and services actually consumed by individuals, irrespective of whether these goods and services are purchased and paid for by households, by government, or by non-profit organisations.

	GDP	AIC*
	in PPS per capita	
Qatar	440	89
Luxembourg	266	138
Bermuda	165	163
United States	149	161
Saudi Arabia	145	77
Australia	126	117
Canada	123	118
Taiwan	117	108
Japan	103	105
European Union	100	100
South Korea	87	75
Russia	68	65
Turkey	53	59
Iran	52	37
Mexico	49	51
Bulgaria	47	47
Brazil	44	43
China	30	19
Indonesia	26	21
India	14	13
Democratic Republic of the Congo	2	2
Liberia	2	3

* AIC: Actual Individual Consumption

Table 1: GDP and AIC in PPS per capita, 2011, EU-28=100

GDP per capita varies enormously around the world: from 2% of the EU-28 to 440%. For AIC the difference is smaller, but still large.Qatar is the country with by far the highest GDP per capita in the world. However, this is mainly due to a very high share of oil exports in GDP. Indeed, AIC per capita is much more modest. The same is true, but to a lesser extent, for Saudi Arabia. Luxembourg has the highest GDP and AIC per capita in the EU-28. The large difference between the two indicators for this country is due to the significant share of cross-border workers in total employment. While contributing to GDP, these workers are not taken into consideration as part of the resident population which is used to calculate GDP per capita. AIC by contrast only includes the consumption of residents.Bermuda is the country with the highest level of AIC per capita in the world, followed by the United States. Bulgaria, the country with the lowest levels of GDP and AIC per capita in the EU-28, has higher levels than, for example, Brazil. This is because Brazil has significantly higher price levels than Bulgaria (see below). China's level of GDP per capita is much higher than its level of AIC, which is due to a relatively high share of gross fixed capital formation in China's GDP.Liberia registered the lowest level of GDP per capita, while for AIC per capita the lowest level is recorded by the Democratic Republic of Congo.

Price level indices of GDP and AIC

Table 2 shows price level indices (PLIs) for GDP and AIC for a selection of countries. Again, the countries of Figure 1 are included plus those countries in the world and in the EU-28 that have the highest or lowest indices for either indicator. A PLI that is above 100 indicates that the price level for the respective country is above the average price level of the EU-28, and vice versa for a PLI below 100. The table shows that, generally, no large differences between the PLIs for GDP and AIC exist. The country with the highest PLIs in the world, for both GDP and AIC, is Switzerland. Denmark has the highest PLIs among the EU Member States for both indicators. The difference between the highest and lowest PLIs in the world (found in Egypt) is about 6 times, whereas this gap within the EU-28 is about 3 times. Brazil's PLIs are nearly twice as high as those of Bulgaria, the country with the lowest price levels in the EU.

	Price level indices	
	GDP	AIC*
Switzerland	155	168
Denmark	137	147
Australia	149	144
Japan	129	127
Canada	120	119
European Union	100	100
United States	96	93
Brazil	84	83
South Korea	74	71
Mexico	59	58
Turkey	56	56
China	52	50
Taiwan	49	48
Russia	56	47
Saudi Arabia	47	45
Bulgaria	45	43
Indonesia	39	40
Iran	42	37
India	31	28
Egypt	26	25

* AIC: Actual Individual Consumption

Table 2: Price level indices for GDP and AIC, 2011, EU-28=100

Data sources

The data in this article are produced by the International Comparison Program (ICP). The ICP is a worldwide statistical operation involving some 200 countries. It produces internationally comparable price and volume measures for gross domestic product (GDP) and its component expenditures. The measures are based on purchasing power parities (PPPs) . To calculate the PPPs, the ICP holds surveys to collect price and expenditure data for the whole range of final goods and services that comprise GDP including consumer goods and services, government services and capital goods. The full methodology used by the ICP is described on its website .

PPPs are both currency converters and spatial price deflators. They are used to, for example, better compare the GDPs of different countries. Initially, the GDPs are not comparable because they are expressed in national currencies and valued at national price levels. But, after PPPs are applied, the GDPs are converted to a common currency (called "Purchasing Power Standards" (PPS) , if the EU-28 is used as reference as in this article) and are revalued at a uniform price level. As a result, differences between the GDPs reflect only differences in the volumes of final goods and services purchased.

Price level indices (PLIs) as presented in this publication are the ratios of PPPs to exchange rates. They provide a measure of the differences in price levels between countries by indicating for a given product group the number of units of common currency needed to buy the same volume of the product group or aggregate in each country. They are presented relative to the average of the EU-28.

The ICP is organized by region. There are six regions of which all but one are overseen by the ICP Global Office in the World Bank . The remaining region is covered by the Eurostat- OECD PPP Program. Eurostat provides the required data for 37 European countries and OECD for 10 non-European countries. This program has a different timetable to that of the ICP but employs compatible methodology. Eurostat and the OECD work closely with the Global Office to ensure that their 47 countries can be combined in a single comparison with the countries of other regions.

Responsibility for the ICP within regions is shared between national and regional agencies. National statistical offices carry out data collection. Regional agencies provide guidance and coordinate data collection and data validation. They also put together and finalize the regional comparisons. Responsibility for ensuring that the regional comparisons can be combined in a world comparison and then combining them rests with the Global Office.

Results of regional comparisons are disseminated by regional agencies. Results of the world comparison are disseminated by the Global Office.

The indices presented in this article are not intended to rank countries strictly. In fact, they only provide an indication of the order of magnitude of the volume or price level in one country in relation to others, particularly when countries are clustered around a very narrow range of outcomes. The level of uncertainty associated with the basic price and national accounts data, and the methods used for compiling PPPs imply that differences between countries that have indices within a close range should not be over-interpreted.

Context

The main users of the global PPPs produced by the ICP are international organizations and regional agencies. For example, the World Bank uses PPPs in the monitoring of the incidence of poverty and tracking progress towards the Millennium Development goals. The IMF uses PPPs in their formula to determine member countries' quota (representing voting rights and countries' financial contributions). In the European Union, PPPs are instrumental to decide on regions' eligibility for structural funds.

There is, however, a growing demand for PPPs from a variety of users at the national level: government agencies, universities, research institutes, public enterprises, private firms, banks, journalists and individuals.

Other articles

- GDP per capita, consumption per capita and price level indices

Dedicated section

- Purchasing Power Parities

Publications

- Eurostat-OECD Methodological Manual on Purchasing Power Parities

External links

- International Comparison Program

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