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**QUALITY REPORT 2017**

**Purchasing power parities**

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## **1. Introduction – Basic information about the survey**

### **1.1 Purpose, goal and subject of the survey**

Purchasing Power Parity (PPP) is an efficient mean in the cross-country comparisons of gross domestic product. Since it also includes the price influence, this is the best indicator of economic situation in one country. Purchasing Power Parities (PPPs) are currency conversion rates that are applied in order to convert economic indicators from national currency to an artificial common currency - called the Purchasing Power Standard (PPS), which equalizes the purchasing power of different national currencies and enables meaningful volume comparison between countries.

The Purchasing Power Standard (PPS) is an artificial currency unit that eliminates price level differences between countries. Thus one PPS buys the same volume of goods and services in all countries. This unit allows meaningful volume comparison of economic indicators across countries. The greatest impact on the Gross Domestic Product (GDP) per capita measured by purchasing power standards has the size of GDP estimated by expenditure method, the level of consumer prices and population.

### **1.2 Legal basics**

The Law on Official Statistics and Official Statistical System (Official Gazette of Montenegro No 18/12) defines provisions for collection, processing, and dissemination of data. The Law provides to the Statistical Office clear and wide legal powers to collect and access the data necessary for the implementation of Programme and Annual Plan. The Law gives a priority to the use of administrative data and right of access to individual data that are a result of survey of other official statistical producers. As an annex to legal provisions, Statistical Office has signed several memoranda on cooperation with administrative data providers.

Regulation of the European Parliament and of the Council No. 1445/2007 of 11 December 2007 establishing common rules for the provision of basic information on Purchasing Power Parities and for their calculation and dissemination.

### **1.3 Statistical units**

PPPs are calculated for each of the participant countries in European comparison program, for the EU as a whole, and for the euro area.

### **1.4 Coverage and scope of survey**

#### **1.4.1 Sectors**

PPPs are calculated for GDP and its various sub-aggregates on the expenditure side of national accounts.

#### **1.4.2 Statistical population**

The expenditure side of national accounts, as defined in ESA 2010, defines the statistical population.

### **1.5 Referent geographical area**

Eurostat is charge of the annual calculation and dissemination of PPPs for 37 European countries. This includes the 28 EU member states, 3 EFTA countries (Iceland, Norway and Switzerland), 5 candidate countries (Montenegro, Serbia, FYR Macedonia, Turkey, and Albania) and Bosnia and Herzegovina as a potential candidate. Each participating country collects a sufficient number of prices for each of the selected products and services, in order to ensure a reliable average price per product and service, taking into account the market structure in the country. Prices are collected in capital city in shops which are representative for a specific group of products and they represent national average prices.

### **1.6 Concepts and definitions**

Purchasing power parities (PPPs) are a means of converting national currencies into a common currency that equalizes the purchasing power of different national currencies.

This means that a certain amount of national currency is converted into another common currency by purchasing power parity, corresponding to the amount needed to purchase the same basket of goods and services in all countries. In the simplest form, PPPs represent the ratio of the prices of certain products and services in national currencies between countries. In the simplest form, PPPs represent the ratio of the prices of certain products and services in national currencies between countries.

Today we know that for the certain amount of money, for example, less goods can be bought, than we could buy for the same amount, month ago, of course, much less than a year or several years ago. Purchasing power of 1 euro is lower due to price increases. In other words, the same amount of purchasing power is reduced because the price level for the products and services we bought today, is higher than a few months, year or several years ago. In the simplest form, PPPs is the ratio of the prices of individual products and services in national currencies between countries.

### **1.7 Classifications**

PPPs are produced in accordance with the final expenditure classification of the European Standard of Accounts (ESA '2010). PPPs are classified by type of final expenditure - actual individual consumption expenditure (AIC), actual collective consumption expenditure and capital expenditure - and, in the case of actual individual consumption expenditure, by purchaser - households, non-profit institutions serving households (NPISHs) and general government. The prices underlying the calculation of PPPs adhere to the definitions, concepts, classifications and accounting rules of ESA.

### **1.8 Frequency of data collection**

Price collection is a continuous process and is carried out in the following way:

1. Household consumption - contains six surveys covering different parts of household consumption, carried out over a three-year cycle (two surveys per year).
  - I survey: Food, drink and tobacco;
  - II survey: Personal appearance;
  - III survey: House and garden;
  - IV survey: Transport, hotels and restaurants;
  - V survey: Services;
  - VI survey: Furniture and health.
2. Government consumption - Contains annual survey of the compensation of public sector employees, annual education database.
3. Gross fixed capital formation - Surveys of equipment goods are carried out every second year, while since 2010, construction survey is reported annually. Expenditure weights and auxiliary data are reported annually.

### **1.9 Frequency of data dissemination**

The data are published twice a year.

### **1.10 Methodology**

The latest version of the 'EUROSTAT-OECD Methodological manual on purchasing power parities' is available online:

<http://ec.europa.eu/eurostat/web/products-manuals-and-guidelines/-/KS-RA-12-023>

### **1.11 Base period**

Not relevant.

## 1.12 Unit of measure

PPPs can be interpreted as the exchange rates of countries national currencies against the PPS. They express the number of currency units per PPS. Real expenditures are expenditures in national currency converted to PPS using PPPs. They are thus denominated in PPS.

PLIs and volume indices per capita are indices that, in Eurostat's database, use EU28, EU27 or EU15 as "base country" (EU28=100, EU27=100 or EU15=100, depending on the user's choice).

## 1.13 Source of data

For surveys conducted within the framework of consumer goods and services, data sources are: retail stores (mini-markets, supermarkets, kiosks, and specialty stores), entrepreneurs, public enterprises, internet, CPI, etc. Prices are collected in the capital and its surroundings. Prices are collected over a period of three years, within six separate surveys, two surveys per year.

Housing receives special treatment. In most of the countries, a survey of actual rentals is carried out annually. Depending on the data we have, there are two approaches used to compare rents and expenditures for this purpose: price approach and quantitative approach.

For investment goods and services two surveys are carried out. One survey for machinery and equipment (conducted once in two years) and one for construction (conducted annually). Prices for equipment goods are obtained from producers, importers, distributors or actual purchasers. Prices for construction are collected using a set of standard construction projects covering different types of buildings and civil engineering works.

## 2. Relevance – Data users

### 2.1 User needs

#### International users:

- Eurostat,
- World Bank,
- UN organizations,
- International Monetary Fund

#### National users:

- Ministries and other public administration bodies,
- Local government and other local government bodies,
- Central bank,
- Non-governmental organizations,
- Students,
- Researchers,
- Media.

### 2.2 User satisfaction

The Statistical Office has adopted the Quality Management Strategy, the Guidebook to the Implementation of the Quality Management Strategy, as well as the Plan for the Implementation of the Quality Policy. In order to measure the degree to which fulfills obligations towards users and within the new quality policy, the Statistical Office conducted User satisfaction survey. Data collection was carried out through a web survey, in the period from 1 September to 20 October, 2017. The results of the survey are available on the Statistical Office website, at the following link: [User satisfaction survey](#)

### **3. Accuracy and reliability**

#### **3.1 Accuracy – Overall remark**

The precision of PPPs increases with the level of aggregation. This means that the PPP at GDP level will be more reliable, or precise, than the PPP for final household consumption or gross capital formation. Similarly, the PPP for final household consumption will be more reliable than the PPP for "food and non-alcoholic beverages", or "clothing and footwear", the latter two being sub-aggregates of final household consumption.

#### **3.2 Sampling error**

The survey is not based on a random sample, so we cannot use standard approaches to assess a sample error.

*Indicators of sampling error (A1)*

Not available.

#### **3.3 Non-sampling error**

In the consumer goods surveys, measurement errors can occur due to non-compliance with the strict definition of the products in the product sample, for instance with regard to package sizes or quality parameters. While the validation process aims at eliminating these errors by carefully comparing the price material provided by each country and evaluating its plausibility, some of these errors can be hard to identify, especially those related to quality. Similar problems can occur in other surveys as well, like the annual survey on compensation of public sector employees. Here, the problem stems from the heterogeneity of data sources across countries.

##### **3.3.1 Coverage error**

Not available.

*Indicators of coverage error (A2)*

Not available.

##### **3.3.2 Error of measurement**

Measurement errors are only possible in the phases of collecting or entering data by price collectors or by persons who enter the data. Questionnaires and methodological instructions were provided to price collectors and with regular interactive communication with them we are trying to minimize the errors. Possible recording and entry errors are corrected during validation phase, so subsequent revisions were not carried out.

##### **3.3.3 Non response error**

*Nonresponse rate (A4)*

Not available.

#### **3.4 Seasonal adjustment**

Not relevant.

##### **3.5.1 Data revision policy**

Statistical Office has adopted the revision policy and it is available at the following link: [Revision policy](#)

Revision of PPP data is defined by Eurostat's revision policy.

##### **3.5.2 Data revision practice**

In order to obtain the highest level of coherence with national accounts, in December 2016, after the introduction of ESA 2010, a complete series of PPP data was revised.

### 3.5.3 Data revision - average size (A6)

<http://ec.europa.eu/eurostat/documents/10186/6246844/Note-on-PPP-revision.pdf>

## 4. Timeliness and punctuality

### 4.1 Timeliness

EUROSTAT publishes the results on PPP and GDP in PPS annually.

For the same reference year (t) both sets of the results are regularly produced and published four times:

- After t+6 months: First preliminary results, based on extrapolations from year t-1 and on the new data for year t that are available at that time;
- After t+12 months: Preliminary results, incorporating all new price and expenditure data of year t;
- After t+24 months: Revised, preliminary results, incorporating the most recent expenditure estimates;
- After t+36 months: Final results for year t. These results are "final" in the sense that there will be no further updates when countries revise their National Accounts estimates.

#### *Time lag of the first results*

reference period (t)	first preliminary results (t+6)	preliminary results (t+12)	Revised, preliminary results (t+24)
2017	Jun-2018	Dec-2018	Dec-2019

#### *Time lag of the final results*

reference period (t)	final results (t+36)
2017	Dec-2020

### 4.2 Punctuality

PPPs are always published in June and December in accordance with the Statistical Release Calendar of MONSTAT for 2017 which is in line with EUROSTAT release calendar.

## 5. Availability and clarity

### 5.1 Release

EUROSTAT publishes two annual releases in June and December each year:

Gross Domestic Product and Actual Individual Consumption per capita in PPS and Price Level Indices for household final consumption expenditure.

After official release by Eurostat, MONSTAT publishes a compilation of above mentioned press releases which are available at the following link: [Releases](#)

### 5.2 Publication

All publications published by Statistical Office are available at the following link: [Publications](#).

### 5.3 Availability of microdata

The Law on Official Statistics and Official Statistical System (Official Gazette of Montenegro No 18/12) regulates rules under which external users can obtain an access to individual data for needs of research.

Article 58 defines types of scientific and research organizations that can obtain such data. Providing individual data without identifier is possible only upon a written request of scientific and research institutions, with purpose of performing scientific and research activities as well as international statistical organizations and statistical producers from other countries. Research entity signs the agreement with Statistical Office, and it signs the statement on respecting the confidentiality principle. Official statistical producers keep separate records on users and purpose of using the statistical data given to these users.

## **6. Comparability**

### **6.1 Comparability - geographical**

PPPs are primarily spatial price level indicators, and the comparability of the results across countries can be assumed to be very good.

### **6.2 Comparability - over time**

PPPs are spatial price level indicators, and thus primarily suitable in comparisons referring to several geographical locations at a given point in time. Unlike the item sampling and price collection that underlie consumer price indices, the sampling of items and the price collection for PPPs are not designed to capture price changes over time, but rather price differences across countries or other geographical units. If necessary, product samples will be changed between two consecutive surveys in order to maintain or improve comparability across countries. Nevertheless, PPPs and PPP-based indicators may be used in inter-temporal comparisons under certain circumstances, provided that the results are interpreted with sufficient care.