



REPUBLIC OF CROATIA



CROATIAN BUREAU OF STATISTICS

QUALITY REPORT FOR STATISTICAL SURVEY
European Comparison Programme
For 2020

Organisational unit: Price Statistics and European Comparison
Programme Department

Prepared by: Mirjana Lepušić

March 2021

0. Basic information

- Purpose, goal, and subject of the survey

The aim of the survey is to collect a quality data set in order to calculate parities, starting from the lowest level (SPD level) to the main groups (BHs), and thus obtain an indicator for calculating GDP at purchasing power parity (PPP).

- Reference period

Calendar year

- Legal acts and other agreements

At the European level:

- Regulation (EC) No 1445/2007 of the European Parliament and of the Council of 11 December 2007 establishing common rules for the provision of basic information on Purchasing Power Parities and for their calculation and dissemination
- Commission Regulation (EU) 2015/1163 of 15 July 2015 implementing Regulation (EC) No 1445/2007 of the European Parliament and of the Council as regards the list of basic headings used for Purchasing Power Parities.

At the national level:

- Official Statistics Act (NN, Nos 103/03, 75/09, 59/12 and 12/13 – consolidated text)
- Programme of Statistical Activities of the Republic of Croatia
- Annual Implementation Plan of Statistical Activities of the Republic of Croatia

- Classification system

- COICOP – Classification of Individual Consumption by Purpose
- COFOG – Classification of the Functions of Government
- CPA – Classification of Products by Activities
- COPNI – Classification of the Purposes of Non-Profit Institutions Serving Households

- Concepts and definitions

Statistical variables are price level indices (PLI) and volume indices. Price level indices are the ratios of PPPs to exchange rates. They measure the difference between prices among countries, indicating for a certain aggregation level or analytical category the number of units of the common currency necessary to purchase the same volume of the aggregation level or analytical category in each country. At the GDP level, they measure the difference between general price levels among countries. The volume index, also called the comparative price level index, is weighted by relative levels in the quantities of a particular set of goods and services between two countries. The quantities have to be homogenous, while the relative levels for various goods and services have to be weighted according to their economic importance measured by their value in a country or in another country or in both countries.

- Statistical units

Statistical unit is PPS (purchasing power standard), an artificial common currency used in the European Union to express the volume of economic aggregates for comparison, by eliminating the effect of price level differences across countries.

- Statistical population

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

1. Relevance

1.1. Data users

At the European level:

- European Commission
- International Monetary Fund (IMF)
- OECD
- United Nations
- World Bank.

At the national level:

- government agencies, faculties and research institutes, public and private enterprises, financial institutions, news agencies and individuals.

1.1.1. User needs

The European Commission applies PPPs when it allocates funds to Member States from structural funds. Structural funds were established to reduce economic disparities between Member States. The main indicator that determines whether a region can apply for structural funds is regional GDP per capita within the country, which is deflated by the application of PPP. The International Monetary Fund (IMF) applied PPP when deciding on the quota of its members. A country's quota, among other things, determines the financial resources that the country is obliged to pay to the IMF. International organisations, government agencies, universities and research institutes apply PPPs to enter economic research and policy analysis including macroeconomic aggregates among countries. Public enterprises apply PPPs when comparing prices and operating costs with those of similar public enterprises in other countries. Private companies that operate in different countries apply PPPs for the purposes of comparative analysis, which includes prices, sale, market shares and production costs. Banks apply PPPs in economic analyses and exchange rate monitoring. Individuals often refer to PPPs when negotiating about wages when transferring from one country into the other.

1.1.2. User satisfaction

User satisfaction is measured by the user satisfaction survey of the Croatian Bureau of Statistics. Two surveys were conducted so far (2013 and 2015). Detailed results of the Survey for 2015 are available on the website of the Croatian Bureau of Statistics under the section Quality at

http://www.dzs.hr/Hrv/international/Quality_Report/Quality_Report_Documents/Quality_Report_Satisfaction_Survey.pdf.

1.2. Completeness

The survey is conducted consistently according to the methodology of Eurostat and the OECD. The calculation methods and data sources that are applied in the survey are explained in detail in HR PPP Inventory.

1.2.1. Data completeness rate

Data completeness rate is 100%.

2. Accuracy and reliability

2.1. Sampling error

In the price validation process, Eurostat and the OECD apply Quaranta tables, which are reported by participating countries for consumer products, rents, government services and capital goods. Quaranta tables are designed to present the average prices that countries have reported to detect their possible errors and to assess the flexibility of PPPs they provide.

2.1.1. Sampling error indicators

The indicator for this survey is not applicable.

2.1.2. Bias in sample selection process

The indicator for this survey is not applicable.

2.2. Non-sampling error

In surveys on the prices of consumer goods, measurement errors may occur due to non-compliance with the strict product definition in the product sample, for example with respect to the package size or quality parameters. Although the validation process eliminates these errors by carefully comparing the prices of materials provided by each country and assessing their authenticity, some of them are difficult to identify, especially those related to quality. Similar issues may arise in other surveys as well, such as the annual survey on employee compensation in public sector. These issues stem from the heterogeneity of data sources across countries.

Although non-response from one particular statistical unit can usually be easily overcome by replacing that unit and usually has a very limited impact at the level of published categories, a particular problem arises where prices for a particular product are not available in one or more countries. In such cases, the relative price list is applied based on the prices in comparison with other countries. If a country does not report prices for any product from the major group (BHs), the gaps are usually filled in by applying PPPs of a similar or hierarchical main group.

2.2.1. Coverage error

The indicator for this survey is not applicable.

2.2.2. Over-coverage rate

The indicator for this survey is not applicable.

2.2.3. Measurement errors

All errors may be corrected in control phases.

2.2.4. Non-response errors

Data sets (prices) are collected according to the list determined in advance by Eurostat, according to a narrow product specification in order to enable the comparability of products and average prices among the countries participating in the project. If there are deviations from the geometric mean higher than 125 or lower than 80, there is a high possibility that it is a wrongly collected price or incorrectly entered quantity.

2.2.5. Unit non-response rate

Unweighted non-response rate is 0%.

2.2.6. Item non-response rate

The indicator for this survey is not applicable.

2.2.7. Processing errors

The accuracy of PPPs increases with the level of aggregation. It means that PPPs (and thus PLI, the index of actual expenditure and volume per capita) at the GDP level will be more reliable or more accurate than PPPs for the final household consumption or gross investment. Similarly, PPP for the final household consumption will be more reliable than PPP for the group Food and non-alcoholic beverages or Clothing and footwear, the latter two being sub-aggregates of the final household consumption.

The input data for the PPP compilation process come from several sources, in particular from special PPP price surveys and from national accounts. This makes it impossible to calculate any significant numerical error measure for PPPs. However, there is a general agreement that PPPs, PLIs and other indicators based on PPPs are not intended to establish a strict ranking of countries. The degree of uncertainty associated with basic data on prices and expenditure, as well as the methods used to compile PPPs can cause errors that affect country rankings, especially when countries are grouped into a very narrow range of outcomes. PPPs and PPP-based indicators thus provide an indicator of the relative order of the size of one country compared to other countries. As mentioned, this is at a lower level of aggregation than in the case of, for example, GDP or GDP per capita.

2.2.8. Imputation rate

Unweighted imputation rate for certain variables is 0.

2.2.9. Editing rate

The indicator for this survey is not applicable.

2.2.10. Hit rate

The indicator for this survey is not applicable.

2.2.11. Model assumption error

In surveys on the prices of consumer goods measurement errors may occur due to non-adherence to the strict product definition in the product sample, for example with regard to packaging sizes or quality parameters. Although the validation process aims to eliminate these errors by carefully comparing the prices of materials provided by each country and assessing their probability, some of these errors are difficult to identify, especially those related to quality. Similar issues may arise in other surveys as well, such as the annual survey on employee compensation in public sector. These issues stem from the heterogeneity of data sources across countries.

Although non-response from one particular statistical unit can usually be easily overcome by replacing that unit and usually has a very limited impact at the level of published categories, a particular problem arises where prices for a particular product are not available in one or more countries. In these cases, the price ratio refers to the basis of the price ratio for other products. If a country does not report prices for any product from the major group (BHs), the gaps are usually filled in by applying PPPs of a similar or hierarchical main group.

2.3. Data revision

2.3.1. Data revision – policy

After calculating the final PPPs for a given reference year, PPPs are no longer revised. However, in order to maintain the highest possible degree of compliance with national accounts, the entire time series of PPPs is moved to the latest aggregates of national accounts twice a year, in June and December, and the database is updated accordingly.

In December 2016, following the introduction of ESA 2010, the full time series of PPPs was revised.

2.3.2. Data revision – practice

Provisional data are not published in the survey; therefore, there are no data revisions.

2.3.3. Data revision – average size

The indicator for this survey is not applicable.

2.4. Seasonal adjustment

The indicator for this survey is not applicable.

3. Timeliness and punctuality

3.1. Timeliness

3.1.1. Time lag – first results

The indicator for this survey is not applicable.

3.1.2. Time lag – final results

The indicator for this survey is not applicable.

3.2. Punctuality

3.2.1. Punctuality – delivery and publication

Punctuality is 100.

4. Accessibility and clarity

All data included in the calculation of PPPs are available to the participating national statistical institutes, but only for validation purposes.

PPPs as calculated by Eurostat include the calculation of PPPs for OECD member states and OECD countries, as well as the calculation of global PPPs controlled by the World Bank and the IMF.

4.1. News release

Eurostat News Release Consumption per capita in purchasing power standards – published every year in December

Consumer Price Level – published every year in June.

First Release of the Croatian Bureau of Statistics “Gross Domestic Product and Actual Individual Consumption in Purchasing Power Standard”, published in December 2019 together with Eurostat’s News Release

4.2. Other publications

- AIC per capita expressed in PPS, twice a year
- PLIs for final household consumption expenditure, every year

Statistics Explained articles:

- Comparative price levels for food, beverages and tobacco
- Comparative price levels for investment
- Comparative price levels of consumer goods and services
- GDP per capita, consumption per capita and comparative price level indices.

Link to purchasing power parities: <http://ec.europa.eu/eurostat/web/purchasing-power-parities/statistics-illustrated>

4.3. Online database

On the website of the Croatian Bureau of Statistics www.dzs.hr (national accounts, annual GDP, GDP and AIC expressed in purchasing power standard)

4.4. Micro-data access

The conditions under which certain users can access microdata are regulated by the Ordinance on the Conditions and Manner of Using Confidential Statistical Data for Scientific Purposes.

4.5. Documentation on methodology

Studies and analyses: "Methodology for the Calculation of GDP Applying the Purchasing Power Parity", Croatian Bureau of Statistics, 1999

5. Comparability

5.1. Asymmetry for mirror flows statistics

The indicator for this survey is not applicable.

5.2. Comparability over time

5.2.1. Length of comparable time series

Length of comparable time series is 100.

5.2.2. Reasons for break in time series

There is no break in time series.

6. Coherence

6.1. Coherence – short-term and structural data

Coherence – short-term and structural data is 100%.

6.2. Coherence – national accounts

Coherence – national accounts is 100%.

6.3. Coherence – administrative sources

Coherence with data from administrative sources is 100%.

7. Cost and burden

7.1. Cost

All costs are planned in detail for each activity within the grant.

7.2. Burden

Since most national statistical institutes hire price collectors to obtain price data, and most of the other necessary input data are extracted from existing sources in national statistical institutes, there is no additional response burden on companies.