



**MONTENEGRO  
STATISTICAL OFFICE**

IV Proleterske 2, 81000 Podgorica

Tel: +382 (0) 20 230 811

Fax: +382 (0) 20 230 814

E-mail: [contact@monstat.org](mailto:contact@monstat.org)

**QUALITY REPORT 2017**

**Consumer Price Index (CPI)**

**Responsible person:** Miroslav Pejović

**Department:** Price Statistics

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

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

Consumer Price Index (CPI) is defined as a measure of the average change of prices of a fixed basket of goods and services, which is purchased by households and which aims to satisfy the household's needs. CPI measures a change over time in price level, and it is calculated as a Laspeyres-type price index, based on the retail prices of goods and services available for purchase in the economic territory of Montenegro. The aim of the CPI survey is to calculate inflation as one of the most important macroeconomic indicators. Also, it can be used: for correction of salaries, pensions, social benefits, as well as deflator in national accounts.

### **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.

### **1.3 Statistical units**

Each published index or rate of change refers to the final household monetary consumption within the economic territory of Montenegro. Reporting units covers all types of retail shops (stores of all types and sizes, green markets, craft workshops, public service companies, catering, sports and cultural-educational facilities and the like) which have the highest turnover. The observation units are retail prices of final consumption products and services, which have a significant share in the total consumption of the average consumer. These products and services make the "basket" of goods and services, which includes mainly products and services, whose share in total consumption of the population exceeds 0.1%.

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

#### ***1.4.1 Sectors***

CPI covers the household sector, more precisely the goods and services that are acquired by households.

#### ***1.4.2 Statistical population***

The target statistical population is the final household monetary consumption within the economic territory of Montenegro. CPI aims to cover the whole set of goods and services purchased by households. Consumption of all private households permanently residing in Montenegro is covered. Neither consumption of the collective households, nor non-resident consumption is covered (national concept).

### **1.5 Referent geographical area**

CPI covers the whole territory of Montenegro. Prices are collected in five locations (municipalities) throughout the country sampled on the basis of the size of population and the representativeness for the major trade centers.

### **1.6 Concepts and definitions**

*The Consumer Price Index (CPI)* is an indicator of the average change in prices for all products and services used by households for consumption purposes. The Consumer Price Index serves as the official measure of inflation in Montenegro.

*Elementary aggregates* represent products at the lowest level of aggregation i.e. products in all sales facilities in one geographical location.

*The monthly inflation rate (m/m-1)* measures the change in the average prices of the current month compared to the average prices in the previous month.

*The annual inflation rate (m/m-12)* measures the change in the average prices of the current month compared to the average prices in the same month of the previous year.

*The cumulative index (rate of change)* measures the change in the average prices of the current month compared to the average prices in December of the previous year.

*The base index (rate of change)* measures the average price change in the current month compared to the average of the base year.

*The average annual index (rate of change)* measures changes in average prices from the beginning of the year to the current month compared to the same period of the previous year (e.g. Jan-May 17/Jan-May 16).

*The weights* used for calculation of the consumer price index represent a relative share of the selected goods and services in the total household's consumption, in domestic territory. More precisely, they represent the "importance" of a particular product group in total household's consumption in a specific reference period.

## **1.7 Classifications**

For the calculation of consumer price indices, European Classification of Individual Consumption by Purpose (ECOICOP 5 digit) is used.

## **1.8 Frequency of data collection**

For the purposes of calculation of the consumer price index, prices are collected once a month in the period from the 3<sup>rd</sup> to 25<sup>th</sup> of the month, except for the prices of fuel which are collected on a daily basis.

## **1.9 Frequency of data dissemination**

Monthly.

## **1.10 Methodology**

<http://www.monstat.org/cg/page.php?id=26&pageid=26>

## **1.11 Base period**

The index reference period is 2015=100.

## **1.12 Unit of measure**

The following units are used:

- Index (actually unitless, i.e. it is the ratio of the price of the basket in a given year to the price in the base year multiplied by 100);
- Percentage change on the same period of the previous year (rates);
- Percentage change on the previous period (rates);
- Percentage share of the total (weights).

## **1.13 Source of data**

Prices are collected on a monthly basis for selected goods and services in 5 municipalities: Podgorica, Nikšić, Bijelo Polje, Bar, Budva, which represent the biggest market centers. Price collectors, who are part-time employees, trained by MONSTAT, visit the shops every month according to a defined plan for price collecting and collect the prices referring to the representative list of goods and services. Depending on the type of goods or services, some prices are collected in a centralized manner by Price Department, by phone or via the Internet.

Prices are collected for about 576 major goods and services, representing the main divisions of the COICOP classification. Sale of products with reduced prices (price tracker or sales) is considered if discounted prices are available to all consumers without conditions, and if, in the month in which prices are recorded, there are significant sales of products with reduced prices.

Criteria for selection the number and type of shops in one city are: type of product or service for which prices are collected; number of inhabitants; turnover; similarity of prices for the same product in different stores; continuous supply of goods within commodity; consumer habits; location.

The number of inhabitants and types of products are the basic criteria for selection the number of shops by cities. Due to the constant presence in the field and facing the real situation, price collectors are those who, in cooperation with the Department of Price Statistics, will make the final decision regarding the shop selection. The shops are updated every year.

Product selection: The list of products for which prices are collected is unique for the whole of Montenegro. The final list of products and services is determined by the Statistical Office or the Department of Price Statistics after consultation with the price collectors till the end of November at the latest. The price collector selects a product that fits the description of the product from the list of products. If there are several different products in the store that correspond to the description, the one that is most sold for a long period of time is chosen. Therefore, it is very important to consult the seller regarding product selection. Once the product is selected, it does not change throughout the year, except in exceptional cases when the product disappears from the market.

## 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:

<http://www.monstat.org/userfiles/file/KVALITET/Izvjestaj%20o%20zadovoljstvu%20korisnika%20eng.pdf>

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

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

The accuracy of CPI is generally considered to be high. The accuracy of source data is monitored by assessing the methodological soundness of price and weight sources and the adherence to the methodological recommendations.

There is a variety of data sources both for weights (National Account data, Household Budget Survey data, etc.) and prices (visits to local retailers and service providers and central collection via mail, telephone, e-mail and the internet are used). The type of survey and the price collection methods ensure sufficient coverage and timeliness. The outlets, from which prices are collected, are chosen to represent the existing trade and services network and they are based usually on three main criteria: turnover, representativeness and coverage of availability of goods and services included in CPI's basket. Prices are collected in outlets, craftsmen, supermarkets, markets, etc., in 5 municipalities in the country (the biggest market centers), some of them also via the internet and by phone. They reflect the price situation for the whole country. Weights are based on the data from HBS on the structure of household final consumption expenditure. Private households are included irrespective of their income. The national concept is in force.

#### **3.2 Sampling error**

The survey is not based on a random sample, so we cannot use the "classic" approaches to assess the sampling error. The methodology for calculating the precision of consumer price indices is not yet completely developed because of the complexity of sample design. MONSTAT put efforts to reduce the sampling error by using the sample of consumer prices that is as large as possible, given resource constraints, models that optimize the allocation of resources by indicating the number of prices that should be observed in each municipality and each item category, in order to minimize the variance of the all items index.

*Indicators of sampling error (A1)*

Not available.

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

The sample defined for collecting consumer prices is not random, but chosen with a purpose of satisfying specific objectives. The basic principle of sample selection has been adopted with the aim of ensuring representativeness of consumer behavior in terms of the coverage of the most frequently purchased products, the most frequently visited outlets and the best-selling products. For the CPIs non-sampling errors are not quantified. MONSTAT puts efforts to reduce non-sampling errors through continuous methodological improvements and survey process improvements such as computer assisted price collection, which can help avoiding coding and typing errors.

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

Considering that a purposive sample is in force, coverage errors are not possible.

*Indicators of coverage error (A2)*

Not relevant.

##### **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 before calculating the average prices and consumer price indices, so subsequent revisions were not carried out.

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

#### *Unit non-response rate (A4)*

Retail prices of selected representative products and services used to calculate the CPI and the HICP are monitored at selected outlets (e.g. shops, markets, craftsmen and other organizations). At the points of sale which were selected in the sample at the beginning of the year, prices should be obtained every month, because the number of sales locations during the year should not be changed. Therefore, each month we have 0% non-response of units.

### **3.4 Seasonal adjustment**

The CPI data are not seasonally adjusted.

### **3.5 Data revision**

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

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

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

The data are published as final, and are not subjected to any revision (unless an error or mistake is found), a fact which is noted in the publications. Major changes in the methodology (classification changes, index reference period, etc.) are announced in the frame of monthly release "Consumer price Index" at the time the change is introduced.

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

Data for 2016 were revised due to the recalculation of data series from 2010 to the new index reference period (2015 = 100) and harmonization with the European Classification of Individual Consumption by Purpose (ECOICOP). The total consumer price index for 2016 (average annual index) after revision was -0.3%, while before it was -0.2%.

## **4. Timeliness and punctuality**

### **4.1 Timeliness**

Data are published according to the Statistical Release Calendar (two weeks after the end of the reference month, exception for January).

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

Provisional data are final data, so the timeliness of final results is the same as the timeliness of the first results.

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

15-20 days.

### **4.2 Punctuality**

CPI data are published in accordance with the Statistical Release Calendar for 2017, except in the case of the January release, which was published on February 27, 2017 (announced on February 17, 2017). The reason for delay was changing of the index reference period (2015 = 100).

## **5. Availability and clarity**

### **5.1 Release**

CPI data are published monthly according the Statistical Release Calendar and are available at the following link:

[Releases](#)

## 5.2 Publication

Statistical Office publishes the following regular publications:

- Monthly Statistical Review;
- Statistical Yearbook;
- Montenegro in Numbers.

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 keeps a separate records on users and purpose of using the statistical data given to these users.

## 6. Comparability

### 6.1 Comparability - geographical

Despite the differences between country methodologies, the CPI is also an internationally recognized inflation measure, but is largely used for national purposes. In the case of the Montenegrin CPI, the most important requirements of the European Commission regulations which are in force in the case of the HICP, have been largely implemented.

### 6.2 Comparability - over time

CPI data are available since 2009 on the MONSTAT's website, within section [Data](#). From 2001 to 2008 data for RPI (Retail Price Index) and COLI (Cost of Living Index) are available. These two indices (RPI, COLI) have been replaced by CPI from January 2009, which represent official measure of inflation in Montenegro. CPI data are comparable from 2009 onwards, while for the previous years CPI is comparable with RPI/COLI only on the total level.