

# Consumer Price Index

Metadata

National Bureau of Statistics of the Republic of Moldova (NBS)

## 1. Contact Information

### 1.1. Responsible subdivision within NBS

Price Statistics Division

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## 2. Metadata Update

### 2.1. Last certification of metadata

14.02.2018

### 2.2. Last update of metadata

14.02.2018

## 3. Statistical Presentation

### 3.1. General description

**Consumer Price Index (CPI)** is meant to measure the changes in dynamics of the overall level of prices for products and services purchased for consumption by the households from the country. CPI is a monthly indicator, calculated only for the elements from population direct consumption, excluding the following: consumption of goods and services from household's own production, expenses for investments and accumulations, interest rates for credits, insurance rates, fines, taxes, etc., as well as the expenses related to labor remuneration for households' (agricultural) production. CPI measures the general changing trend of the consumer prices over the time.

**Methodology for CPI calculation** complies with the recommendations of the international organizations, especially those set forth in the Manual on Consumer Price Index, **developed** by the International Labor Organization (ILO), International Monetary Fund (IMF), Organization for Economic Cooperation and Development (OECD), World Bank (WB).

The CPI is developed by the NBS based on the sampling surveys on: i) variation of consumer prices for the main goods and services (developed monthly) and ii) households' budgets survey, which provides necessary data for calculation of weights of population expenditures by groups of goods and services, supplemented with national accounts data.

**CPI calculation** is carried out based on the households' budgets structure and prices registered on monthly basis for 1200 representative goods and services in 900 outlets located in 8 cities of the country.

Starting with 2008, the development and dissemination of the CPI is performed in line with the COICOP classification of the ECC/EUROSTAT/OECD, structured by 12 detailed divisions broken down in 39 groups and 93 classes of goods and services. At the same time, the traditional presentation and use of the data grouped by food products, non-food products, and services is used.

The statistical data on CPI characterize the general evolution of the prices for purchased goods and of the tariffs for the services used by population, offering the users information about the inflation processes in the country, which are necessary for developing, monitoring and assessing the implementation of

economic, monetary, and social policies.

## 3.2. Concepts and definitions

### 3.2.1. Definitions

**Consumer Price Index** is an estimative indicator, which characterizes the general trends of the prices for purchased goods and the tariffs for services used by the population, in order to satisfy their needs over a certain period of time (current period) in comparison to a fixed period (base period).

**Monthly inflation rate** represents the increase in consumer prices in one month as against the previous month.

**Monthly average inflation rate** expresses the average of monthly price increases. It is calculated as a geometrical mean of the monthly consumer price indices with a chain base from which the comparison basis equal to 100 is subtracted.

**Yearly average inflation rate** represents the average increase in consumer prices in one year as against the previous year.

This rate is calculated as a ratio, expressed in percentages, between the average price index of one year and that of the previous year, from which 100 is subtracted. At their turn, the average price indices of these two years are determined as simple arithmetic means of the monthly indices from each year, calculated as against the same base.

**Yearly inflation rate** represents the increase in consumer prices in one month of the current year, as against the same month of the previous year. It is calculated as a ratio, expressed in percentages, between the price index of one month of the current year and the price index of the corresponding month of the previous year, calculated as against the same basis, from which 100 is subtracted.

**Inflation rate at the end of the year** represents the consumer price increase in December of one year as against the same month of the previous year.

The inflation rate is calculated based on the product of the monthly indices with a chain base in relation to 100. This product is expressed in percentage, and 100 is subtracted from it.

### 3.2.2. Unit of measurement

Data on price variation are presented in percentage (%).

### 3.2.3. Computation formula

**CPI is calculated as a Laspeyres type index with a fixed base**

General formula for calculating the index:

$$L_{t0} = \sum I_{t0} \left( \frac{p_0 q_0}{\sum p_0 q_0} \right)$$

$L_{t0}$  = aggregated consumer price index in the current month (1) of the current year as against the reference period;

$I_{t0}$  = indices of the current month as against the average of the base period by aggregation stages;

$\frac{p_0 q_0}{\sum p_0 q_0}$  = weights related to the aggregation stages (relative importance of expenses per household in the previous year).

Simple price indices.

Calculation of price indices by variety of product – service:

$$i_{vi} = \frac{p_l^{vi}}{p_0^{vi}} * 100$$

$p_l^{vi}$  = variety price registered in the current month (1);

$\overline{p_0^{vi}}$  = average of the base period for variety prices from the base period.

Formula of calculation:

$$I_{vi} = 100 * (MG^4_{anulU, lunaW, grupaT}) / (MG^4_{anulU, lunaW, grupaT});$$

$MG^4$  = geometrical mean of prices in the country for every group of products in the current month.

Aggregated indices at the expenses position level:

$$I_{l/12}^P = \sum I_{l/12}^{S_i} \frac{W_0^{S_i}}{\sum W_0^{S_i}}$$

$W_0^{S_i}$  = share (relative importance) of the assortment  $S_i$  in total of consumption expenses in 2007

$\sum W_0^{S_i}$  = sum of assortment shares in the expenses position for which prices were registered during the current month.

### 3.3. Used classifications

COICOP classification is used (Classification of Individual Consumption by Purpose) agreed by EEC/EUROSTAT/OECD.

### 3.4. Scope

#### 3.4.1. Sector coverage

The statistical survey on consumer price evolution covers the retail prices on the internal market collected within the survey centers for food and non-food products and services provided to population.

#### 3.4.2. Statistical population

The statistical survey on consumer price evolution covers the retail trade units for food and non-food products and those providing services for population for their own consumption.

The Household Budget Survey covers the households of the Republic of Moldova resident population (except for those who live in such institutions as prisons, asylums for elderly people, and students' hostels).

#### 3.4.3. Geographical coverage

Information is developed and disseminated without covering the data of the enterprises and organizations from the left side of the River Nistru and Bender municipality.

#### 3.4.4. Time coverage

Time series are available starting with 1991.

### 3.5. Disaggregation level

Resulting data are also disaggregated by the following major groups:

Food products

Non-food products

Services

Beginning with January 2015 CPI is disaggregated by 12 COICOP groups.

### 3.6. Dissemination periodicity

Monthly

<b>3.7. Timeliness</b>
The 12 <sup>th</sup> day after the reference month.
<b>3.8. Revision</b>
<p>Monthly and annual data are final at first dissemination.</p> <p>Annually the expenditures weights of are updated. Beginning with 2016 CPI expenditure weights are estimated using a geometric mean of the households' expenditures according Household Budget Survey (HBS) and data regarding final consumption of households at the 4 digit COICOP level from National accounts for t-2 year.</p> <p>The transition to new weighting coefficients is carried out at the beginning of each year when compiling CPI for January.</p>
<b>3.9. Period of reference</b>
The previous month, December of the previous year, the respective month of the previous year, the corresponding period of the previous year.

<b>4. Data Collection and Processing</b>
<b>4.1. Data source</b>
<b>4.1.1. Statistical surveys</b>
<p>Collection of data regarding the changes of retail prices for representative goods and services is performed by specialized statistical personnel (22 registering persons), in line with the groups of goods and services. Data are collected in 8 survey centers in the Republic of Moldova.</p> <p>Registration period: data are collected on monthly basis.</p>
<b>4.1.2. Administrative sources</b>
Not used.
<b>4.1.3. Estimations</b>
Fictive prices are applied for seasonal goods and for the goods and services which have temporarily disappeared from the market.
<b>4.2. Characteristics of the statistical survey</b>
<b>4.2.1. Objective and background</b>
<p>The main objective: to follow the prices' change trend over the time, using concrete methods for collecting and registering prices, for the exact calculation of the consumer price index.</p> <p>In the Republic of Moldova, the CPI is developed and calculated just as in the majority of other countries. Since 2004, the CPI in Moldova has been revised deeply by the International Monetary Fund (IMF). According to the bilateral collaboration program NBS – Norway Statistical Office (consultative and financial support), in 2007, a new complex of programs for entering, transmitting, and processing the primary information on prices for calculating the CPI was developed. With the World Bank financial support in 2012 PC Archos Tablets were purchased. In 2013, a new software for recording and sending primary data was developed.</p> <p>According to IMF recommendations, and to the fact that household expenditures are calculated by 4 statistical regions (North, Centre, South and mun. Chisinau), beginning with the January 2016, CPI is calculated at regional level. CPI is only disseminated at national level.</p>
<b>4.2.2. Statistical unit</b>
The observation unit is the consumption product (service) included in the survey.
<b>4.2.3. Circle of units covered in the survey</b>
<p>The statistical survey on consumer prices includes the following samples:</p> <p><i>Number of localities covered in the survey</i> – set by observing the representativeness restrictions according to the number of inhabitants and volume of sales of goods and services rendered. It comprises 8 localities from urban area: Chisinau municipality, Balti municipality, Cahul, Comrat, Edineț, Orhei,</p>

Soroca, and Ungheni towns. These represent not only the localities in which about 60% of the country population live, but also these are the localities in which a large share of procurement of goods and services is performed, from value point of view.

**Number of observation units** – includes shops and units rendering services to the population from the survey centers. Selection is based on the necessity of ensuring representativeness from the volume of sales of goods and services rendered standpoint, by each group, so as to cover the whole nomenclature of representative products and services. The sample covers about 900 units, of which almost 85% are in private ownership.

**Sample of goods and services** – covers the assortments having significant weight in population consumption. The used nomenclature is structured on three levels of aggregation: groups, positions, and assortments:

- the group of food products covers 96 positions with 393 assortments
- the group of non-food products covers 159 positions and 666 assortments
- the groups of services covers 57 positions with 191 assortments.

The assortments are individualized in the field through varieties of goods and services.

The sources of weights for the **population expenditures** for the groups included in the survey are Household Budget Survey (HBS) and National Accounts. HBS registers every month the detail expenses of 500 households from the Republic of Moldova. HBS covers only the households, such institutions as penitentiaries, asylums for elderly people, and students' hostels are not included in the weights, which are calculated from the HBS. The households in which foreigners with temporary resident permits on the territory of the Republic of Moldova live also are excluded.

More than 6000 households participate during the year in the sampling survey, representing 100% of country population.

#### 4.2.4. Survey periodicity

Monthly

#### 4.2.5. Data collection

Type of survey: sampling.

Period of registration: prices are registered during the whole month. The agenda of daily registration has two parts for all the food products (data are presented twice per month), while for the non-food products and services prices are registered during the whole month and are sent to the central office at the end of the month.

Method of registration: the registration is performed by 22 interviewers who personally visit the trade units or the service providers, visually studying the products-service (quality, size, etc.,) and the assortments are individualized in the field through varieties of goods and services.

Survey toolkit: the price is fixed using PC Archos Tablets. The primary registered information is sent to NBS on electronic support for analysis and subsequent computation.

### 4.3. Data processing and compilation

#### 4.3.1. Data validation

Data are verified and analyzed from quality point of view, especially the internal coherence and coherence with other data.

#### 4.3.2. Compilation/extrapolation of data

Not applicable.

#### 4.3.3. Adjustments

Application of seasonal adjustments.

#### 4.3.4. Quality assurance

The quality of statistical data is assured by observing the fundamental principles of official statistics

approved by the UN Economic Commission for Europe in 1992 (and Statistical Commission/UN in 1994), as well as those set forth in the Republic of Moldova Law on Official Statistics.

In its activity of producing statistical information, NBS pays huge importance to ensuring high quality of data. In this respect, a number of measures for quality assurance are carried out at every stage of the statistical process: organization of statistical surveys, collection, processing, and development of statistical information.

Important efforts are undertaken to ensure the plenitude and quality of data presentation by the respondents included in the statistical surveys.

Errors, inconsistencies, and suspicious data are brought to light so as to be verified and corrected.

The primary data are verified and analyzed from internal coherence point of view (within the questionnaire), temporal coherence (with data from previous periods), with data of other similar units, as well as with data available from other statistical surveys and administrative data sources. The missing or inconsistent data are imputed, if needed.

To ensure the quality of the primary data, meetings (seminars) are organized with respondents for explaining the definitions, the correct way to fill in the questionnaires, especially when they are modified or implemented, and the way to use a PC Archos Tablet.

#### **4.4. Data accuracy**

##### **4.4.1. Non-response rate**

Not applicable

##### **4.4.2. Sampling errors**

Not applicable

## **5. Comparability and Coherence**

### **5.1. International comparability**

CPI in the Republic of Moldova complies with the international standards, especially with the Manual on Consumer Price Index published by ILO (2003).

### **5.2. Comparability over the time**

Comparability over the time is ensured

### **5.3. Coherence with other statistics**

#### ***Coherence with data from the Household Budget Survey (HBS):***

The Household Budget Survey is the source of weights for the expenses made by the population for groups of products. The sample survey is probabilistic, representative at country level, areas of residence and statistical regions: North, Centre, South and mun. Chisinau. Monthly, for HBS a sample of 500 households is used, of which 44,3% from urban area and 55,7% from rural. During one year about 6000 households participate in the sampling survey.

This sample is used to make an estimation of the total expenses of the households from the Republic of Moldova for about 300 groups of products – services during the entire year.

Hence, starting with January 2014, for the CPI calculation, there are used weights resulting from the structure of the average expenses made by households in year 't-2' adjusted to the structure of expenditure from National Accounts. These estimations are used to calculate annually the relative shares of expenses for every group of products, thus offering the weights for the groups of products and services from the CPI structure.

HBS covers only population households from the Republic of Moldova; such institutions as penitentiaries, asylums for elderly people, and students' hostels are not included in the weights which are calculated based on HBS. The households in which foreigners with temporary resident permits on the territory of the Republic of Moldova live also are excluded.



## 6. Institutional Mandate (normative-legal basis)

The NBS activity is based on respecting the Republic of Moldova Constitution, the Law on Official Statistics No. 93 dated 26.05.2017, other legislative and normative acts, NBS management decisions and orders.

The Law on Official Statistics regulates the organization and operation of the unique system of official statistics, establishing the general principles for collecting, processing, centralizing, diminishing, and stocking statistical information (art.1).

Art. 5 of the Law provides that the production of statistical information is based on respecting the following principles: impartiality, objectiveness, relevance, transparency, confidentiality, cost-efficiency etc.

Being the central statistical body, the National Bureau of Statistics is an administrative authority created under the Government for leading and coordinating the activity in the statistics area.

In line with the Government Decision No. 1034 dated 29.12.11 on approval of the NBS Regulation and the Nominal Composition of the NBS Collegium, the National Bureau of Statistics:

- develops alone or jointly with other central administrative authorities and approves the methodologies for statistical surveys, as well as the methodologies for calculating statistical indicators, in line with the international standards, especially the EU standards, and with the advanced practice of other countries, and taking into account the peculiarities of the social-economic conditions of the Republic of Moldova;
- organizes, in line with the Program of Statistical Work, approved annually by the Government, statistics surveys regarding the economic, social, and demographic situation and development of the country, carrying out collection, processing, centralization, stocking, and dissemination of statistical data;

The legislative and normative acts ruling the activity of the NBS are available on its official page [www.statistica.md](http://www.statistica.md) , under About NBS (<http://www.statistica.md/pageview.php?l=en&idc=323&> )

## 7. Confidentiality

### 7.1. Principles

According to art. 19 of the Law on Official Statistics No. 93 dated 26.05.2017, producers of official statistics shall take all regulatory, administrative, technical and organizational measures to protect confidential data and prevent their disclosure.

Chapter VII of the above-mentioned law stipulates that the data collected, processed and stored for the production of statistical information are confidential if they allow the direct or indirect identification of the respondents. ) The following shall not be considered confidential:

- a) data that can be obtained from publicly accessible sources according to the legislation;
- b) individual data on address, telephone, name, type of activity, number of employees of legal entities and individual entrepreneurs;
- c) data referring to public enterprises, institutions and organizations funded from the budget, submitted at the request of the public administration authorities.

According to the Law on Official Statistics, art. 20, access to confidential information is granted to the persons who, according to their official functions, participate in the production of statistical information shall have access to individual data in so far as individual data are necessary for producing this information.

The same article stipulates that the access to individual data, which do not allow the direct identification of respondents, may be given for scientific survey projects, whose expected results do not refer to identifiable individual units, under the regulation approved by the central statistical authority.

Art. 23 (5) of the Law stipulates that the the statistical information cannot be disseminated to users if it refers to 1-3 statistical units.

## 7.2. Practical assurance of the confidentiality rules

To ensure the protection of confidential statistical data in compliance with the Law on Official Statistics No. 93 dated 26.05.2017, the National Bureau of Statistics undertakes all the regulatory, administrative, technical, and organizational measures to protect the confidential statistical information and prevent its disclosure.

In compliance with the above-mentioned law, the employees of producers of official statistics, including temporary employees who, according to their official functions, have direct access to individual data shall be obliged to observe the confidentiality of these data during and after termination of employment.

Before being disseminated, the statistical data are verified if they meet the protection requirements set for confidential data. If the statistical data contain confidential information (see p. 7.1), they are not disseminated, but aggregated at the minimum available level which ensures the protection of data confidentiality.

## 8. Access to Information and Dissemination Format

### 8.1. Access to information

#### 8.1.1. Calendar of statistical publications

Annually the Advance release calendar is developed by NBS.

#### 8.1.2. Access to the calendar of statistical publications

The press release calendar is posted on the NBS official page [www.statistica.md](http://www.statistica.md).

#### 8.1.3. Access to statistical data

According to the Law on Official Statistics No. 93 dated 26.05.2017, art. 23:

- a) Producers of official statistics shall be obliged to disseminate the statistical information within the deadlines specified in the programme of statistical works and in the press-release calendar.
- b) The dissemination of statistical information laid down in the programme of statistical works to all categories of users shall be made free of charge and under equal access conditions in terms of volume, quality and time of dissemination

The program of statistical work may be accessed on the web page [www.statistica.md](http://www.statistica.md), under About NBS / legislative and normative acts (<http://www.statistica.md/pageview.php?l=en&idc=323&>)

The NBS web page [www.statistica.md](http://www.statistica.md) represents the most important information source for ensuring users' access to different statistical information and transparency about the NBS activity.

All the operative information, informative notes, time series, as well as the statistical publications developed by NBS are placed on its official web page.

### 8.2. Dissemination format

#### 8.2.1. Operative information / Analytical notes

The operative information and analytical notes are published on the official page of NBS: <http://www.statistica.md> under Press Releases, according to the Press Release Calendar.

#### 8.2.2. Publications

Specialized statistical compilation on hardcopies, on the web page, and CD-ROM:

“Statistical Yearbook of the Republic of Moldova”

”Territorial statistics”

Statistical pocket-book “Moldova in figures”

“Prices in the Republic of Moldova” (*last edition – 2011*)

Access to publications:

- in electronic format, on NBS official page [www.statistica.md](http://www.statistica.md), under Products and services / Publications <http://www.statistica.md/pageview.php?l=en&idc=350&nod=1&> )
- in hardcopy format – in NBS library (more details at the address <http://www.statistica.md/libview.php?l=en&idc=340&id=2400> )



<ul style="list-style-type: none"> <li>- or may be procured at the NBS office (more details at the address <a href="http://www.statistica.md">www.statistica.md</a>, under Publications <a href="http://www.statistica.md/pageview.php?l=en&amp;idc=350&amp;id=2219">http://www.statistica.md/pageview.php?l=en&amp;idc=350&amp;id=2219</a> )</li> </ul>
<b>8.2.3. Databases/time series</b>
<ul style="list-style-type: none"> <li>• The official page of NBS: <a href="http://www.statistica.md">http://www.statistica.md</a> under Statistics by themes / Prices / Consumer Price Index <a href="http://www.statistica.md/pageview.php?l=en&amp;idc=335&amp;id=2344">http://www.statistica.md/pageview.php?l=en&amp;idc=335&amp;id=2344</a></li> <li>• <b>Statistical databank</b> <a href="http://statbank.statistica.md">http://statbank.statistica.md</a> , under Statistics by themes / Prices / Consumer Prices Index.</li> </ul>
<b>8.2.4. Questionnaires/data sent upon request from international organizations</b>
Questionnaires with data are sent to Eurostat, IMF
<b>8.2.5. Requests for additional data</b>
NBS makes available for users additional statistical information beyond the data presented in the statistical publications, informative notes, operative information, as well as the data placed on the official web page in the limits of available information, in line with the Law on Official Statistics. Request can be sent personally, by post, by e-mail or via online web form – <a href="http://www.statistica.md">www.statistica.md</a> heading Products and services / Statistical data request <a href="http://www.statistica.md/solicitare_informatii_statistice.php?l=en">http://www.statistica.md/solicitare_informatii_statistice.php?l=en</a>

<b>9. Useful References (links)</b>	
<b>9.1. Accessibility of documentation on methodology</b>	
The methodology is available on the official page <a href="http://www.statistica.md">www.statistica.md</a> , under Metadata ( <a href="http://www.statistica.md/pageview.php?l=en&amp;idc=351&amp;nod=1&amp;">http://www.statistica.md/pageview.php?l=en&amp;idc=351&amp;nod=1&amp;</a> ).	
<b>9.2. Accessibility of documentation on Evaluation Reports</b>	
The NBS assessment reports are available on the official page <a href="http://www.statistica.md">www.statistica.md</a> , under About NBS / Assessments and Opinions on NBS / Assessment Reports ( <a href="http://www.statistica.md/pageview.php?l=en&amp;idc=399&amp;id=2739">http://www.statistica.md/pageview.php?l=en&amp;idc=399&amp;id=2739</a> ).	
<b>9.3. Accessibility of information on user surveys</b>	
User surveys are available on the official page <a href="http://www.statistica.md">www.statistica.md</a> , under About NBS / Assessments and Opinions on NBS / User Surveys ( <a href="http://www.statistica.md/pageview.php?l=en&amp;idc=399&amp;id=2740">http://www.statistica.md/pageview.php?l=en&amp;idc=399&amp;id=2740</a> ).	
<b>9.4. Other useful references</b>	
IMF Special Data Dissemination Standard (SDDS)	<a href="http://www.statistica.md/SDDS/?lang=en">http://www.statistica.md/SDDS/?lang=en</a>
EUROSTAT database	<a href="http://ec.europa.eu/eurostat/data/database">http://ec.europa.eu/eurostat/data/database</a>
UNData database	<a href="http://data.un.org/Browse.aspx">http://data.un.org/Browse.aspx</a>
UN Economic Commission for Europe database	<a href="http://w3.unece.org/pxweb/Dialog/">http://w3.unece.org/pxweb/Dialog/</a>