

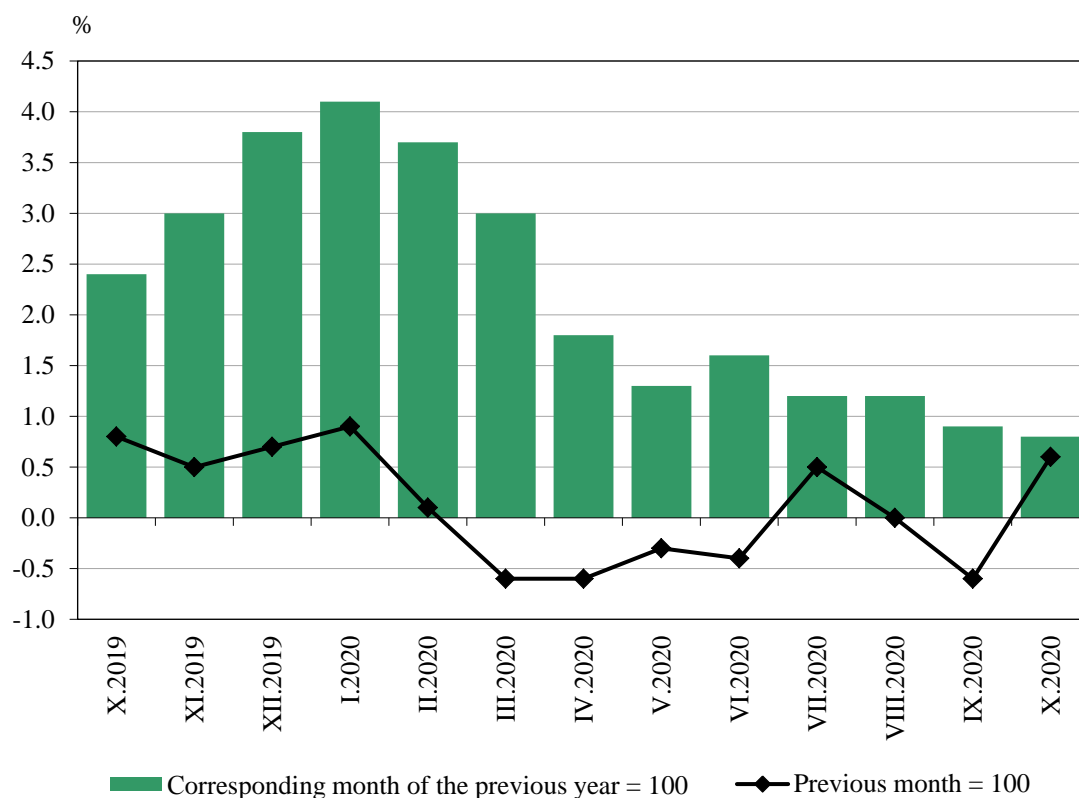
## INFLATION AND CONSUMER PRICE INDICES IN OCTOBER 2020

### Consumer price index (CPI)

The **consumer price index** in October 2020 compared to September 2020 was 100.6%, i.e. the monthly inflation was 0.6%. The inflation rate since the beginning of the year (October 2020 compared to December 2019) has been -0.5% and the annual inflation in October 2020 compared to October 2019 was 0.8% (Figure 1 and Annex, Table 1).

The annual average inflation, measured by CPI, in the last 12 months (November 2019 - October 2020) compared to the previous 12 months (November 2018 - October 2019) was 2.2%.

**Figure 1. Inflation measured by CPI by months**



In October 2020 compared to the previous month the prices of goods and services in the main consumer groups changed as follows:

- Food and non-alcoholic beverages - an increase of 0.1%;
- Alcoholic beverages and tobacco - an increase of 0.1%;
- Clothing and footwear - an increase of 8.1%;
- Housing, water, electricity, gas and other fuels - an increase of 0.1%;
- Furnishings, household equipment and routine maintenance of the house - an increase of 0.1%;
- Health - an increase of 0.1%;

- Transport - a decrease of 0.6%;
- Communications - a decrease of 0.2%;
- Recreation and culture - an increase of 6.0%;
- Education - an increase of 0.7%;
- Restaurants and hotels - the prices remained at the level of the previous month;
- Miscellaneous goods and service - an increase of 0.1%.

### Harmonized index of consumer prices (HICP)

The **harmonized index of consumer prices** in October 2020 compared to September 2020 was 100.2%, i.e. the monthly inflation was 0.2%. The inflation rate since the beginning of the year (October 2020 compared to December 2019) has been -0.5% and the annual inflation in October 2020 compared to October 2019 was 0.6% (Annex, Table 2).

The annual average inflation, measured by HICP, in the last 12 months (November 2019 - October 2020) compared to the previous 12 months (November 2018 - October 2019) was 1.6%.

In terms of HICP, in October 2020 compared to the previous month the prices of goods and services in the main consumer groups changed as follows:

- Food and non-alcoholic beverages - an increase of 0.1%;
- Alcoholic beverages and tobacco - an increase of 0.2%;
- Clothing and footwear - an increase of 7.0%;
- Housing, water, electricity, gas and other fuels - an increase of 0.1%;
- Furnishings, household equipment and routine maintenance of the house - an increase of 0.1%;
- Health - an increase of 0.1%;
- Transport - a decrease of 1.7%;
- Communications - a decrease of 0.2%;
- Recreation and culture - an increase of 2.5%;
- Education - an increase of 1.0%;
- Restaurants and hotels - a decrease of 0.9%;
- Miscellaneous goods and service - an increase of 0.2%.

### Price index of a small basket (PISB)

The **price index of a small basket** in October 2020 compared to September 2020 was 100.5% and the overall increase since the beginning of the year (October 2020 compared to December 2019) has been 101.8% (Annex, Table 3).

In October 2020 compared to the previous month the prices of goods and services in the small basket for the 20% households with the lowest income changed as follows:

- Food products - an increase of 0.4%;
- Non-food products - an increase of 0.9%;
- Services - the prices remained at the level of the previous month.

## Methodological notes

The **consumer price index (CPI)** is the official measure of inflation in the Republic of Bulgaria. It measures the total relative price change of goods and services used by households for private (non-production) consumption and is calculated by applying the structure of the final monetary consumption expenditures of Bulgarian households. The main source of information for the expenditures is the household budget survey in the country. CPI in year  $t$  is calculated with the expenditures structure of year  $t-1$ .

The **Harmonized Index of Consumer Prices (HICP)** is the comparable measure of inflation across EU Member states. It is one of the criteria of price stability and readiness of Bulgaria to join the euro-zone. HICP, as well as CPI, measure the total relative price change of goods and services. Both indices are calculated using the same basket of goods and services, but differ with respect to the weights used. HICP is calculated through the use of weights, which reflect the individual and the collective consumption of all households (incl. institutional and foreign households) on the economic territory of the country. The main source of information for HICP weights is the national accounts data. HICP in year  $t$  is calculated with the weights of year  $t-2$ .

In compliance with Regulation (EC) No 2015/2010 since January 2016 the base year for HICP has been changed and the all indices have been calculated and published at 2015 as a base year. The time series have been recalculated according to the new base year and have been posted on the NSI website (www.nsi.bg).

The **Price Index of a Small Basket (PISB)** is a measurement of the relative average price changes of 100 socially useful and vital for living goods and services. The weights of this index reflect the expenditures of the 20% lowest household's incomes. The source of weights information is the Households Budget Survey in the country. This index in year  $t$  is calculated with the weights of year  $t-1$ .

The **chain** consumer price indices measure the price change in the current month compared to the previous month. The chain consumer price indices are used as a measure of **monthly inflation**.

The **12-month** consumer price indices measure the price changes occurring between the current month and the same month of the previous year. The 12-months consumer price indices are used as a measure of **annual inflation**.

Consumer price indices **over December of the previous year** measure the accumulated changes in prices of the current month with respect to December of the previous year. Consumer price indices over December of the previous year are used as measures of the **inflation since the beginning of the year**. In December of each year, the 12-months index is equal to the index over December of the previous year.

The **annual average** consumer price indices measure the average price change during the 12 months of the current year compared to the average price change during the 12 months of the previous year. The annual average consumer price indices are used as a measure of the **annual average inflation**.

## Consumer price indices in the context of the COVID-19 crisis

The National CPI, HICP and the PISB for October 2020 have been produced according to Eurostat's methodological guidance on the compilation of the HICP in the context of the COVID-19 crisis, following the following principles:

- fixed statistical weights used in the calculation of the indices;
- production of all indices according to the ECOICOP classification (European Classification Of Individual Consumption by Purpose);
- minimizing the number of imputed prices and sub-indices where possible;
- estimation of missing price observations by applying imputation methods.

The percentage of missing price observations for October 2020 was 2%, distributed according to ECOICOP main headings as follows:

(Per cent)	
Commodity groups	Missing price observations
<b>00 Total CPI</b>	2
01 Food and non-alcoholic beverages	1
02 Alcoholic beverages and tobacco	1
03 Clothing and footwear	3
04 Housing, water, electricity, gas and other fuels	2
05 Furnishings, household equipment and routine household maintenance	2
06 Health	3
07 Transport	2
08 Communication	1
09 Recreation and culture	3
10 Education	0
11 Restaurants and hotels	1
12 Miscellaneous goods and service	1

The missing price observation's estimation has been carried out by using the imputation methods recommended by Eurostat and agreed with the Member States:

- with the nearest aggregate index (sub-index) in the hierarchical structure of the index (at a product level based on available prices for the same product) - for missing price observations of products that were available on the market;
- adjusting the price from the previous month with a seasonal factor (carry forward with a seasonal correction factor) - for seasonal products that were not available on the market (passenger air transport);
- carry forward the last observed prices - for some products (e.g. cultural services), where there were reasons to expect that their prices would be the same once the situation would revert back to normal.

Annex

Table 1

Consumer price indices in October 2020

(Per cent)

Commodity groups	2019 weights	October 2020		
		Previous month = 100	December 2019 = 100	Corresponding month of the previous year = 100
<b>00 Total CPI</b>	<b>100.000</b>	<b>100.6</b>	<b>99.5</b>	<b>100.8</b>
01 Food and non-alcoholic beverages	30.093	100.1	101.9	103.8
02 Alcoholic beverages and tobacco	5.134	100.1	100.6	100.8
03 Clothing and footwear	3.995	108.1	97.7	97.3
04 Housing, water, electricity, gas and other fuels	16.866	100.1	100.5	100.6
05 Furnishings, household equipment and routine household maintenance	4.572	100.1	100.7	100.8
06 Health	7.777	100.1	101.9	102.1
07 Transport	9.621	99.4	89.4	90.3
08 Communication	5.204	99.8	99.8	99.7
09 Recreation and culture	5.973	106.0	92.3	100.3
10 Education	0.404	100.7	104.9	105.0
11 Restaurants and hotels	5.872	100.0	103.0	104.2
12 Miscellaneous goods and service	4.489	100.1	101.8	101.3
Foods	31.390	100.1	101.8	103.7
Non-foods	34.512	100.9	97.2	97.2
Catering	5.374	100.3	103.7	104.9
Services	28.724	101.0	98.9	101.0

Table 2

**Harmonized indices of consumer prices in October 2020**

Commodity groups	2018 weights	October 2020			
		2015 = 100	Previous month = 100	December 2019 = 100	Corresponding month of the previous year = 100
	%	%			
<b>00 Total HICP</b>	<b>1000.000</b>	<b>105.87</b>	<b>100.2</b>	<b>99.5</b>	<b>100.6</b>
01 Food and non-alcoholic beverages	227.072	115.60	100.1	102.0	103.6
02 Alcoholic beverages and tobacco	63.136	110.59	100.2	100.8	101.1
03 Clothing and footwear	36.509	98.60	107.0	98.2	97.8
04 Housing, water, electricity, gas and other fuels	106.234	111.55	100.1	100.6	100.8
05 Furnishings, household equipment and routine household maintenance	60.703	101.27	100.1	100.4	100.5
06 Health	74.227	104.82	100.1	101.8	102.0
07 Transport	148.685	89.96	98.3	91.8	93.4
08 Communication	54.222	91.02	99.8	99.8	99.7
09 Recreation and culture	73.727	101.74	102.5	96.4	100.9
10 Education	15.056	120.42	101.0	104.8	104.9
11 Restaurants and hotels	84.742	117.62	99.1	100.6	102.0
12 Miscellaneous goods and service	55.687	113.49	100.2	103.8	103.8

Table 3

**Price indices of 100 socially useful and vital for the living goods and services in the small basket for the 20% lowest income households in October 2020**

(Per cent)

Commodity groups	2019 weights	October 2020
		Previous month = 100
<b>Total PISB</b>	<b>100.000</b>	<b>100.5</b>
Food and non-alcoholic beverages	49.396	100.4
Clothing and footwear	3.564	106.4
Housing, water, electricity, gas and other fuels	27.199	100.0
Furnishings, household equipment and routine household maintenance	2.563	100.8
Health	11.080	100.1
Transport	1.399	100.0
Communication	0.295	100.0
Recreation and culture	0.492	100.6
Miscellaneous goods and service	4.013	99.8
Foods	49.396	100.4
Non-foods	28.454	100.9
Services	22.150	100.0