

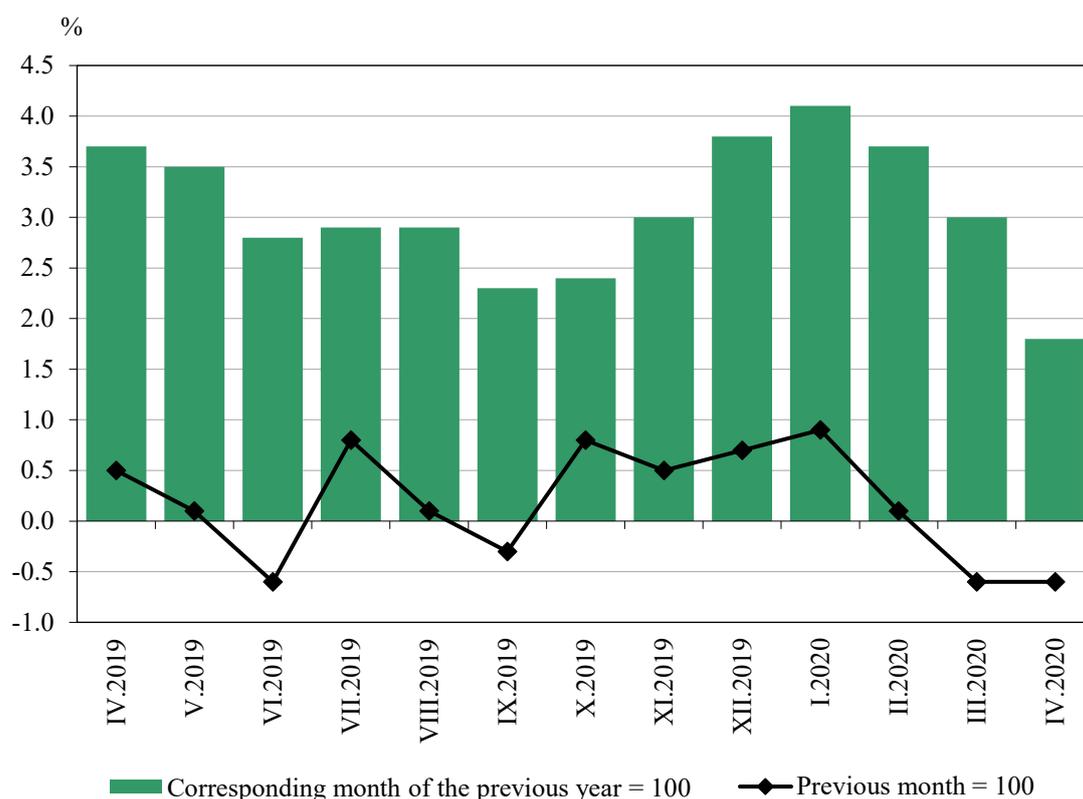
## INFLATION AND CONSUMER PRICE INDICES IN APRIL 2020

### Consumer price index (CPI)

The **consumer price index** in April 2020 compared to March 2020 was 99.4%, i.e. the monthly inflation was -0.6%. The inflation rate since the beginning of the year (April 2020 compared to December 2019) has been -0.3% and the annual inflation in April 2020 compared to April 2019 was 1.8% (Figure 1 and Annex, Table 1).

The annual average inflation, measured by CPI, in the last 12 months (May 2019 - April 2020) compared to the previous 12 months (May 2018 - April 2019) was 3.0%.

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



In April 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 0.9%;
- Alcoholic beverages and tobacco - an increase of 0.1%;
- Clothing and footwear - an increase of 6.3%;
- Housing, water, electricity, gas and other fuels - a decrease of 2.1%;
- Furnishings, household equipment and routine maintenance of the house - a decrease of 0.1%;

- Health - an increase of 0.3%;
- Transport - a decrease of 6.8%;
- Communications - a decrease of 0.2%;
- Recreation and culture - a decrease of 3.6%;
- Education - the prices remained at the level of the previous month;
- Restaurants and hotels - an increase of 0.1%;
- Miscellaneous goods and service - an increase of 0.5%.

### Harmonized index of consumer prices (HICP)

The **harmonized index of consumer prices** in April 2020 compared to March 2020 was 99.6%, i.e. the monthly inflation was -0.4%. The inflation rate since the beginning of the year (April 2020 compared to December 2019) has been -0.4% and the annual inflation in April 2020 compared to April 2019 was 1.3% (Annex, Table 2).

The annual average inflation, measured by HICP, in the last 12 months (May 2019 - April 2020) compared to the previous 12 months (May 2018 - April 2019) was 2.4%.

In terms of HICP, in April 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 0.6%;
- Alcoholic beverages and tobacco - an increase of 0.1%;
- Clothing and footwear - an increase of 5.6%;
- Housing, water, electricity, gas and other fuels - a decrease of 1.8%;
- Furnishings, household equipment and routine maintenance of the house - an increase of 0.2%;
- Health - an increase of 0.3%;
- Transport - a decrease of 3.3%;
- Communications - a decrease of 0.2%;
- Recreation and culture - a decrease of 1.8%;
- Education - the prices remained at the level of the previous month;
- Restaurants and hotels - a decrease of 0.2%;
- Miscellaneous goods and service - an increase of 0.6%.

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

The **price index of a small basket** in April 2020 compared to March 2020 was 100.6% and the overall increase since the beginning of the year (April 2020 compared to December 2019) has been 102.6% (Annex, Table 3).

In April 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 1.0%;
- Non-food products - an increase of 0.9%;
- Services - a decrease of 0.6%.

## 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

Due to the epidemiological situation in Bulgaria and the health safety measures taken to contain the spread of the Coronavirus taken by the government and the National Assembly, the conduction of statistical survey of consumer prices providing information on the production of consumer price indices and inflation has been difficult.

The National CPI, HICP and the PISB for April 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 April 2020 is 32%, distributed according to ECOICOP main headings as follows:

Commodity groups	(Per cent)
	Missing price observations
<b>00 Total CPI</b>	<b>32</b>
01 Food and non-alcoholic beverages	22
02 Alcoholic beverages and tobacco	17
03 Clothing and footwear	58
04 Housing, water, electricity, gas and other fuels	12
05 Furnishings, household equipment and routine household maintenance	24
06 Health	18
07 Transport	21
08 Communication	6
09 Recreation and culture	37
10 Education	46
11 Restaurants and hotels	75
12 Miscellaneous goods and service	32

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 (clothing and footwear, passenger air transport, package holidays and hotels in holiday centers and resorts);
- carry forward the last observed prices - for some products (e.g. social or 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 April 2020

(Per cent)

Commodity groups	2019 weights	April 2020		
		Previous month = 100	December 2019 = 100	Corresponding month of the previous year = 100
<b>00 Total CPI</b>	<b>100.000</b>	<b>99.4</b>	<b>99.7</b>	<b>101.8</b>
01 Food and non-alcoholic beverages	30.093	100.9	104.2	106.6
02 Alcoholic beverages and tobacco	5.134	100.1	100.3	102.2
03 Clothing and footwear	3.995	106.3	98.0	99.1
04 Housing, water, electricity, gas and other fuels	16.866	97.9	98.4	100.3
05 Furnishings, household equipment and routine household maintenance	4.572	99.9	99.6	100.4
06 Health	7.777	100.3	101.0	103.1
07 Transport	9.621	93.2	90.4	90.6
08 Communication	5.204	99.8	98.7	96.4
09 Recreation and culture	5.973	96.4	92.5	101.9
10 Education	0.404	100.0	100.7	103.2
11 Restaurants and hotels	5.872	100.1	101.6	105.9
12 Miscellaneous goods and service	4.489	100.5	101.7	101.6
<b>Foods</b>	<b>31.390</b>	<b>100.9</b>	<b>104.1</b>	<b>106.4</b>
<b>Non-foods</b>	<b>34.512</b>	<b>98.8</b>	<b>97.2</b>	<b>97.8</b>
<b>Catering</b>	<b>5.374</b>	<b>100.2</b>	<b>101.9</b>	<b>106.2</b>
<b>Services</b>	<b>28.724</b>	<b>98.2</b>	<b>97.6</b>	<b>100.8</b>

Table 2

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

Commodity groups	2018 weights	April 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>106.01</b>	<b>99.6</b>	<b>99.6</b>	<b>101.3</b>
01 Food and non-alcoholic beverages	227.072	117.55	100.6	103.7	106.1
02 Alcoholic beverages and tobacco	63.136	110.08	100.1	100.4	102.3
03 Clothing and footwear	36.509	98.81	105.6	98.4	99.5
04 Housing, water, electricity, gas and other fuels	106.234	109.52	98.2	98.8	100.5
05 Furnishings, household equipment and routine household maintenance	60.703	100.38	100.2	99.5	100.0
06 Health	74.227	103.92	100.3	101.0	102.9
07 Transport	148.685	91.90	96.7	93.8	93.8
08 Communication	54.222	89.97	99.8	98.7	96.4
09 Recreation and culture	73.727	102.07	98.2	96.7	101.7
10 Education	15.056	115.54	100.0	100.6	103.0
11 Restaurants and hotels	84.742	117.62	99.8	100.6	105.0
12 Miscellaneous goods and service	55.687	111.23	100.6	101.7	102.4

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 April 2020**

(Per cent)

Commodity groups	2019 weights	April 2020
		Previous month = 100
<b>Total PISB</b>	<b>100.000</b>	<b>100.6</b>
Food and non-alcoholic beverages	49.396	101.0
Clothing and footwear	3.564	104.8
Housing, water, electricity, gas and other fuels	27.199	99.5
Furnishings, household equipment and routine household maintenance	2.563	99.8
Health	11.080	100.7
Transport	1.399	100.1
Communication	0.295	100.0
Recreation and culture	0.492	100.0
Miscellaneous goods and service	4.013	100.4
Foods	49.396	101.0
Non-foods	28.454	100.9
Services	22.150	99.4