PRESS RELEASE

## CONSUMER PRICE INDEX: January 2019, annual inflation 0.4%

The evolution of the Consumer Price Index (CPI) of January 2019[1] (reference year 2009=100.0) is depicted as follows:

The CPI in January 2019 compared with January 2018, increased by 0.4%. In January 2018, the annual rate of change of the CPI was -0.2% (Table 2).

The CPI in January 2019 compared with December 2018, decreased by 1.8%. In January 2018, the monthly rate of change of the CPI was -1.6% (Table 1).

The average CPI for the twelve - month period from February 2018 to January 2019, compared with the corresponding index for the period February 2017 to January 2018 increased by 0.7%. The annual rate of change of the average CPI between the twelve - month period February 2017 to January 2018 in comparison to the period February 2016 to January 2017 was 1.0% (Table 3).

Graph 1. Annual and annual average rates of change (%) of CPI

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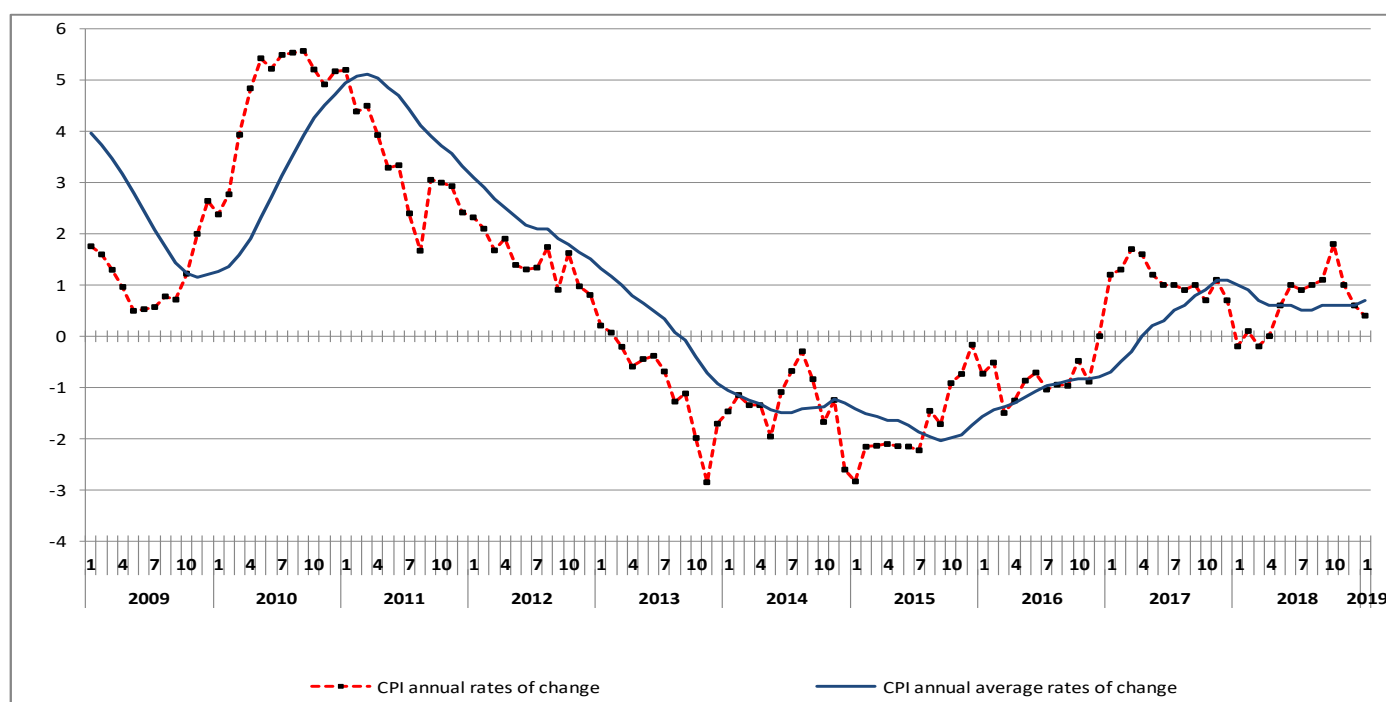
[1] On the basis of the implementation of chain linking method for the compilation of CPI, ELSTAT carried out the following updating works :
- of CPI weights
- of CPI population weights
- implementation of «consumer profile» method in telecommunication services.

A relevant information note will be posted on ELSTAT's home page:
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Analysis of changes of the CPI: January 2019

I. Monthly rates of change: January 2019 compared with December 2018 (Tables 1, 4)

The 1.8% decrease of the Overall CPI in January 2019, compared with the corresponding index in December 2018 is, mainly, on account of the changes in the groups of goods and services as follows:

1. A decrease of:

- 25.0% in Clothing and footwear, due to the period of winter sales.
- 0.4% in Housing, due to the decrease, mainly, in the prices of *heating oil*. This decrease was partly offset by the increase, mainly, in the prices of *natural gas*.
- 1.5% in Household equipment, due to the period of winter sales.
- 2.9% in Transport, due to the decrease, mainly, in the prices of: *fuels and lubricants, tickets for passenger transport by air.*
- 0.3% in Communication, due to the decrease, mainly, in the prices of *wireless telephone services*.
- 0.7% in Recreation and culture, due to the decrease, mainly, in the prices of *audiovisual and information processing equipment*.
- 0.1 % in Hotel - Cafés - Restaurants, due to the decrease, mainly, in the prices of *restaurants-confectioneries-cafés.* This decrease was partly offset by the increase, mainly, in the prices of *hotels-motels-inns.*

2. An increase of:

- 2.0% in Food and non-alcoholic beverages, due to the increase, mainly, in the prices of*: bread and cereals, poultry, beef, milk whole fresh, cheese, fresh fruit, fresh vegetables, potatoes.*
- 0.4% in Alcoholic beverages and tobacco, due to the increase, mainly, in the prices of *alcoholic beverages (not served).*
- 0.3% in Health, due to the increase, mainly, in the prices of *pharmaceutical products.*

II. Annual rates of change: January 2019 compared with January 2018 (Tables 2, 5)

The 0.4% increase of the Overall CPI in January 2019, compared with the corresponding index in January 2018 is, mainly, on account of the changes in the groups of goods and services as follows:

1. An increase of:

- 1.9% in Food and non-alcoholic beverages due to the increase, mainly, in the prices of: *bread and cereals, milk cheese and eggs*, *poultry, fresh vegetables, potatoes, fruit juices.* This increase was partly offset by the decrease, mainly, in the prices of*: pork, olive oil, dried salted or smoked meat, preserved or processed vegetables.*
- 1.0% in Alcoholic beverages and tobacco, due to the increase, mainly, in the prices of *tobacco*. This increase was partly offset by the decrease, mainly, in the prices of *alcoholic beverages (not served)*.
- 0.7% in Housing, due to the increase, mainly, in the prices of *natural gas.*
- 0.7% in Health, due to the increase, mainly, in the prices of *pharmaceutical products.*
- 5.0% in Communication, due to the increase, mainly, in the prices of *telephone services*.
- 0.6% in Hotel - Cafés - Restaurants, due to the increase, mainly, in the prices of: *restaurants-confectioneries-cafés-buffets.*

2. A decrease of:

- 0.2 % in Clothing and footwear, due to the decrease in the prices of articles of clothing and footwear*.*
- 1.9% in Household equipment, due to the decrease, mainly, in the prices of: *household textiles, household appliances and repair, non-durable household articles.*
- 1.1% in Transport, due to the decrease, mainly, in the prices of: *fuels and lubricants, maintenance and repair of personal transport equipment.* This decrease was partly offset by the increase, mainly, in the prices of *tickets for passenger transport by air.*
- 1.3% in Recreation and culture, due to the decrease, mainly, in the prices of *audiovisual and information processing equipment*.
- 0.8% in Education, due to the decrease, mainly, in the prices of *fees of secondary education*.
- 1.3% in Miscellaneous goods and services, due to the decrease, mainly, in the prices of: *other appliances and articles for personal care, other personal effects, motor vehicle insurance*.

Table 1. Monthly rates of change of CPI
(Reference year: 2009=100.0)

Main groups of goods and services	Weights HBS 2017 (‰)	2019 January	2018 December	Rate of change %	2018 January	2017 December	Rate of change %
1. Food & non-alcoholic beverages	205.76	107.04	104.95	2.0	105.08	104.55	0.5
2. Alcoholic beverages and tobacco	39.57	148.61	148.05	0.4	147.12	146.32	0.5
3. Clothing and footwear	64.79	77.36	103.08	-25.0	77.52	103.06	-24.8
4. Housing	141.34	120.00	120.46	-0.4	119.20	119.15	0.0
5. Household equipment	43.29	87.10	88.46	-1.5	88.77	90.01	-1.4
6. Health	74.17	97.63	97.31	0.3	96.93	96.59	0.3
7. Transport	142.99	118.59	122.13	-2.9	119.96	121.19	-1.0
8. Communication	43.85	105.39	105.74	-0.3	100.37	100.38	0.0
9. Recreation and culture	39.76	87.90	88.54	-0.7	89.03	89.26	-0.3
10. Education	32.49	88.51	88.51	0.0	89.22	89.22	0.0
11. Hotels - Cafés - Restaurants	106.64	107.95	108.08	-0.1	107.28	107.22	0.1
12. Miscellaneous goods and services	65.33	91.13	91.25	-0.1	92.32	91.99	0.4
Overall Index	**1000.00**	**105.04**	**106.92**	**-1.8**	**104.58**	**106.33**	**-1.6**

Note: The indices are rounded up to two decimal figures when published and percentage changes up to one decimal figure when published.

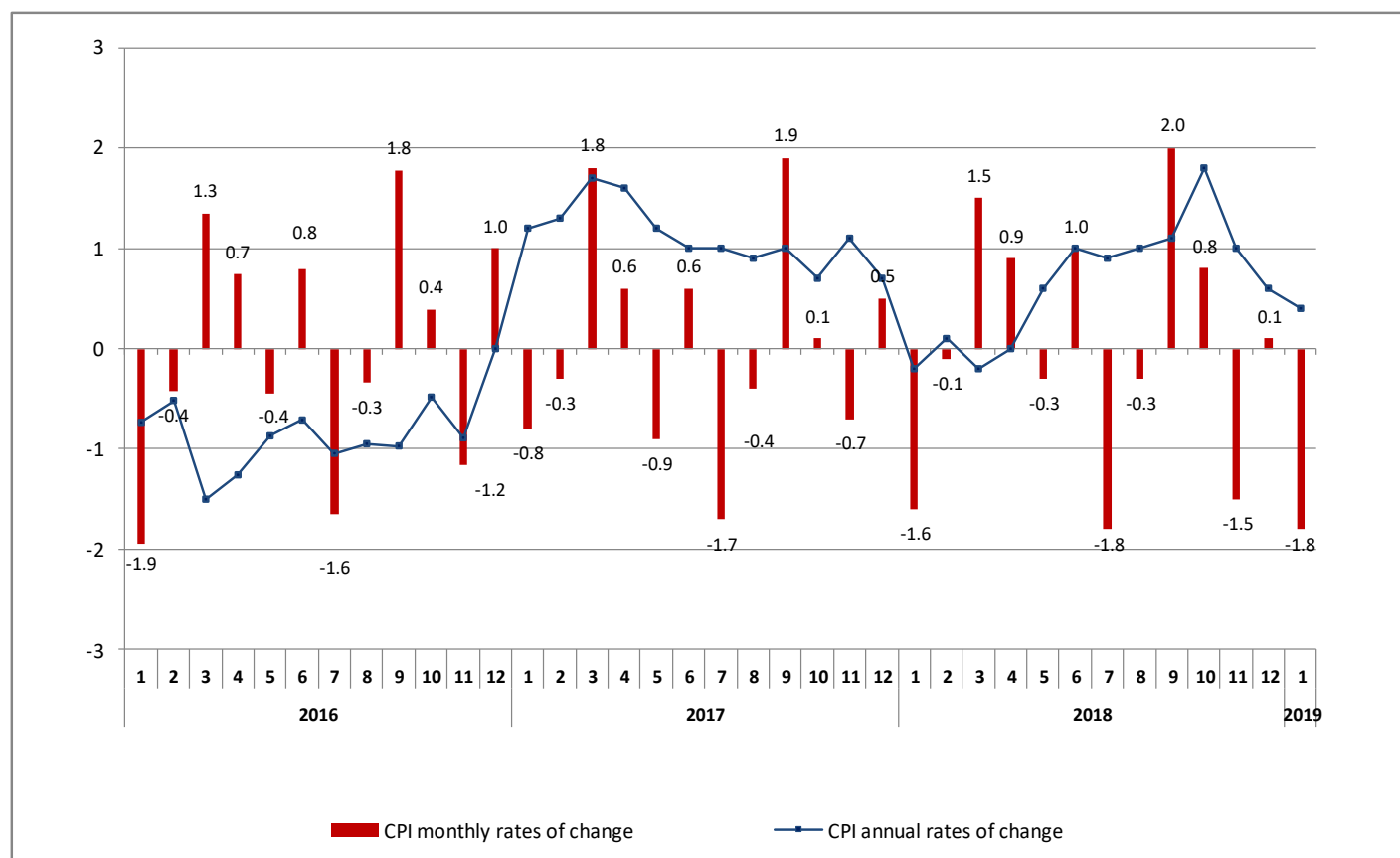## Graph 2. Annual and monthly rates of change (%) of CPI

4

Table 2. Inflation - Annual rates of change of CPI
(Reference year: 2009=100.0)

I: January 2019/2018

Main groups of goods and services	January		Rate of change (%)	Effect
	2019	2018		
1. Food and non alcoholic beverages	107.04	105.08	1.9	0.3939
2. Alcoholic beverages and tobacco	148.61	147.12	1.0	0.0435
3. Clothing and footwear	77.36	77.52	-0.2	-0.0142
4. Housing	120.00	119.20	0.7	0.0911
5. Household equipment	87.10	88.77	-1.9	-0.0839
6. Health	97.63	96.93	0.7	0.0548
7. Transport	118.59	119.96	-1.1	-0.1573
8. Communication	105.39	100.37	5.0	0.2128
9. Recreation and culture	87.90	89.03	-1.3	-0.0523
10. Education	88.51	89.22	-0.8	-0.0263
11. Hotels - Cafés - Restaurants	107.95	107.28	0.6	0.0639
12. Miscellaneous goods and services	91.13	92.32	-1.3	-0.0871
Overall Index	**105.04**	**104.58**	**0.4**	

II: January 2018/2017

Main groups of goods and services	January		Rate of change (%)	Effect
	2018	2017		
1. Food and non alcoholic beverages	105.08	106.34	-1.2	-0.2526
2. Alcoholic beverages and tobacco	147.12	137.87	6.7	0.2837
3. Clothing and footwear	77.52	79.11	-2.0	-0.1469
4. Housing	119.20	120.70	-1.2	-0.1678
5. Household equipment	88.77	90.71	-2.1	-0.0987
6. Health	96.93	97.67	-0.8	-0.0595
7. Transport	119.96	117.10	2.4	0.3635
8. Communication	100.37	100.48	-0.1	-0.0046
9. Recreation and culture	89.03	90.60	-1.7	-0.0722
10. Education	89.22	89.03	0.2	0.0068
11. Hotels - Cafés - Restaurants	107.28	106.06	1.1	0.1192
12. Miscellaneous goods and services	92.32	94.35	-2.2	-0.1462
Overall Index	**104.58**	**104.76**	**-0.2**	

Note: The indices are rounded up to two decimal figures when published and percentage changes up to one decimal figure when published.

Table 3. Comparisons of the overall CPI
(Reference year: 2009=100.0)

Year and month	Overall Index	Monthly rates of change %	Annual rates of change Inflation %	Annual average index (moving average)	Annual average rates of change %
2016: 1	103.56	-1.9	-0.7	105.46	-1.6
2	103.12	-0.4	-0.5	105.41	-1.4
3	104.51	1.3	-1.5	105.28	-1.4
4	105.28	0.7	-1.3	105.17	-1.3
5	104.81	-0.4	-0.9	105.09	-1.2
6	105.65	0.8	-0.7	105.03	-1.1
7	103.91	-1.6	-1.0	104.94	-1.0
8	103.55	-0.3	-0.9	104.85	-0.9
9	105.39	1.8	-1.0	104.77	-0.9
10	105.80	0.4	-0.5	104.73	-0.8
11	104.57	-1.2	-0.9	104.65	-0.8
12	105.64	1.0	0.0	104.65	-0.8
Annual average	*104.65*	-	-	*104.65*	*-0.8*
2017: 1	104.76	-0.8	1.2	104.75	-0.7
2	104.46	-0.3	1.3	104.86	-0.5
3	106.33	1.8	1.7	105.01	-0.3
4	107.01	0.6	1.6	105.16	0.0
5	106.06	-0.9	1.2	105.26	0.2
6	106.72	0.6	1.0	105.35	0.3
7	104.94	-1.7	1.0	105.44	0.5
8	104.48	-0.4	0.9	105.51	0.6
9	106.45	1.9	1.0	105.60	0.8
10	106.56	0.1	0.7	105.67	0.9
11	105.77	-0.7	1.1	105.77	1.1
12	106.33	0.5	0.7	105.82	1.1
Annual average	*105.82*	-	-	*105.82*	*1.1*
2018: 1	104.58	-1.6	-0.2	105.81	1.0
2	104.52	-0.1	0.1	105.81	0.9
3	106.08	1.5	-0.2	105.79	0.7
4	107.05	0.9	0.0	105.80	0.6
5	106.70	-0.3	0.6	105.85	0.6
6	107.76	1.0	1.0	105.94	0.6
7	105.84	-1.8	0.9	106.01	0.5
8	105.49	-0.3	1.0	106.09	0.5
9	107.61	2.0	1.1	106.19	0.6
10	108.44	0.8	1.8	106.35	0.6
11	106.81	-1.5	1.0	106.43	0.6
12	106.92	0.1	0.6	106.48	0.6
Annual average	*106.48*	-	-	*106.48*	*0.6*
2019: 1	105.04	-1.8	0.4	106.52	0.7

Note: The indices are rounded up to two decimal figures when published and percentage changes up to one decimal figure when published.

Table 4. Major price changes from index comparison January 2019 with December 2018 and their impact in the Overall CPI

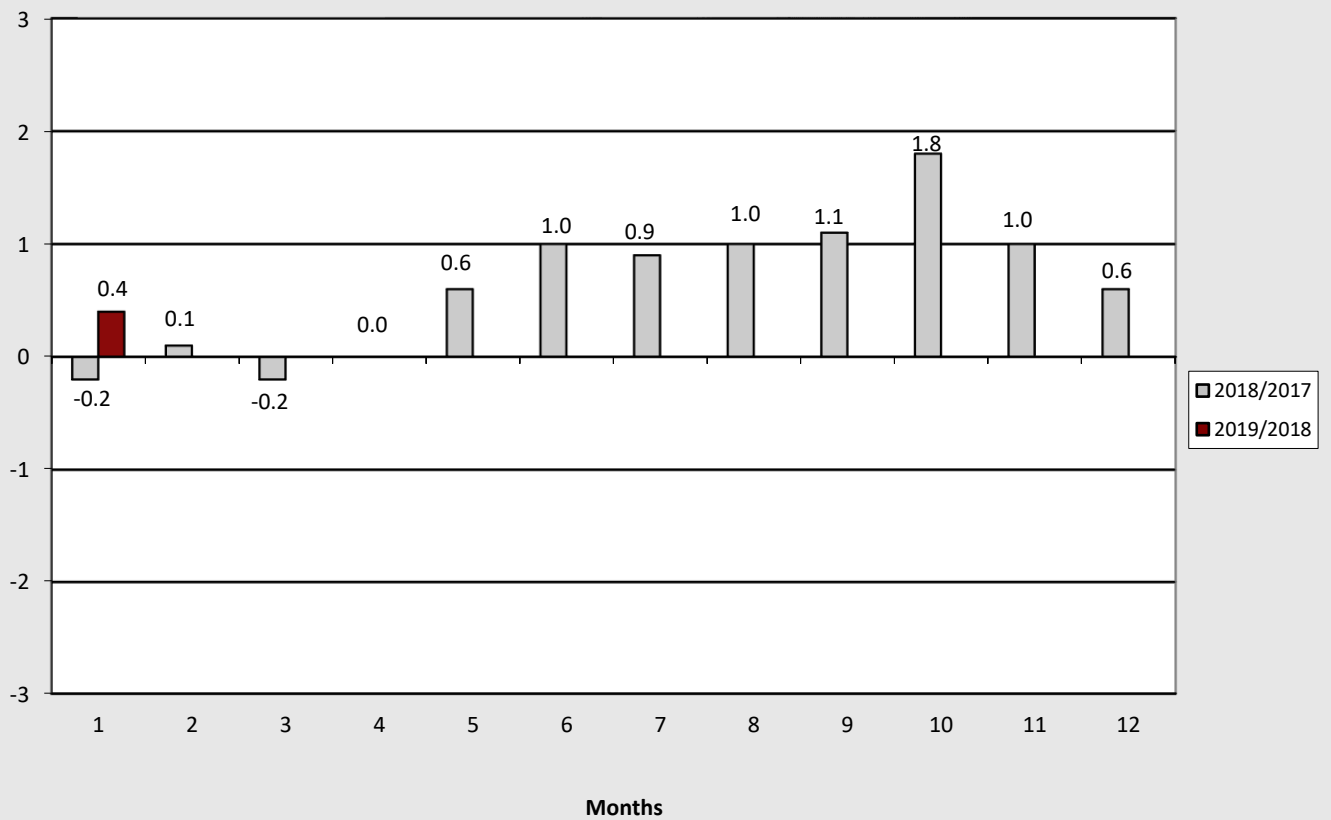| Goods and services	Rate of change (%)	Impact
Bread and cereals	0.8	0.02
Poultry	1.8	0.02
Beef	0.5	0.01
Milk whole fresh	6.2	0.04
Cheese	2.0	0.03
Fresh fruit	1.0	0.01
Potatoes	3.4	0.02
Fresh vegetables	19.1	0.25
Alcoholic beverages (not served)	1.3	0.02
Natural gas	2.3	0.01
Heating oil	-2.5	-0.06
Pharmaceutical products	0.9	0.02
Fuels and lubricants	-1.7	-0.10
Passenger transport by air	-19.2	-0.32
Wireless telephone services	-0.6	-0.01
Audiovisual and information processing equipment	-4.5	-0.03
Hotels - motels - inns	1.9	0.01
Restaurants - confectioneries - cafes	-0.3	-0.03
Winter sales	-	-1.68

Table 5. Major price changes from index comparison
January 2019 with January 2018 and their impact
in the Overall CPI

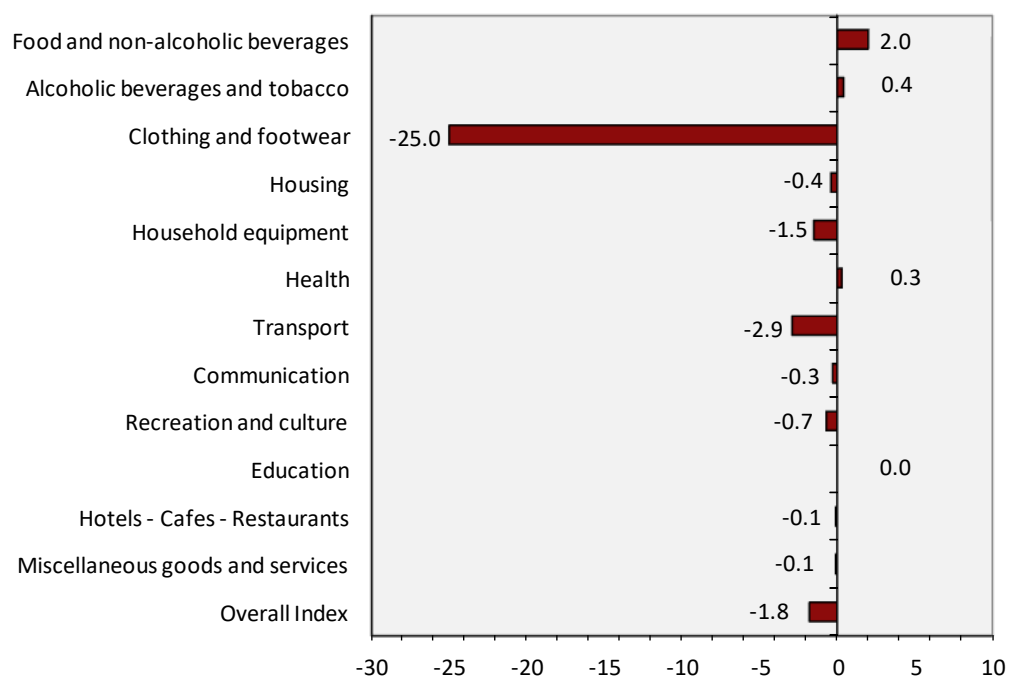| Goods and services	Rate of change (%)	Impact
Bread and cereals	0.6	0.02
Milk cheese and eggs	2.4	0.08
Fresh vegetables	31.2	0.38
Potatoes	33.8	0.12
Olive oil	-15.0	-0.17
Poultry	1.1	0.01
Dried salted or smoked meat	-4.3	-0.02
Preserved or processed vegetables	-3.2	-0.02
Pork	-2.7	-0.02
Fruit juices	4.4	0.01
Tobacco	1.8	0.06
Alcoholic beverages (not served)	-1.2	-0.02
Clothing and footwear	-0.2	-0.01
Natural gas	20.3	0.08
Household appliances and repair	-2.2	-0.01
Household textiles	-4.0	-0.02
Non-durable household articles	-2.3	-0.04
Pharmaceutical products	2.2	0.05
Fuels and lubricants	-3.5	-0.22
Maintenance and repair of personal transport equipment	-1.3	-0.01
Passenger transport by air	0.9	0.07
Telephone services	5.3	0.22
Audiovisual and information processing equipment	-7.5	-0.05
Secondary education	-1.2	-0.02
Restaurants - confectioneries - cafes - buffets	0.7	0.07
Other appliances and articles for personal care	-2.6	-0.07
Other personal effects	-2.5	-0.01
Motor vehicle insurance	-0.6	-0.01

Graph 3. Monthly rates of change (%) of the overall CPI, 2018 and 2019
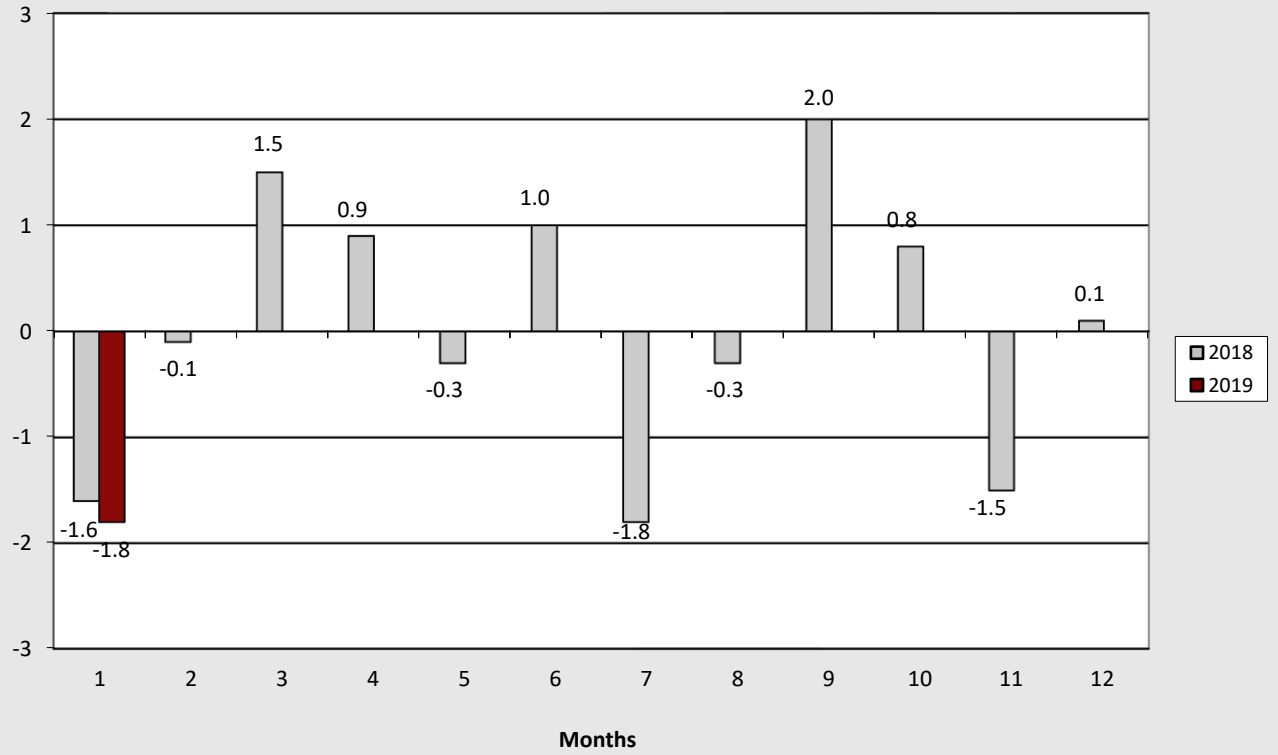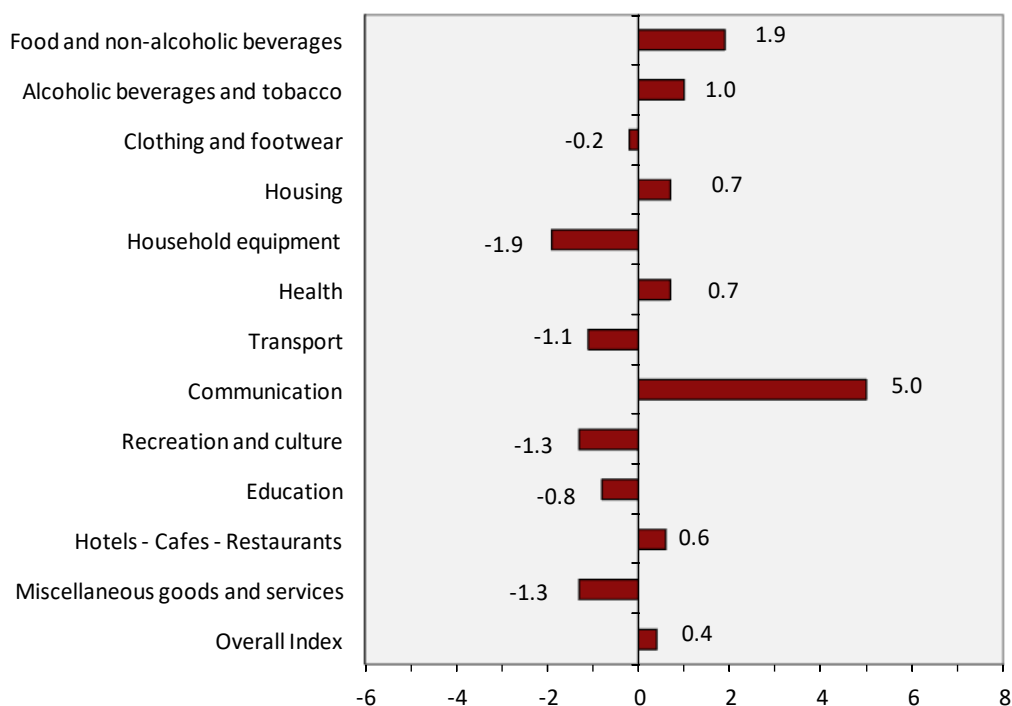

Months

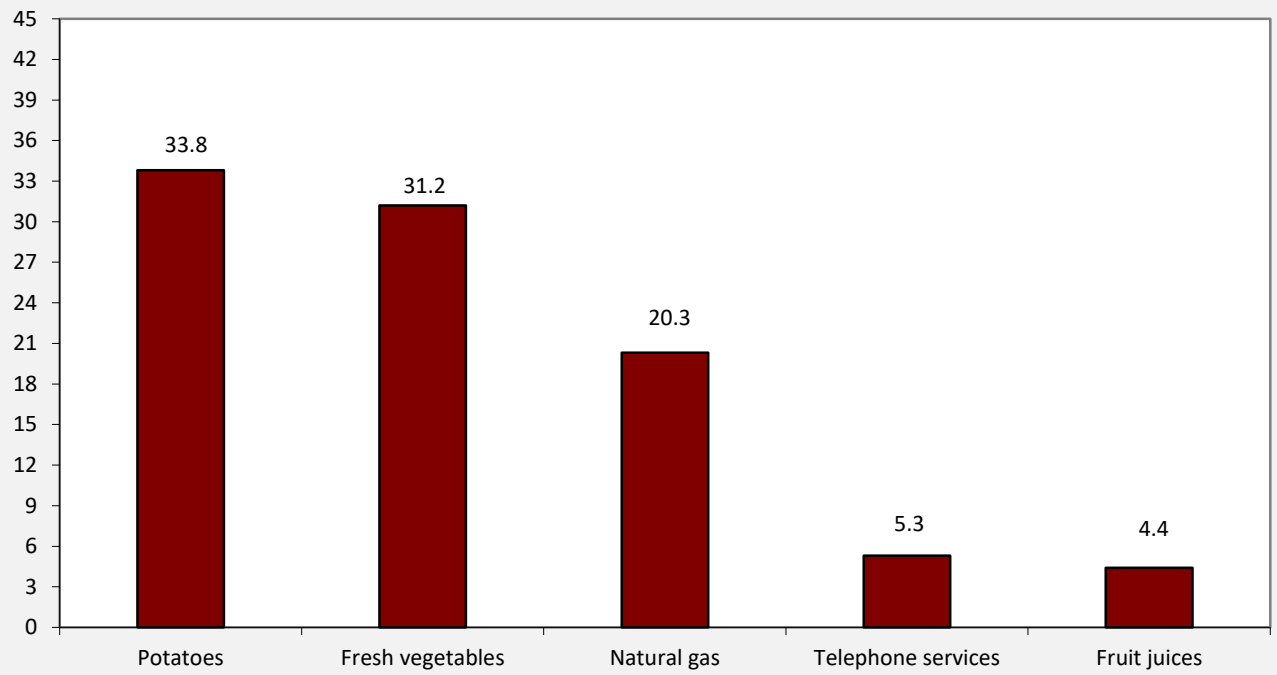**Graph 4. Annual rates of change (%) of the overall CPI, 2018 and 2019**

Months

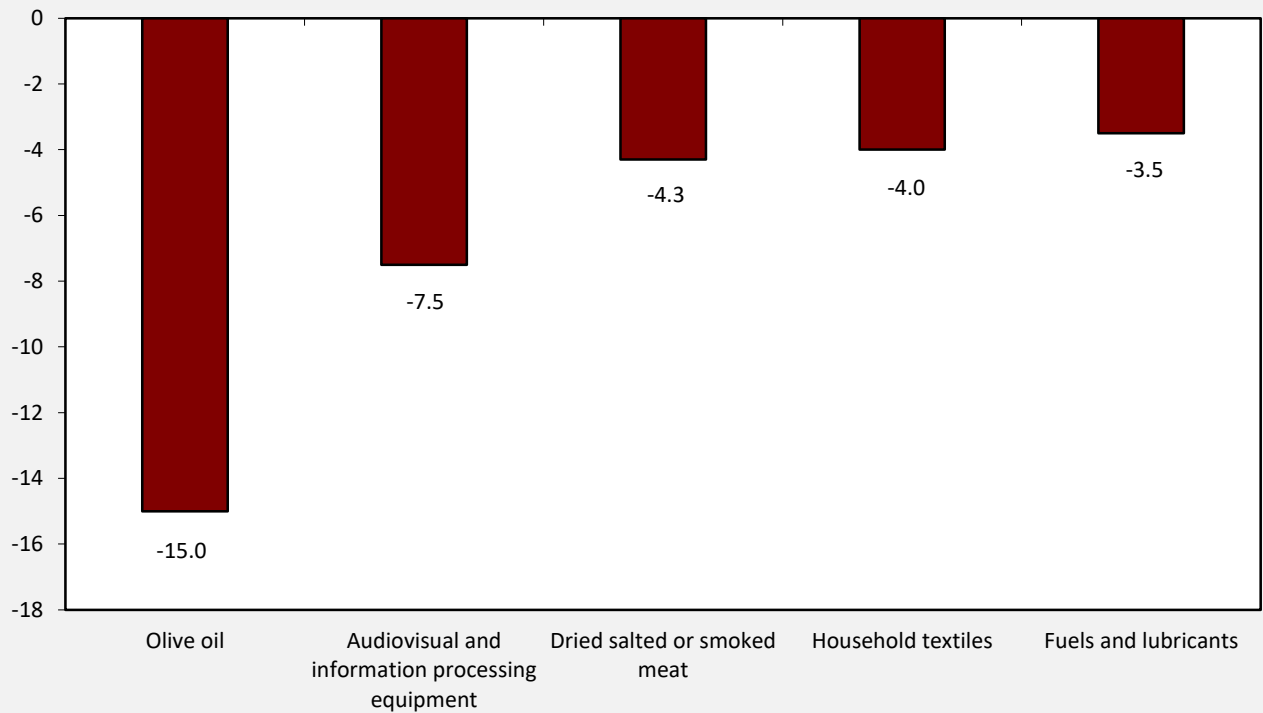**Graph 5. Monthly rates of change (%) of CPI between January 2019 and December 2018**

Category	Value
Food and non-alcoholic beverages	2.0
Alcoholic beverages and tobacco	0.4
Clothing and footwear	-25.0
Housing	-0.4
Household equipment	-1.5
Health	0.3
Transport	-2.9
Communication	-0.3
Recreation and culture	-0.7
Education	0.0
Hotels - Cafes - Restaurants	-0.1
Miscellaneous goods and services	-0.1
Overall Index	-1.8

Graph 6. Annual rates of change (%) of CPI between January 2019 and January 2018

Category	Value
Food and non-alcoholic beverages	1.9
Alcoholic beverages and tobacco	1.0
Clothing and footwear	-0.2
Housing	0.7
Household equipment	-1.9
Health	0.7
Transport	-1.1
Communication	5.0
Recreation and culture	-1.3
Education	-0.8
Hotels - Cafes - Restaurants	0.6
Miscellaneous goods and services	-1.3
Overall Index	0.4

10

Graph 7. CPI highest annual increases (%)

Category	Value
Potatoes	33.8
Fresh vegetables	31.2
Natural gas	20.3
Telephone services	5.3
Fruit juices	4.4

Graph 8. CPI highest annual decreases (%)

Category	Value
Olive oil	-15.0
Audiovisual and information processing equipment	-7.5
Dried salted or smoked meat	-4.3
Household textiles	-4.0
Fuels and lubricants	-3.5

Graph 9. Historical evolution of CPI, 1968 – 2019

Legend: Annual average rate (%) — — — Annual rate - Inflation (%)

METHODOLOGICAL NOTES

Generally
The Consumer Price Index (CPI) is compiled by the Hellenic Statistical Authority (ELSTAT) since 1959. Until the year 2000, the CPI referred to the urban areas of the country, while from 2001 onwards it refers to the whole country covering urban, semi urban and rural areas.

Purpose of the index
The purpose of the CPI is to measure the general level of prices of goods and services purchased by the average Greek household.

Legal basis
Law 3832/2010.

Reference period
Month.

Base
December of the previous year.

Reference year
2009=100.0.

Chain linking Index
The CPI index follows the chain linking method, introducing new weights annually and having as a base December of the previous year. The weights are estimated on the basis of the most recent available data of the Household Budget Survey (HBS), extrapolated to the prices of December. The CPI, adjusted on an annual basis to the most recent consumption expenditure pattern of the private households of the country, ensures the representativeness of goods and services, which compose the "basket" of purchases of the average household.

Geographical and population coverage of the CPI
The CPI refers to the whole country and covers the resident households of the territory excluding collective households (hospitals, homes for the elderly, boarding houses, prisons, etc.) and non-resident households (tourists) in the country.

Classification of items
The classification of the CPI items (goods and services) is based on the international classification COICOP (Classification of Individual consumption by Purpose) as this has been adapted to the needs of the HICPs of the EU Member States with the COICOP5/HICP classification.

Weights of items
The weights of CPI items are updated every year, on the basis of the most recent available data of HBS. The weights are calculated as the share (‰) of the expenditures for each group, subgroup and item (good or service) to the total household expenditure of the average household.

Price collection Cities
The CPI prices are collected in 27 cities with representative markets for the coverage of the 13 Regions of the country. The selection criteria of the price collection cities are the size and the particularities of their markets, the possibility of continuous price collection, the comparability of the index and the cost of price collection.

Population weights
The calculation of the population weights by regions is based on the population data of the 2011 General Population Census and the expenditure data of the latest available HBS by regions.

Selection of items
The composition of the "household basket" i.e. the selection of goods and services which are included in the calculation of CPI is updated annually, using the results of the latest available HBS, other market research, etc. The chain linking methodology allows the change of items of the household basket on an annual basis, in order to ensure the representativeness of the items involved in the calculation of groups and subgroups of CPI.

Price collection-Outlets
The prices collection outlets are retail stores, enterprises providing services, street markets etc. which are considered representative of the branches of shops, where the households make their purchases in the 27 selected cities. The methodology allows the renewal of price collection sources, annually, in order to maintain their representativeness in the calculation of CPI. Prices are collected by employees of ELSTAT as well as by external price collectors, hired on a temporary basis. They pay a visit to the selected outlets within a specific time period of a month (monthly prices) or on a specific day of the week (weekly prices). The collected prices correspond to the prices actually faced by the consumer.

Specification-Substitution of items
All the collected items are defined by the specification, that is the particular characteristics which determine the quality, the trade show and the identity, in general, of good products (such as brand, weight, package etc), in order to avoid any price variations attributable to differences in the specification. Once a specified item (good or service) is no longer available in the market or has ceased to be important, as regards consumption, it is substituted by a newly specified item, which has taken its place in the market.

Calculation of the Consumer Price Index

The Consumer Price Index is a Laspeyres-type index and it is calculated based on December of the previous year.

Implementation of formula in five-digit level of COICOP5

Specifically, if the five-digit item h includes q price collected items, then its index in month t of year T, $R_h^{t,T}$, is given by the following formula:

$$R_h^{t,T} = R_h^{12,T-1} \left[\frac{\sum_{i=1}^{q} w_i^T \, R_i^{t,T} \Big/ R_i^{12,T-1}}{\sum_{i=1}^{q} w_i^T} \right],$$

where:

$R_h^{12,T-1}$ = the index of the five-digit item h, in December of year T-1.

w_i^T = the weight of the price collected item I, in year T.

$R_i^{t,T}$ = the index of the price collected item I, in month t of year T.

$R_i^{12,T-1}$ = the index of the price collected item I, in December of year T-1.

A similar methodology is followed for the calculation of indices in the upper levels (two-digit, three-digit and four-digit) of COICOP5 and the calculation of the overall CPI as well.

Publication of data

The published CPI time series (reference year 2009=100.0), covers the period from January 1959 onwards. The CPI data are released each month as scheduled, in accordance with the Press Releases Calendar of ELSTAT, with the Press Release and the tables.

References

Further information concerning the methodology and the compilation of the CPI is available in the Methodological Publication CPI (2009=100.0) and the Single Integrated Metadata Structure (SIMS).