**HELLENIC REPUBLIC
HELLENIC STATISTICAL
AUTHORITY**

PRESS RELEASE

## CONSUMER PRICE INDEX: November 2022, annual inflation 8.5%

The evolution of the Consumer Price Index (CPI) of November 2022 (reference year 2020=100.0) is depicted as follows:

The CPI in November 2022 compared with November 2021, increased by 8.5%. In November 2021, the annual rate of change of the CPI was 4.8% (Table 2).

The CPI in November 2022 compared with October 2022, remained unchanged. In November 2021, the monthly rate of change of the CPI was 0.5% (Table 1).

The average CPI for the twelve - month period from December 2021 to November 2022, compared with the corresponding index for the period December 2020 to November 2021 increased by 9.5%. The annual rate of change of the average CPI between the twelve - month period December 2020 to November 2021 in comparison to the period December 2019 to November 2020 was 0.6% (Table 3).

Graph 1. Annual and annual average rates of change (%) of CPI
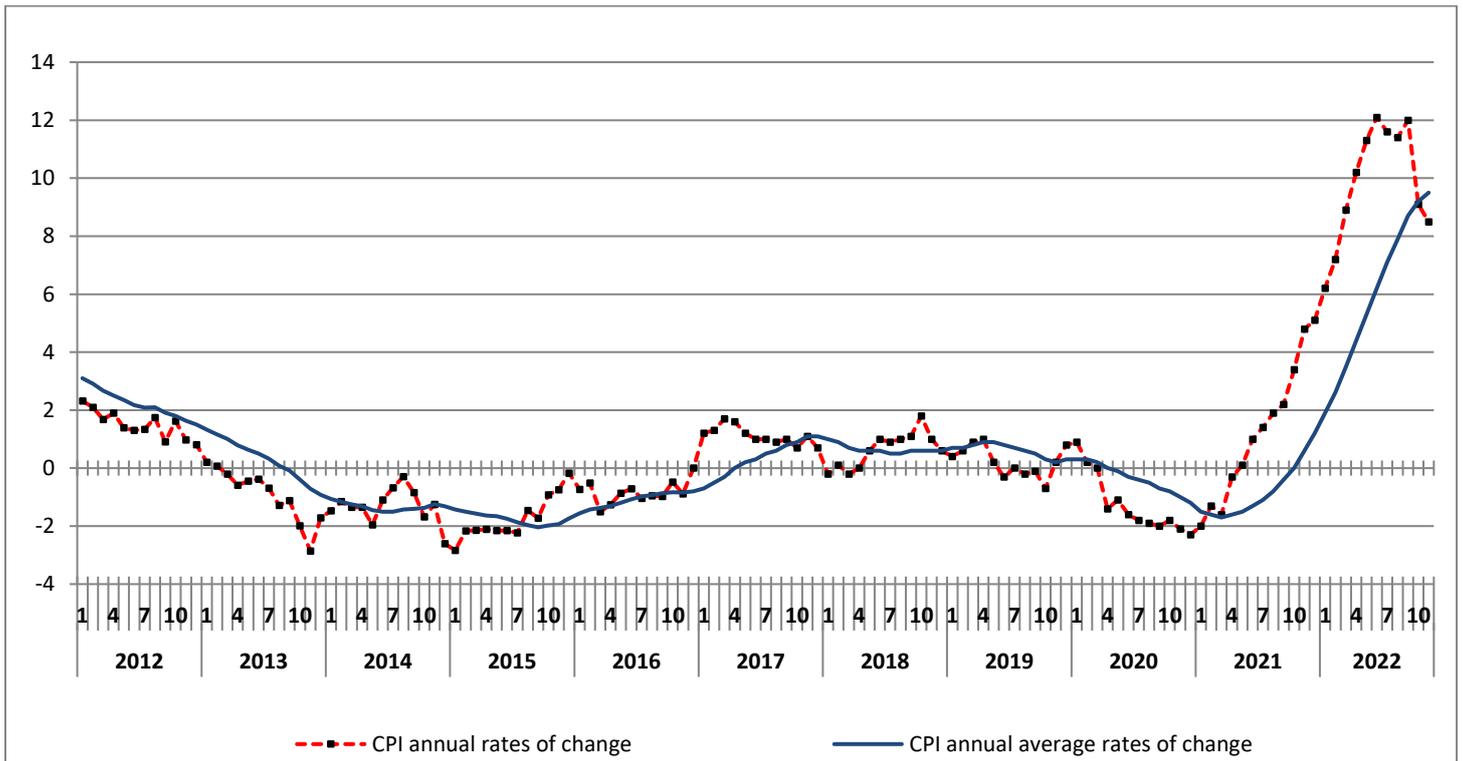
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Analysis of changes of the CPI: November 2022

I. Monthly rates of change: November 2022 compared with October 2022 (Tables 1, 4)

The Overall CPI remained unchanged in November 2022, compared with the corresponding index in October 2022. This result is, mainly, due to the changes in the groups of goods and services as follows:

1. An increase of:

- 0.9% in the group <u>Food and non-alcoholic beverages,</u> due to the increase, mainly, in the prices of: *bread, other bakery products, beef, yoghurt, cheese, olive oil, fresh fruit, frozen vegetables, fruit juices.* This increase was partly offset by the decrease, mainly, in the prices of: *pasta products and couscous, fresh vegetables*.
- 0.3*% in the group* <u>Alcoholic beverages and tobacco</u>, due to the increase, mainly, in the prices of *alcoholic beverages (not served).*
- 0.6% in the group <u>Household equipment</u>, due to the increase, mainly, in the prices of *non-durable household articles*.
- 0.9% in the group <u>Transport</u>, due to the increase, mainly, in the prices of: *new motor cars, petrol.* This increase was partly offset by the decrease, mainly, in the prices of: *diesel, tickets for passenger transport by air.*
- 0.5% in the group in the group <u>Miscellaneous goods and services</u>, due to the increase, mainly, in the prices of *other appliances and articles for personal care*.

2. A decrease of:

- 4.7% in the group <u>Clothing and footwear</u>, due to the decrease in the prices of clothing and footwear.
- 0.5% in the group <u>Housing</u>, due to the decrease, mainly, in the prices of *heating oil.* This decrease was partly offset by the increase, mainly, in the prices of *rentals for dwellings, electricity.*
- 0.6% in the group <u>Hotel-Cafés-Restaurants</u>, due to the decrease, mainly, in the prices of *hotels-motels-inns.* This decrease was partly offset by the increase, mainly, in the prices of *restaurants-confectioneries-cafes.*

II. Annual rates of change: November 2022 compared with November 2021 (Tables 2, 5)

The 8.5% increase of the Overall CPI in November 2022, compared with the corresponding index in November 2021 is, mainly, due to the changes in the groups of goods and services as follows:

1. An increase of:

- 15.0% in the group <u>Food and non-alcoholic beverages</u> due to the increase, mainly, in the prices of: *bread and cereals, meat, fish, milk-cheese and eggs, oils and fats, fruit, vegetables, sugar-chocolates-sweets-ice creams, food n.e.c., coffee-cocoa-tea, mineral water-refreshments-fruit juices.*
- 2.8*% in the group* <u>Alcoholic beverages and tobacco</u>*,* due to the increase, mainly, in the prices of *alcoholic beverages (not served).*
- 10.9% in the group <u>Clothing and footwear</u>, due to the increase in the prices of clothing and footwear*.*
- 4.8% in the group <u>Housing</u>, due to the increase, mainly, in the prices of: *rentals for dwellings, services for the repair and maintenance of the dwelling, co-proprietor charges, natural gas, heating oil, solid fuels.* This increase was partly offset by the decrease, mainly, in the prices of *electricity.*
- 11.0% in the group <u>Household equipment</u>, due to the increase, mainly, in the prices of: *furniture and furnishings, household textiles, household appliances and repair*, *glassware-tableware and utensils of domestic use, non-durable household articles, domestic services*.
- 2.8% in the group <u>Health</u>, due to the increase, mainly, in the prices of: *pharmaceutical products, medical products, medical-dental and paramedical services, hospital care.*
- 14.5% in the group <u>Transport</u>, due to the increase, mainly, in the prices of: *new motor cars, second hand motor cars, motor cycles, spare parts and accessories for motor cars, fuels and lubricants, maintenance and repair of motor cars-motor cycles, passenger transport by taxi, tickets for passenger transport by air, tickets for passenger transport by sea.*
- 2.7% in the group <u>Recreation and culture</u>, due to the increase, mainly, in the prices of: *major durables for recreation and culture, small recreational items-flowers-pets*, *cinemas-theatres, stationary and drawing materials, package holidays.* This increase was partly offset by the decrease, mainly, in the prices of *audiovisual and information processing equipment.*
- 2.2% in the group <u>Education</u>, due to the increase, mainly, in the prices of: *fees of primary education*, *fees of secondary education.*
- 8.0% in the group <u>Hotel-Cafés-Restaurants</u>, due to the increase, mainly, in the prices of: *restaurants-confectioneries-cafes-buffets*, *hotels-motels-inns*.
- 4.9% in the group <u>Miscellaneous goods and services</u>, due to the increase, mainly, in the prices of: *hairdressing salons and personal grooming establishments, other appliances and articles for personal care.*

2. A decrease of:

- 2.1% in the group <u>Communication</u>, due to the decrease, mainly, in the prices of *telephone services.*

Table 1. Monthly rates of change of CPI
(Reference year: 2020=100.0)

Main groups of goods and services	Weights 2022 (‰)	2022 November	2022 October	Rate of change %	2021 November	2021 October	Rate of change %
1. Food & non-alcoholic beverages	210.62	119.41	118.29	0.9	103.82	103.04	0.8
2. Alcoholic beverages and tobacco	37.28	102.44	102.16	0.3	99.66	99.95	-0.3
3. Clothing and footwear	62.93	113.39	118.98	-4.7	102.29	112.87	-9.4
4. Housing	161.24	122.72	123.34	-0.5	117.10	110.93	5.6
5. Household equipment	44.99	112.27	111.60	0.6	101.10	100.88	0.2
6. Health	81.02	102.22	102.16	0.1	99.41	99.44	0.0
7. Transport	137.64	123.58	122.49	0.9	107.91	107.64	0.2
8. Communication	39.59	94.95	95.18	-0.2	96.94	97.17	-0.2
9. Recreation and culture	33.67	101.93	101.84	0.1	99.28	99.36	-0.1
10. Education	30.59	103.10	102.97	0.1	100.93	100.92	0.0
11. Hotels-Cafés-Restaurants	95.39	108.61	109.25	-0.6	100.61	100.59	0.0
12. Miscellaneous goods and services	65.05	103.04	102.48	0.5	98.23	98.39	-0.2
Overall Index	**1000.00**	**113.15**	**113.16**	**0.0**	**104.24**	**103.75**	**0.5**

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

CPI monthly rates of change — CPI annual rates of change

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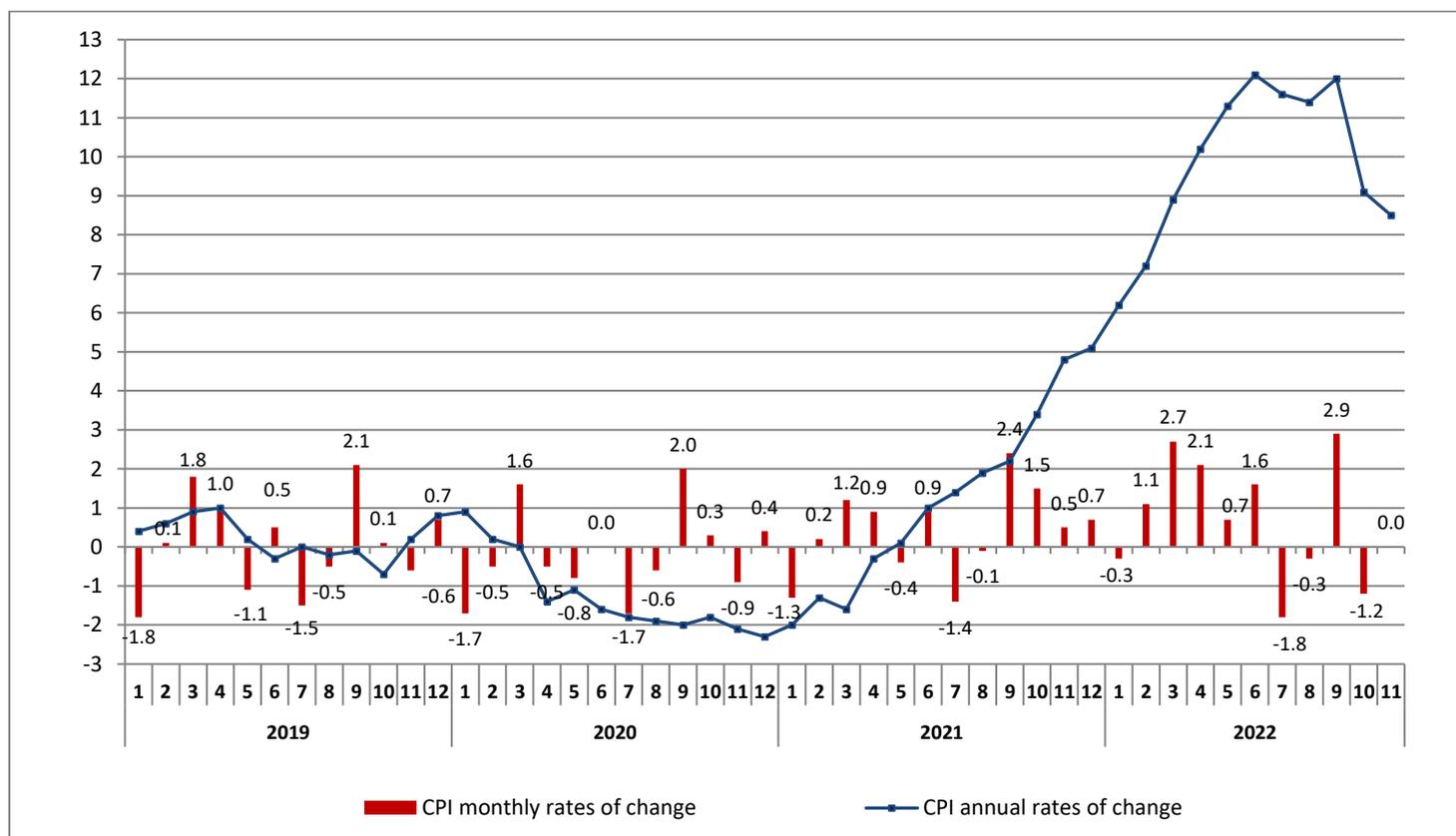
Table 2. Inflation – Annual rates of change of CPI
(Reference year: 2020=100.0)

I: November 2022/2021

Main groups of goods and services	November		Rate of change (%)	Impact
	2022	2021		
1. Food and non-alcoholic beverages	119.41	103.82	15.0	3.1845
2. Alcoholic beverages and tobacco	102.44	99.66	2.8	0.1079
3. Clothing and footwear	113.39	102.29	10.9	0.5817
4. Housing	122.72	117.10	4.8	0.7708
5. Household equipment	112.27	101.10	11.0	0.4997
6. Health	102.22	99.41	2.8	0.2301
7. Transport	123.58	107.91	14.5	2.0047
8. Communication	94.95	96.94	-2.1	-0.0821
9. Recreation and culture	101.93	99.28	2.7	0.0906
10. Education	103.10	100.93	2.2	0.0663
11. Hotels-Cafés-Restaurants	108.61	100.61	8.0	0.7659
12. Miscellaneous goods and services	103.04	98.23	4.9	0.3193
Overall Index	**113.15**	**104.24**	**8.5**	

II: November 2021/2020

Main groups of goods and services	November		Rate of change (%)	Impact
	2021	2020		
1. Food and non-alcoholic beverages	103.82	100.32	3.5	0.8422
2. Alcoholic beverages and tobacco	99.66	99.76	-0.1	-0.0059
3. Clothing and footwear	102.29	98.46	3.9	0.2684
4. Housing	117.10	99.50	17.7	2.5090
5. Household equipment	101.10	98.78	2.3	0.1114
6. Health	99.41	99.50	-0.1	-0.0077
7. Transport	107.91	98.72	9.3	1.1596
8. Communication	96.94	99.61	-2.7	-0.1188
9. Recreation and culture	99.28	99.58	-0.3	-0.0107
10. Education	100.93	99.99	0.9	0.0349
11. Hotels-Cafés-Restaurants	100.61	99.32	1.3	0.0942
12. Miscellaneous goods and services	98.23	98.96	-0.7	-0.0538
Overall Index	**104.24**	**99.45**	**4.8**	

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: 2020=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 %
2019 : 1	99.63	-1.8	0.4	101.04	0.7
2	99.76	0.1	0.6	101.10	0.7
3	101.58	1.8	0.9	101.17	0.8
4	102.58	1.0	1.0	101.26	0.9
5	101.45	-1.1	0.2	101.28	0.9
6	101.93	0.5	-0.3	101.26	0.8
7	100.44	-1.5	0.0	101.26	0.7
8	99.89	-0.5	-0.2	101.25	0.6
9	102.00	2.1	-0.1	101.24	0.5
10	102.13	0.1	-0.7	101.18	0.3
11	101.55	-0.6	0.2	101.20	0.2
12	102.22	0.7	0.8	101.26	0.3
Annual average	*101.26*	-	-	*101.26*	*0.3*
2020 : 1	100.49	-1.7	0.9	101.34	0.3
2	99.99	-0.5	0.2	101.35	0.3
3	101.57	1.6	0.0	101.35	0.2
4	101.11	-0.5	-1.4	101.23	0.0
5	100.29	-0.8	-1.1	101.13	-0.1
6	100.33	0.0	-1.6	101.00	-0.3
7	98.63	-1.7	-1.8	100.85	-0.4
8	97.99	-0.6	-1.9	100.69	-0.5
9	99.98	2.0	-2.0	100.52	-0.7
10	100.33	0.3	-1.8	100.37	-0.8
11	99.45	-0.9	-2.1	100.20	-1.0
12	99.84	0.4	-2.3	100.00	-1.2
Annual average	*100.00*	-	-	*100.00*	*-1.2*
2021 : 1	98.52	-1.3	-2.0	99.84	-1.5
2	98.72	0.2	-1.3	99.73	-1.6
3	99.91	1.2	-1.6	99.59	-1.7
4	100.82	0.9	-0.3	99.57	-1.6
5	100.43	-0.4	0.1	99.58	-1.5
6	101.36	0.9	1.0	99.66	-1.3
7	99.96	-1.4	1.4	99.78	-1.1
8	99.83	-0.1	1.9	99.93	-0.8
9	102.19	2.4	2.2	100.11	-0.4
10	103.75	1.5	3.4	100.40	0.0
11	104.24	0.5	4.8	100.80	0.6
12	104.95	0.7	5.1	101.22	1.2
Annual average	*101.22*	-	-	*101.22*	*1.2*
2022 : 1	104.68	-0.3	6.2	101.74	1.9
2	105.84	1.1	7.2	102.33	2.6
3	108.75	2.7	8.9	103.07	3.5
4	111.08	2.1	10.2	103.92	4.4
5	111.80	0.7	11.3	104.87	5.3
6	113.62	1.6	12.1	105.89	6.2
7	111.54	-1.8	11.6	106.86	7.1
8	111.21	-0.3	11.4	107.81	7.9
9	114.48	2.9	12.0	108.83	8.7
10	113.16	-1.2	9.1	109.61	9.2
11	113.15	0.0	8.5	110.36	9.5

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 between November 2022 and October 2022 and their impact on the Overall CPI

| Goods and services	Rate of change (%)	Impact
Bread	1.3	0.02
Other bakery products	2.3	0.01
Beef	1.4	0.02
Yoghurt	4.4	0.02
Cheese	2.8	0.05
Olive oil	3.2	0.03
Fresh fruit	3.4	0.04
Frozen vegetables	4.0	0.01
Fruit juices	4.5	0.01
Pasta products and couscous	-7.2	-0.03
Fresh vegetables	-4.4	-0.06
Alcoholic beverages (not served)	0.7	0.01
Clothing and footwear	-4.7	-0.29
Heating oil	-7.9	-0.22
Rentals for dwellings	1.1	0.04
Electricity	2.2	0.10
Non-durable household articles	1.2	0.03
New motor cars	2.2	0.05
Petrol	2.0	0.11
Diesel	-2.9	-0.02
Passenger transport by air	-3.6	-0.02
Hotels-motels-inns	-8.3	-0.07
Restaurants-confectioneries-cafes	0.2	0.02
Other appliances and articles for personal care	1.3	0.04

Table 5. Major price changes from index comparison between November 2022 and November 2021 and their impact on the Overall CPI

Goods and services	Rate of change (%)	Impact
Bread and cereals	18.7	0.62
Meat	16.7	0.76
Fish	1.9	0.03
Milk cheese and eggs	25.3	0.83
Oils and fats	20.4	0.26
Fruit	3.7	0.05
Vegetables	12.6	0.35
Sugar-chocolates-sweets-ice creams	8.6	0.10
Food n.e.c.	12.9	0.06
Coffee - cocoa - tea	11.9	0.07
Mineral water-refreshments-fruit juices	8.9	0.05
Alcoholic beverages (not served)	7.1	0.11
Clothing and footwear	10.9	0.58
Rentals for dwellings	2.6	0.10
Services for the repair and maintenance of the dwelling	4.0	0.03
Co-proprietor charges	1.6	0.01
Natural gas	27.8	0.45
Heating oil	11.6	0.30
Solid fuels	23.2	0.12
Electricity	-5.3	-0.27
Furniture and furnishings	6.7	0.02
Household textiles	4.0	0.02
Household appliances and repair	4.5	0.03
Glassware-tableware and utensils of domestic use	8.5	0.02
Non-durable household articles	16.7	0.34
Domestic services	6.3	0.06
Pharmaceutical products	6.0	0.16
Medical products	3.3	0.02
Medical-dental and paramedical services	1.5	0.03
Hospital care	0.6	0.02
New motor cars	13.3	0.30
Second hand motor cars	19.4	0.25
Motor cycles	9.6	0.02
Spare parts and accessories of motor cars	10.6	0.04
Fuels and lubricants	17.6	1.12
Maintenance and repair of motor cars-motor cycles	3.1	0.02
Passenger transport by taxi	32.9	0.04
Passenger transport by air	42.3	0.18
Passenger transport by sea	26.7	0.03
Telephone services	-1.9	-0.07
Major durables for recreation and culture	4.5	0.03
Small recreational items-flowers-pets	3.1	0.02
Cinemas-theatres	14.3	0.02
Stationery and drawing materials	9.1	0.02
Package holidays	12.8	0.02
Audiovisual and information processing equipment	-5.3	0.03
Primary education	2.6	0.01
Secondary education	2.6	0.05
Restaurants-confectioneries-cafes-buffets	7.1	0.63
Hotels-motels-inns	14.5	0.14
Hairdressing salons and personal grooming establishments	2.7	0.02
Other appliances and articles for personal care	10.2	0.27

Graph 3. Monthly rates of change (%) of the overall CPI, 2021 and 2022

Legend: 2021, 2022

Month	2021	2022
1	-1.3	-0.3
2	0.2	1.1
3	1.2	2.7
4	0.9	2.1
5	-0.4	0.7
6	0.9	1.6
7	-1.4	-1.8
8	-0.1	-0.3
9	2.4	2.9
10	1.5	-1.2
11	0.5	0.0
12	0.7	
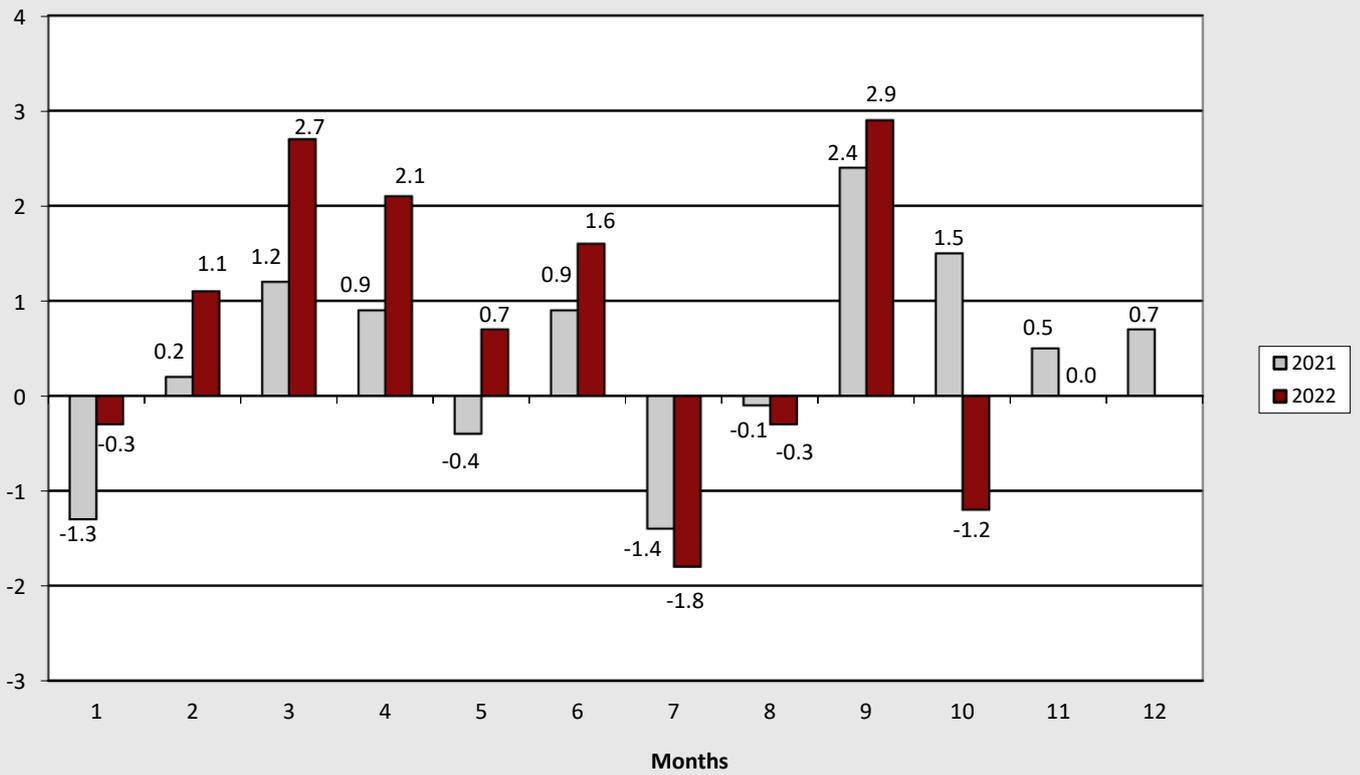
Months

Graph 4. Annual rates of change (%) of the overall CPI, 2021 and 2022

Legend: 2021/2020, 2022/2021

Month	2021/2020	2022/2021
1	-2.0	6.2
2	-1.3	7.2
3	-1.6	8.9
4	-0.3	10.2
5	0.1	11.3
6	1.0	12.1
7	1.4	11.6
8	1.9	11.4
9	2.2	12.0
10	3.4	9.1
11	4.8	8.5
12	5.1	
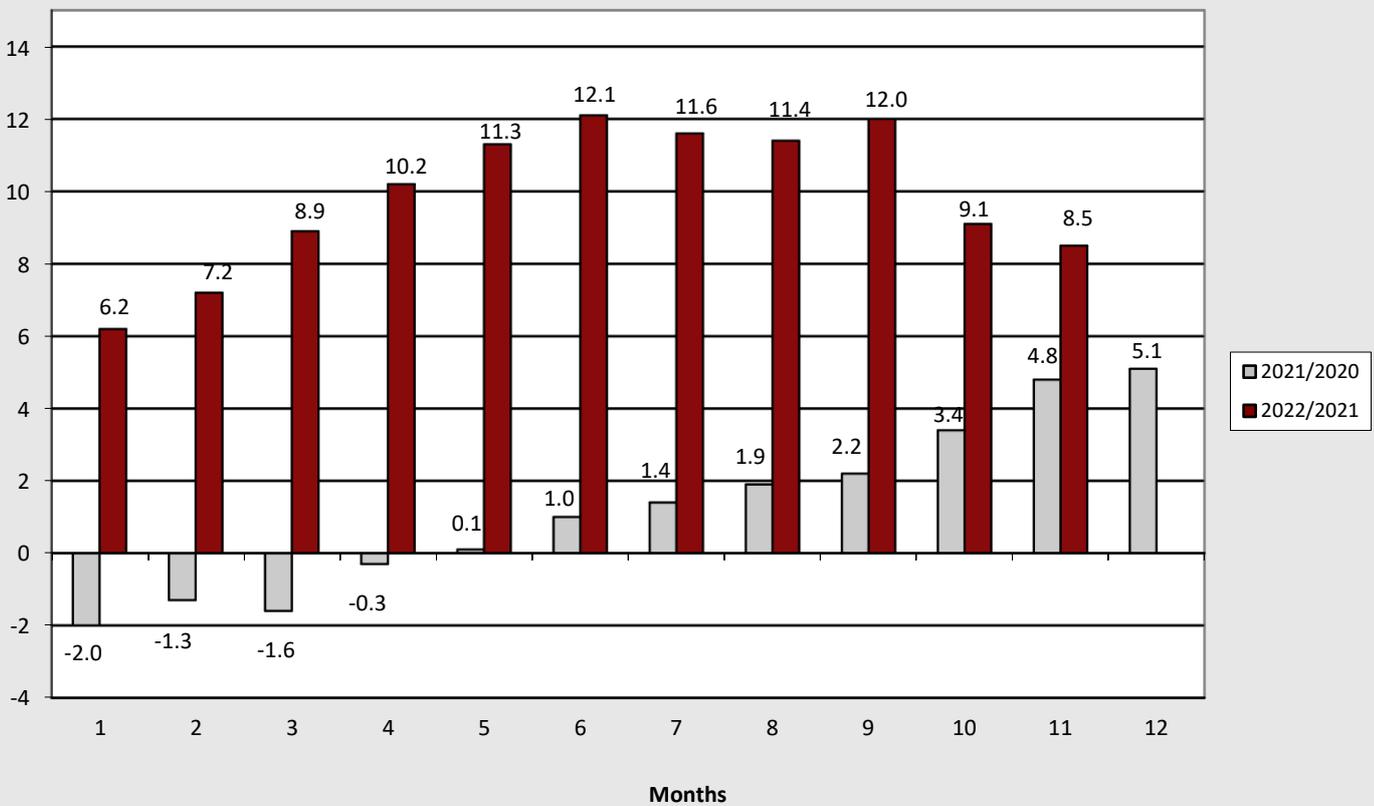
Months

Graph 5. Monthly rates of change (%) of CPI between November 2022 and October 2022

Category	Value
Food and non-alcoholic beverages	0.9
Alcoholic beverages and tobacco	0.3
Clothing and footwear	-4.7
Housing	-0.5
Household equipment	0.6
Health	0.1
Transport	0.9
Communication	-0.2
Recreation and culture	0.1
Education	0.1
Hotels-Cafes-Restaurants	-0.6
Miscellaneous goods and services	0.5
Overall Index	0.0
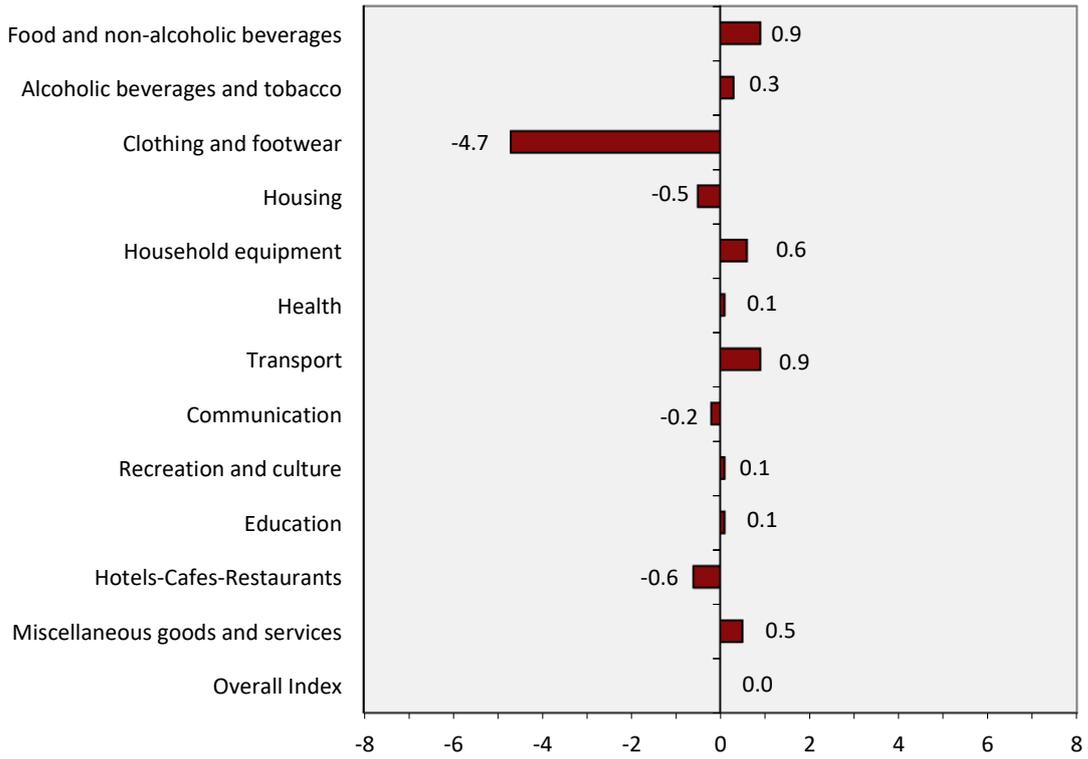
Graph 6. Annual rates of change (%) of CPI between November 2022 and November 2021

Category	Value
Food and non-alcoholic beverages	15.0
Alcoholic beverages and tobacco	2.8
Clothing and footwear	10.9
Housing	4.8
Household equipment	11.0
Health	2.8
Transport	14.5
Communication	-2.1
Recreation and culture	2.7
Education	2.2
Hotels-Cafes-Restaurants	8.0
Miscellaneous goods and services	4.9
Overall Index	8.5
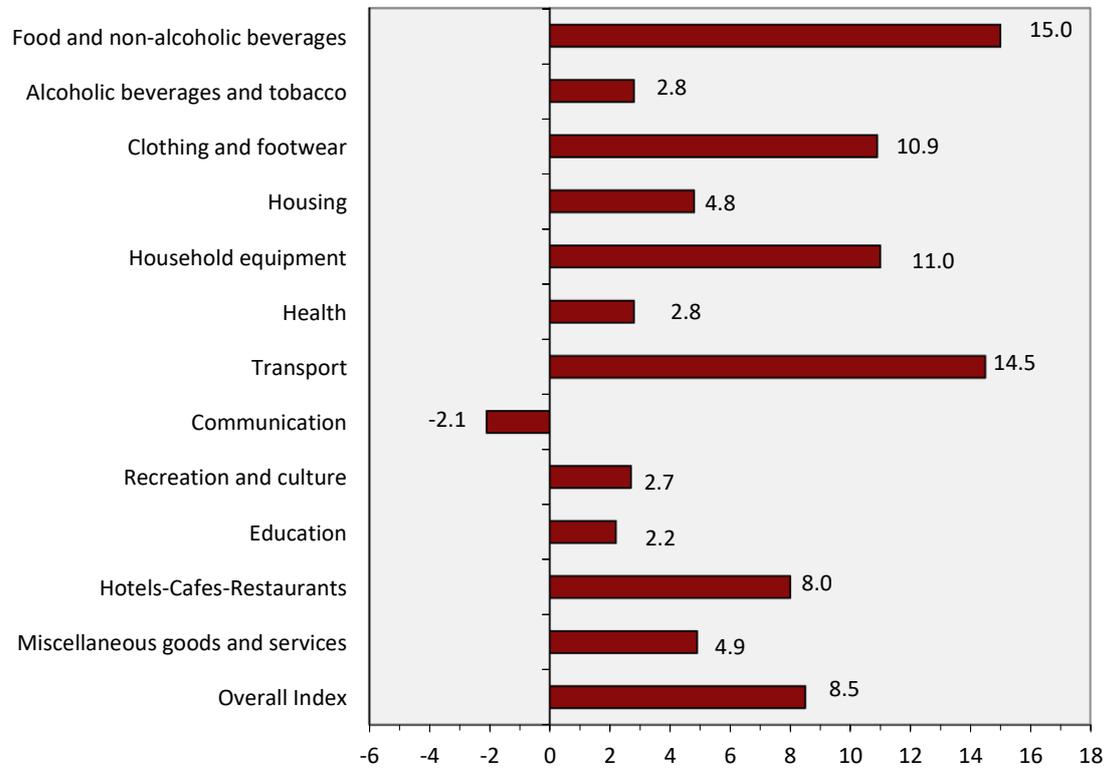
Graph 7. CPI highest annual increases (%)

Category	Value
Passenger transport by air	42.3
Passenger transport by taxi	32.9
Natural gas	27.8
Passenger transport by sea	26.7
Milk cheese and eggs	25.3
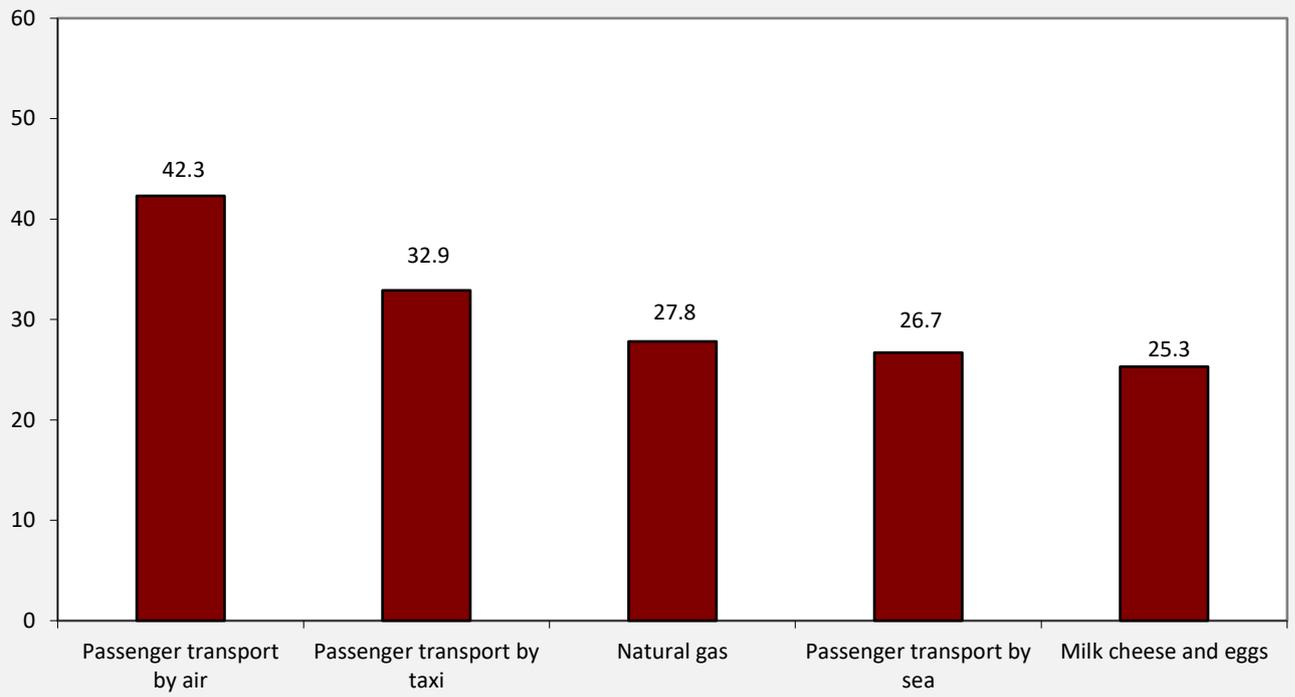
Graph 8. CPI highest annual decreases (%)

Category	Value
Electricity	-5.3
Audiovisual and information processing equipment	-5.3
Telephone services	-1.9

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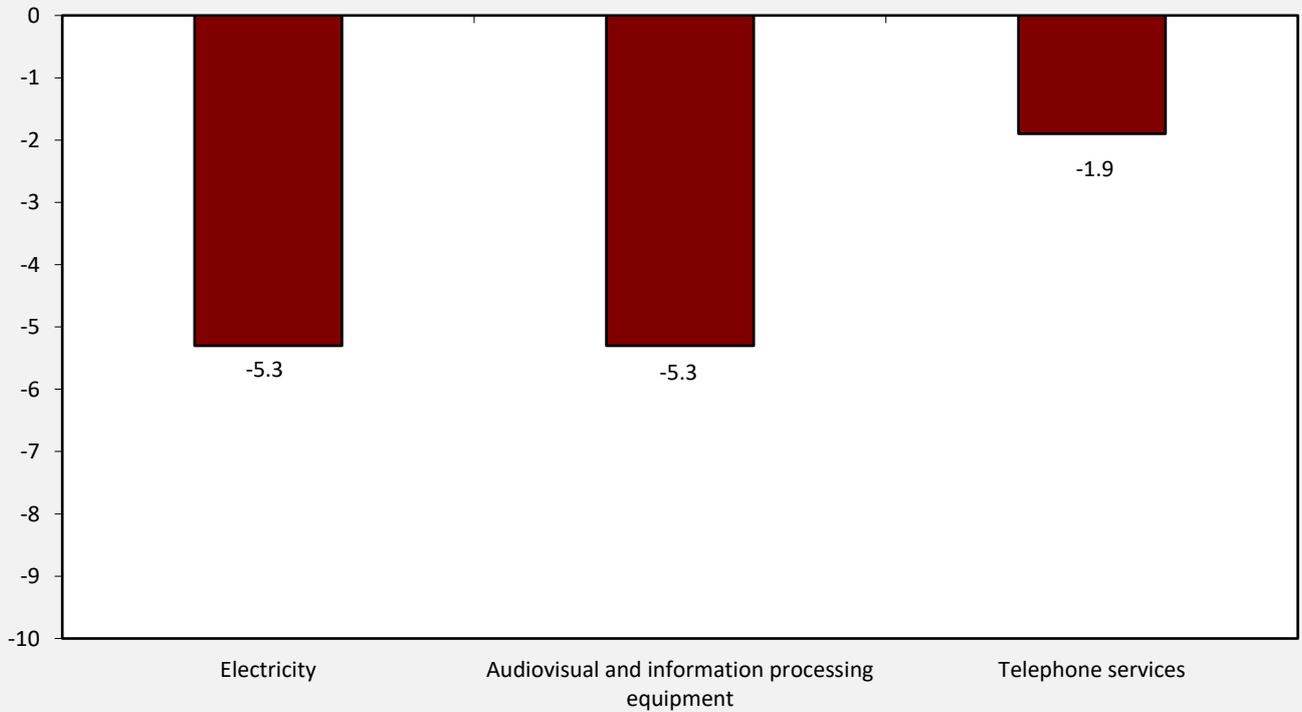
Graph 9. Historical evolution of CPI, 1971 – 2022

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
2020=100.0.

Chain linking Index
The CPI index follows the chain linking method, introducing new weights annually and having as a base the 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:

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

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 2020=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).