

Information Note on the Consumer Price Index, January 2014

Introduction

The Hellenic Statistical Authority announced on 03/02/2014 the change in the date of the Press Release concerning the National Consumer Price Index (CPI) of January 2014, in order to allow the effective completion of the works on:

- Updating the CPI weights taking into account the results of the most recent Household Budget Survey (HBS) of 2012.
- The implementation of the “chain linking” method in the National CPI. This methodology is already being applied by ELSTAT for the compilation of the Harmonized Index of Consumer Prices (HICP).

The updating of the weights of the index taking into account the most recent results of the Household Budget Survey (HBS 2012) is undertaken in order to reflect in the index an updated standard composition of household consumption expenditure. The fact that the HBS is now being conducted by ELSTAT on an annual basis permits the annual revision of the weights and the items involved in the National CPI, which can be important in periods of rapid economic change. A prerequisite for the preservation of the time series is that the annual series are connected using the “chain linking” method. The new methodology will allow the annual renewal of “the household basket”, thus ensuring the representativeness of the index. This methodology is already being applied by ELSTAT for the compilation of the Harmonized Index of Consumer Prices (HICP), in accordance with European Regulations.

The revision of the National CPI is envisaged, among the other tasks, in the annual statistical program of ELSTAT for the year 2014. The above-mentioned tasks constitute the first phase of this revision and during 2014 ELSTAT will conduct the following enhancement works:

- Implementation of the new European Classification of Individual Consumption by Purpose (ECOICOP).
- Updating of the items (basket of goods and services).
- Updating of the sample of regions and stores.
- Improvement in the calculation of certain categories of the CPI, for example for airfares and sea fares, hospital services, second hand motor cars, telecommunication services, etc.
- Annual updating of the CPI weights based on annual HBS data which are available in the third quarter (Q3) of each year.

These developments are expected to be completed in the following months and will be included in the results of the CPI of January 2015, which will also incorporate the new weights based on the data of 2013 HBS which will be available during the third quarter (Q3) of 2014.

The Household Budget Survey (HBS)

The Household Budget Survey (HBS) is a statistical survey, which collects information, from a representative sample of households, on: the composition of households, their members' employment status, living conditions, as well as on their expenditure and income. Among others, the primary goal of this research is the revision of National Consumer Price Index.

In Greece, 13 Household Budget Surveys have already been conducted. Before 2008, the HBSs were being conducted periodically, yet from 2008 onwards, the HBSs are conducted on an annual basis, in order to allow for the calculation of a more representative Consumer Price Index and to provide more up-to-date information for the compilation of the National Accounts. In addition, the Household Budget Surveys collect data throughout the year in order to obtain the best estimate of the average household expenditure.

The size of the sample of the 2012 HBS amounted to 3,572 households (sampling fraction 0.08%), which was equally distributed during the whole year in order to select 4 equivalent independent samples corresponding to the four quarters of the year.

The expenditures of the households on goods and services figure in the compiled tables as monthly averages of the total of the households of each group, whether all of the households of a group have reported any expenditures for the corresponding goods and services or not.

Weights of items

The weights for the items in the new CPI are based on the results of the 2012 HBS, after having adjusting the expenditure data of this survey to the prices of December 2013 (which is the base month of the new CPI).

These weights refer to the average composition of monthly expenditure consumption of the total of the private households of the country, which was recorded during the conduct period of the HBS. More specifically, the weight of each group, sub-group and species (of goods and services) represents the share of the average household expenditure for this group, sub-group and species in the total average household expenditure.

The weights of items based on the results of the 2012 HBS, as they were adjusted in December 2013 prices, are expressed in ‰, for the 12 main groups in the following table. For comparison reasons, the weights of the CPI of December 2013, based on the 2008 HBS, are also presented in the same table.

	GROUPS	Weights	
		Based on 2008 HBS	Based on 2012 HBS
1	Food and Non Alcoholic Beverages	171.22	208.96
2	Alcoholic Beverages and Tobacco	34.80	40.94
3	Clothing and Footwear	86.40	64.43
4	Housing, water supply, electricity, natural gas and other fuels	115.88	150.53
5	Furnishing, household equipment and routine household maintenance	73.63	58.66
6	Health	70.73	67.33
7	Transport	132.39	127.53
8	Communication	45.56	41.59
9	Recreation and cultural Activities	47.77	42.00
10	Education	30.41	32.24
11	Restaurants and Hotels	114.09	98.52
12	Miscellaneous Goods and Services	77.11	67.27
	TOTAL	1000.00	1000.00

The weights based on the 2012 HBS reflect the current standard composition of consumption expenditure of households. The fact that the HBS is now conducted by ELSTAT on an annual

basis allows the annual renewal of the weights and items which participate in the National CPI. This fact is very important in periods of rapid economic changes and it could influence the aggregates of indices of sub groups and groups of the Consumer Price Index.

The chain linking method

Until the end of 2008, the HBS was conducted every five years, thus adjusting the weights of the CPI on the same five-year basis. From 2008 onwards, the HBS is conducted on an annual continuous basis, which allows for the annual updating of the CPI weights. Practically, the annual updating of the weights means that the CPI series are compiled for a fixed 12-month period. In order to preserve the longest possible time series, these annual series running from December of each year to December of the following year must be linked together in a chain. This involves multiplying each month's index of the new year series with the December index of the previous year series, starting with the January index of the new year's CPI series. Such chain linked series are often referred to as 'laspeyres type' indices, as the weights in the index series are only fixed for one year at a time. This differs from "a pure Laspeyres" index, where weights are fixed for the entire length of the index series. Chain linking can be undertaken at any time during the year, but for consistency reasons, in terms of updating the HICP, December is the preferred month. It is noted that the indices, which are published, have as reference year 2009=100.0.

Until December 2013 the CPI was calculated as a fixed basis index and more specifically the base year was 2009. From January 2014 onwards, the CPI is calculated as a chained index that has as base month December 2013 for the 12 months of the current year (2014). For the 12 months of the next year (2015) the base month will be December 2014 and so on. Consequently, the revised CPI has as base month December of the previous year and as reference year 2009.

Advantages of annually chain linking

- It allows for the introduction of the most recent and up-to-date weights, which better reflect recent consumption patterns. This is essential in times of rapid economic change.
- It allows for the regular updating of the sample of regions and retail stores, thus maintaining the representativity of the CPI's samples.
- It allows for the regular updating of the CPI/HICP basket of goods and services, allowing the CPI to follow market trends and to include new products, which appear in the market and to remove products whose importance is waning.
- It allows for the systematic updating and introduction of new methodologies for the compilation of the index, such as for the calculation of airfares, telecommunication services, etc.
- It is in line with the practice adopted for the compilation of the Greek HICP.
- It is widely regarded as best practice worldwide.

Disadvantages of annually chain linking

- It does not follow the pure Laspeyres fixed weights approach, as 12-month rates of change are computed with indices that have been obtained from different weightings.
- “Non additivity” problem: in chain linked time series the subgroups-groups-CPI indices are not calculated as weighted mean indices of the items- subgroups-groups which compose them, respectively.
- It requires intensive and systematic work for the calculation of weights and intra weights of items, which will constitute the CPI, redefinition of these items on the basis of the current available HBS and more resources for price collection.

Updating of weights on the basis of the price changes

The updating the weights on the basis of the changes in prices is a procedure according to which the weights are adjusted to the year when the HBS is conducted, on the basis of the CPI prices, in an analytical classification level, in order to calculate the weights for the base period of the index. For example, the 2012 HBS data, based on the CPI, were re-adjusted to December 2013 valued data in order to calculate the weights applied for the year 2014. In this way, any changes in the consumption pattern, due to price changes, are corrected. For the HICP this updating of prices is conducted by virtue of the regulatory framework of European Regulations 1114/2010 and 2454/1997.