



Price Statistics Sector

CONSUMER PRICE INDICES AND WEIGHTS FOR FUELS

Abstract

As the main indicator of the general price level, i.e. a measure of inflation, since 1998 the **consumer price index (CPI)** has been used in Slovenia. For international comparisons, the Statistical Office in 2001 introduced – as did other EU member states – the **harmonised index of consumer prices (HICP)**, which we have to calculate according to EU regulations. The mentioned indices are designed on methodological bases that are comparable to other countries. However, there is one major difference between the two indices, namely in the principle of taking into account consumer spending that they monitor and that reflects in weights.

In preparing the weights, Slovenia uses the same sources as other countries, i.e. data from Household Budget Surveys and national accounts data. Despite the same sources, the differences among countries regarding the shares of individual groups composing consumer price indices can be rather large. Different consumer habits in individual countries, which to a large extent depend on the country's development and location, reflect in these weights.

For Slovenia it is, for example, characteristic that the share of fuels in the basket of goods, which is used to monitor the movement of prices, is among the highest, while the share of transport services is among the lowest. The reasons for this are probably that Slovenia has a large number of cars that households use for transport, as the number of cars per 1,000 population has been increasing for several years, and that according to 2008 data more than 86% of passenger land transport is performed by cars. And all this increases fuel use and fuel expenditure.

Increase in the turnover value of fuel oil and of fuels and lubricants for personal transport equipment in recent years is shown by retail trade data and by energy statistics.

Indices

For calculating various indices with which the movement of retail prices is monitored, every month the Statistical Office collects the prices of selected goods and services at around 1,200 outlets in 4 places, Ljubljana, Maribor, Koper and Novo mesto. Some prices are also collected in other places in Slovenia, mostly by phone and via the Internet. In 2010 the basket of goods and services whose prices are the basis for calculating the **consumer price index (CPI)** and the **harmonised index of consumer prices (HICP)** is composed of 666 selected goods and services (food, clothing, household appliances, medicines, cars, various services, etc.), which are the most important in terms of consumer spending. Every month around 16,000 prices are included in calculating the indices.



As the main indicator of the general price level (i.e. inflation) in Slovenia since 1998 the **consumer price index (CPI)** has been used. This index measures changes in retail prices of goods and services from the point of view of expenditure structure which the resident population intends for final consumption in Slovenia and abroad – this is the so-called national principle.

In 2001 the Statistical Office started to calculate the **harmonised index of consumer prices (HICP)**, which measures changes in the level of retail prices of goods and services from the point of view of the expenditure structure which consumers (domestic and foreign) intend for final consumption in the territory of Slovenia – the so-called domestic concept.

Eurostat started to publish the harmonised index in 1997. This is an internationally harmonised consumer price index that has to be calculated on the basis of EU's legal acts. The HICP is used to monitor changes in retail prices and provide price stability in the EU and to compare inflation levels among EU member states. The HICP is designed on the basis of harmonised methodology and should as such **reflect only price changes and differences in consumption in individual countries**.

The legal basis and methodology for calculating the HICP are determined by 18 regulations, which are already taken into account in both our indices. These regulations determine and regulate methodological bases and the concept of indices, the classification scheme, levels and method of publishing indices, the quality of the index, weights, coverage in terms of products and area, taking into account discounts and sales, treatment of health, social and other services, etc.

Due to different concepts of consumption they reflect, the main and practically the only difference between the harmonised (HICP) and the national consumer price index (CPI) in Slovenia is in the weighting scheme; however, as shown by Table 1 this does not have a major impact on the final results as annual price growth rates are very similar for both indices.

Table 1: Annual price growth rates, %

	CPI	HICP	CPI	HICP
	Annual index		Average annual index	
2000	8,9	-	8,9	-
2001	7,0	7,0	8,4	8,6
2002	7,2	7,1	7,5	7,5
2003	4,6	4,7	5,6	5,7
2004	3,2	3,3	3,6	3,7
2005	2,3	2,4	2,5	2,5
2006	2,8	3,0	2,5	2,5
2007	5,6	5,7	3,6	3,8
2008	2,1	1,8	5,7	5,5
2009	1,8	2,1	0,9	0,9

Weights

Weights are shares of consumption of an individual good or service in total consumption and are intended for measuring the contribution of the change in the price of an individual good or service to the total price change.



Since 2001 weights for both indices have been changed annually because in both the CPI and the HICP we decided on a chain index. Namely, in addition to annual change in weights, a chain index enables changes in the basket of goods and services.

For preparing weights for the CPI the main source is data from Households Budget Surveys ([SL 2009, tab. 14.2](#)), which - especially in cases of "sensitive products" - are checked and supplemented with data from other available statistical and non-statistical sources. Weights for 2010 are thus based on the average of expenditure from surveys for 2008, recalculated with the help of price indices to prices for December 2009.

For preparing weights for the HICP the main source is national accounts data on final household expenditure ([SL 2009, tab. 26.6](#)). Weights for 2010 are based on data for 2008, recalculated to prices from December 2009. These data are also checked and supplemented with data from other sources.

What were the shares of main groups in both indices and what changes took place between 2004 and 2010 is shown by Table 2.

Table 2: Shares (weights) of main groups in the CPI and the HICP in 2004 and 2010

	CPI		HICP	
	2004	2010	2004	2010
01 Food and non-alcoholic beverages	19,7	16,5	18,5	16,3
02 Alcoholic beverages and tobacco	4,8	5,4	6,0	5,3
03 Clothing and footwear	8,5	8,3	7,3	6,8
04 Housing, water, electricity, gas and other fuels	11,8	12,6	10,8	9,7
05 Furnishings, household equipment and maintenance	7,2	8,2	6,7	6,9
06 Health	3,7	4,3	3,7	4,1
07 Transport	17,0	16,1	17,2	18,5
08 Communications	3,7	4,6	3,3	3,4
09 Recreation and culture	9,4	10,2	9,0	9,0
10 Education	1,4	1,2	1,4	1,5
11 Restaurants and hotels	6,3	5,6	9,0	9,8
12 Miscellaneous goods and services	6,5	7,1	7,1	8,7

In most cases the shares of individual groups are similar for both indices. Larger differences appear at those groups where consumption of foreign nationals is greater, e.g. services in restaurants and hotels, transport and some other services.

The same sources for preparing weights are used by other countries. The difference is that some countries such as Germany and the United States, whose consumer price indices are fixed-base indices, change weights only every five years.

According to the EU regulation governing this field, data for preparing weights must not be more than seven years old, and every year critical weights must be checked and changed in case of major changes in consumption. This shows that consumption in a country does not change very much in the short term and that changes in weights at annual level do not have a major impact on the total index. However, these changes and their impact on the index are much greater in case of changing weights only every five or even ten years and in case of rapid economic development and economic changes in the country.



As shown by Table 3, where shares of main groups in the HICP are presented, there are significant differences among countries.

Table 3: Shares of main groups in the HICP in EU countries in 2010 (%)

	01	02	03	04	05	06	07	08	09	10	11	12
EU 27	15,6	4,4	6,4	15,3	6,8	3,9	15,0	3,3	10,3	1,2	9,3	8,7
Belgium	16,5	4,3	6,5	13,7	7,6	3,7	14,8	3,3	11,7	0,7	9,0	8,2
Bulgaria	20,1	5,5	3,7	9,2	5,2	5,1	19,9	5,4	5,9	1,1	14,6	4,2
Czech Rep.	18,1	9,2	5,0	15,1	6,0	3,3	13,0	4,2	10,7	0,9	7,7	6,7
Denmark	12,7	4,2	5,7	17,7	7,0	3,2	16,6	2,4	13,1	0,9	5,7	11,0
Germany	11,9	4,6	5,4	23,0	6,1	4,4	15,1	2,9	12,0	1,0	5,2	8,4
Estonia	21,5	7,9	7,8	14,4	4,1	4,2	13,1	4,4	7,1	1,6	7,5	6,3
Ireland	13,0	7,4	4,5	9,9	4,5	3,9	14,1	3,8	11,2	2,8	17,8	7,2
Greece	17,3	4,6	8,7	9,2	6,5	7,4	13,2	4,0	5,3	2,9	14,0	6,9
Spain	18,5	2,8	8,8	11,3	6,9	3,2	13,9	3,8	7,9	1,4	14,5	7,0
France	16,0	3,6	5,3	15,0	6,7	4,5	17,5	3,3	10,0	0,6	7,1	10,5
Italy	17,4	3,1	9,6	10,2	9,2	3,8	15,1	3,0	6,9	1,1	12,0	8,7
Cyprus	18,2	2,9	8,3	8,4	6,5	5,7	14,1	4,1	7,0	3,1	12,5	9,2
Latvia	23,7	7,1	5,8	14,1	4,5	5,9	13,3	4,9	7,0	1,8	6,7	5,4
Lithuania	25,0	8,6	6,8	11,7	6,2	6,4	11,5	3,8	6,0	1,7	7,1	5,1
Luxemburg	10,5	11,6	4,2	10,1	8,2	1,9	21,3	2,0	9,1	0,6	8,8	11,7
Hungary	20,5	8,4	4,4	15,0	5,8	4,8	14,2	4,6	8,4	1,1	8,1	4,9
Malta	17,2	3,3	6,4	8,5	8,1	3,9	14,4	4,9	9,9	1,6	15,0	6,8
Netherlands	13,8	3,7	6,1	17,0	8,0	2,7	14,1	4,5	12,4	0,7	6,5	10,5
Austria	12,8	3,0	5,6	14,6	8,1	5,4	14,2	2,1	11,4	0,9	15,1	7,0
Poland	21,5	8,2	4,1	20,3	4,9	4,6	9,7	3,4	7,6	1,4	3,3	11,1
Portugal	17,5	3,1	5,0	10,3	6,0	8,0	16,8	3,2	6,0	2,2	13,7	8,2
Romania	35,0	8,0	7,4	17,2	5,1	3,2	7,0	5,8	5,1	0,9	1,8	3,5
Slovenia	16,3	5,3	6,8	9,7	6,9	4,1	18,5	3,4	9,0	1,5	9,8	8,7
Slovakia	18,0	5,2	5,4	19,3	7,9	4,3	9,4	4,1	9,4	1,7	7,8	7,6
Finland	15,5	6,5	5,3	15,6	6,2	5,3	15,4	3,4	10,9	0,6	8,5	6,8
Sweden	15,5	4,4	6,6	16,7	6,2	3,9	15,3	3,6	11,7	0,5	7,5	8,2
UK	10,8	4,0	5,6	12,9	6,4	2,2	16,4	2,5	15,0	1,9	12,6	9,7

Fuels

One of the most important subgroups for both indices is fuels, which according to the Classification of Individual Consumption by Purpose (COICOP/HICP) are divided into 0453 – liquid fuels (in group 04 – housing, water, electricity, gas and other fuels) and 0722 – fuels and lubricants for personal transport equipment (in group 07 – transport).

What were the shares of the mentioned groups in both indices between 2003 and 2010 is shown by Table 4.

**Table 4: Shares of liquid fuels and fuels and lubricants for personal transport equipment in the CPI and HICP**

	ICŽP			HICŽP		
	<i>0453-Liquid fuels</i>	<i>0722-Fuels and lubricants</i>	<i>Fuels - total</i>	<i>0453-Liquid fuels</i>	<i>0722-Fuels and lubricants</i>	<i>Fuels - total</i>
2003	1,69	5,16	6,85	1,60	6,05	7,65
2004	1,84	5,34	7,18	1,75	6,23	7,98
2005	2,17	5,49	7,66	2,14	6,03	8,17
2006	2,61	5,55	8,16	2,24	6,20	8,44
2007	1,97	5,36	7,33	1,98	6,40	8,38
2008	2,21	5,26	7,47	2,09	6,80	8,89
2009	1,28	4,04	5,32	1,50	5,46	6,96
2010	1,26	4,95	6,31	1,47	7,24	8,71

In preparing weights for fuels, for the CPI we used Household Budget Survey data and for the HICP we used national accounts data. These data were then checked and in some cases corrected with information and data from energy statistics (Household Energy Consumption Survey) and from retail trade. A slightly more noticeable difference is in the weights for fuels and lubricants for personal transport equipment on account of consumption by foreign nationals, since the prices of fuels in Slovenia are still lower than in some other, especially neighbouring, countries. The tables below show the estimated expenditure for fuels on the basis of both sources.

Table 5: Review of estimated expenditure for fuel on the basis of various data sources***Estimate based on Household Budget Survey data***

	Household expenditure					
	Total		Liquid fuels		Fuels and lubricants	
	million EUR	%	million EUR	%	million EUR	%
2001-2003 average (2003 prices)	9.532,08	100	217,40	2,3	523,24	5,49
2002-2004 average (2004 prices)	9.966,32	100	221,60	2,2	539,86	5,42
2003-2005 average (2005 prices)	11.299,21	100	262,49	2,3	606,36	5,37
2004-2006 average (2006 prices)	11.192,46	100	300,53	2,7	620,67	5,55
2007 average (2007 prices)	11.906,24	100	272,06	2,3	621,57	5,22
2008 average (2008 prices)	13.373,01	100	336,59	2,5	673,50	5,04

Estimate based on national accounts data

	Total	Liquid fuels		Fuels and lubricants	
	million EUR	million EUR	%	million EUR	%
2003	11.802,59	207,36	1,8	675,97	5,7
2004	13.039,10	225,69	1,7	745,60	5,7
2005	13.882,04	277,62	2,0	871,06	6,3
2006	14.495,54	278,15	1,9	1.005,22	6,9
2007	16.090,23	272,42	1,7	1.103,40	6,9
2008	17.544,44	342,95	2,0	1.283,05	7,3



In Slovenia the share of fuels was increasing in the 2004-2008 period, decreased in 2009 and increased again in 2010. Table 6 below shows that similar trends were observed in most of the other EU Member States. The lower share in 2009 was mostly the result of lower prices of petroleum products in 2008. Luxembourg and Slovenia have the highest shares of fuels in the HICP (8.7%). For more see Table 6.

Table 6: Shares of fuels in the HICP in 2004 - 2010

	2004	2007	2008	2009	2010
EU	4,1	4,9	5,1	4,4	4,8
Belgium	4,9	5,3	6,0	4,7	6,8
Bulgaria	2,8	6,6	7,9	6,7	8,5
Czech Rep.	3,6	4,5	4,7	3,3	4,3
Denmark	4,6	4,0	4,3	3,9	4,4
Germany	4,7	5,4	5,6	4,6	5,1
Estonia	5,5	4,7	5,1	4,2	5,1
Ireland	4,3	5,1	5,8	4,8	5,6
Greece	4,8	5,7	5,8	5,8	5,8
Spain	5,4	6,0	6,2	6,5	6,3
France	4,4	5,0	5,2	4,4	4,5
Italy	3,0	4,8	4,9	4,0	4,0
Cyprus	6,2	7,7	7,8	7,9	6,8
Latvia	3,6	3,7	4,8	4,1	5,6
Lithuania	4,5	5,1	5,6	4,1	5,5
Luxemburg	6,7	9,0	10,1	8,5	8,7
Hungary	4,9	5,2	5,5	5,3	5,6
Malta	3,1	3,6	3,9	4,0	4,0
Netherlands	3,7	4,5	5,0	4,1	4,8
Austria	3,6	4,5	5,3	3,9	4,1
Poland	5,5	5,2	3,9	3,4	3,8
Portugal	4,2	5,2	5,8	5,8	6,5
Romania	4,0	3,8	3,9	3,3	3,9
Slovenia	8,0	8,4	8,9	7,0	8,7
Slovakia	3,5	3,1	2,9	2,4	3,1
Finland	4,6	5,2	5,7	4,8	5,3
Sweden	5,4	5,2	5,1	4,4	4,7
UK	2,7	3,7	4,0	3,6	4,3

The growing use of fuels in Slovenia and thus also expenditure for fuels is to a large extent the result of the growing number of cars per person and thus ever greater number of cars used by natural persons and the increasing share of transport by cars in total passenger transport. As regards liquid fuels, the fact is that for heating ever more people use fuel oil instead of coal.

**Table 7: Important indicators from the field of road transport**

	Number of cars per 1,000 population	Number of cars used by natural persons	Share of transport by cars in total land passenger transport
2003	456	855.780	83,5
2004	468	881.036	84,7
2005	479	909.665	85,4
2006	488	931.138	85,6
2007	501	961.669	85,8
2008	487	989.332	86,2
2009	490	1.003.183	-

Table 8: Final consumption expenditure of households by consumption purpose, 2007-2008

	2007			2008		
	Purchase of vehicles	Operation of personal transport equipment	Transport services	Purchase of vehicles	Operation of personal transport equipment	Transport services
EU	4,3	6,9	2,5	4,0	7,0	2,5
Belgija	3,5	7,4	1,1	3,5	7,4	1,1
Bolgarija	:	:	:	:	:	:
Češka	3,5	5,7	2,6	3,3	5,5	2,7
Danska	6,1	6,4	1,2	5,3	6,3	1,2
Nemčija	5,1	6,4	2,5	4,8	6,4	2,6
Estonija	3,7	7,4	2,9	2,3	9,8	4,0
Irska	5,1	4,8	2,6	4,4	5,1	2,7
Grčija	4,7	3,4	2,3	4,5	3,4	2,5
Španija	3,9	5,8	2,0	:	:	:
Francija	3,8	8,8	2,1	3,5	8,9	2,1
Italija	3,9	7,6	1,8	3,3	7,8	1,8
Ciper	7,1	5,0	3,6	6,7	5,5	3,4
Latvija	3,8	6,1	2,6	0,4	1,5	2,3
Litva	3,1	11,0	2,6	:	:	:
Luxemburg	7,3	10,9	0,7	7,2	11,3	0,7
Madžarska	5,4	8,0	2,2	4,9	8,5	2,2
Malta	3,9	6,6	3,0	3,3	6,7	2,9
Nizozemska	3,5	6,5	1,9	:	:	:
Avstrija	3,7	6,6	2,5	:	:	:
Poljska	2,5	4,3	2,1	2,9	4,4	2,1
Portugalska	:	:	:	:	:	:
Romunija	3,4	8,2	4,4	:	:	:
Slovenija	6,2	8,8	1,1	6,0	9,1	1,1
Slovaška	1,5	3,9	2,1	1,6	3,8	2,2
Finska	3,6	5,9	2,2	3,5	6,0	2,2
Švedska	:	:	:	:	:	:
Velika Britanija	5,0	6,5	3,9	4,5	6,8	4,1



As shown in Table 8, which presents the share of household expenditure on personal mobility in the EU, Slovenia is among the Member States with the highest expenditure on purchase of vehicles and operation of personal transport equipment and among the Member States with the lowest expenditure on public transport.

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