

## Consumer electronics and household appliances – comparative price levels in 37 European countries for 2007

Within the framework of the European Comparison Programme (ECP) – in which Eurostat closely co-operates with the OECD<sup>1</sup> – surveys on prices of household goods and services are cyclically carried out by National Statistical Institutes (NSIs). 37 countries are currently participating in the surveys co-ordinated by Eurostat: the 27 EU Member States, 3 Candidate Countries (Croatia, the Former Yugoslav Republic of Macedonia and Turkey), 3 EFTA countries (Iceland, Norway and Switzerland) and 4 Western Balkan countries (Albania, Bosnia-Herzegovina, Montenegro and Serbia). These price surveys are the cornerstones of the work resulting in annual volume comparisons of the main National Accounts aggregates - Gross Domestic Product (GDP) and its components.

Each survey relates to a particular group of products. The results presented in this article refer to the survey on consumer electronics and household appliances carried out in spring 2007 in the 37 participating countries. This survey covered a total of about 130 consumer electronics products and about 100 household appliances, enabling all countries to price a sufficient number of products representative of their consumption pattern. The collected price data is used for the calculation of Purchasing Power Parities (PPPs) - see the methodological notes.

Price level indices (PLI = ratios of PPPs to exchange rates) provide a comparison of the countries' price levels with respect to the European Union average: if the price level index is higher than 100, the country concerned is relatively expensive compared to the EU average and vice versa).

Chart 1: Price level index for consumer electronics, 2007, EU27=100



<sup>1</sup> OECD co-ordinates the works for the non-European OECD Member States

## Consumer electronics

In the framework of this survey, **consumer electronics** include the following audio-visual, photographic- and information processing equipment:

- equipment for the reception, recording and reproduction of sound and pictures, like TVs and HI-FI systems;
- photographic and cinematographic equipment and optical instruments, like cameras and camcorders;
- information processing equipment, like computers, printers, monitors;
- pre-recorded recording media, like music CDs and movie DVDs and
- unrecorded recording media, like blank CDs and DVDs.

For consumer electronics the following country groups can be distinguished by PLI:

**Group I** ( $\geq 135\%$  of the EU average): Iceland;

**Group II** ( $\geq 110\%$  and  $< 135\%$  of the EU average): Denmark, Ireland, Cyprus, Malta, Finland, and Norway;

**Group III** ( $\geq 90\%$  and  $< 110\%$  of the EU average): Belgium, Czech Republic, Germany, Estonia, Greece, Spain, France, Italy, Latvia, Lithuania, Luxembourg, Hungary, the Netherlands, Austria, Poland, Portugal, Romania, Slovenia, Slovakia, Sweden, United Kingdom, Croatia, the former Yugoslav Republic of Macedonia, Turkey, Albania, Bosnia-Herzegovina and Serbia.

**Group IV** ( $< 90\%$  of the EU average): Bulgaria, Switzerland and Montenegro;

**Chart 1** on page 1 shows for all participating countries the comparative PLIs.

In the case of **consumer electronics**, price level indices of the EU countries lie very close together.

**For 27 out of 37 countries, PLIs are situated between 90 and 110**, meaning that price levels for these products are very similar across countries. The exception is Iceland, showing a PLI of 141.

## Price dispersion

**Table 1** is based on data used for charts 1 and 2 and provides a coefficient of variation within the Euro area (EA13), the 15 "old" Member States (EU15), the present European Union (EU27) and the group of all countries participating in the survey. The measure, used for each product group, is the coefficient of variation, defined as the standard deviation of PLIs of the respective group of countries as percentage of their average PLIs. The larger these numbers are, the higher are price dispersions in the respective product groups

Table 1 shows once more that **price dispersion is in general very low** for the indicated product groups (especially consumer electronics), as can be expected for easily tradable goods. Price dispersion is naturally greatest within the 37-country group of the survey participants, involving at the same time the high price EFTA countries and the mostly low price Candidate Countries.

**Table 1: Coefficient of variation for EA13, EU15, EU27 and all 37 survey participants for 2 main product groups**

	Variation coefficient			
	ECP37	EU27	EU15	EA13
<b>Household appliances</b>	15	11.6	9.6	5.7
<b>Consumer electronics</b>	10.4	7.4	5.9	5.6

## Household appliances

In the framework of this survey, the following product groups are included in **household appliances**:

- Major household appliances whether electric or not, like refrigerators, washing machines, dish-washers, cookers, microwave ovens, vacuum cleaners and others; and
- Small electric household appliances, like coffee-makers, toasters, steam irons and others.

For household appliances the grouping of countries by PLIs is as follows:

**Group I** ( $\geq 135\%$  of the EU average): Iceland;

**Group II** ( $\geq 110\%$  and  $< 135\%$  of the EU average): Denmark, Cyprus, Malta, Finland, Sweden and Norway;

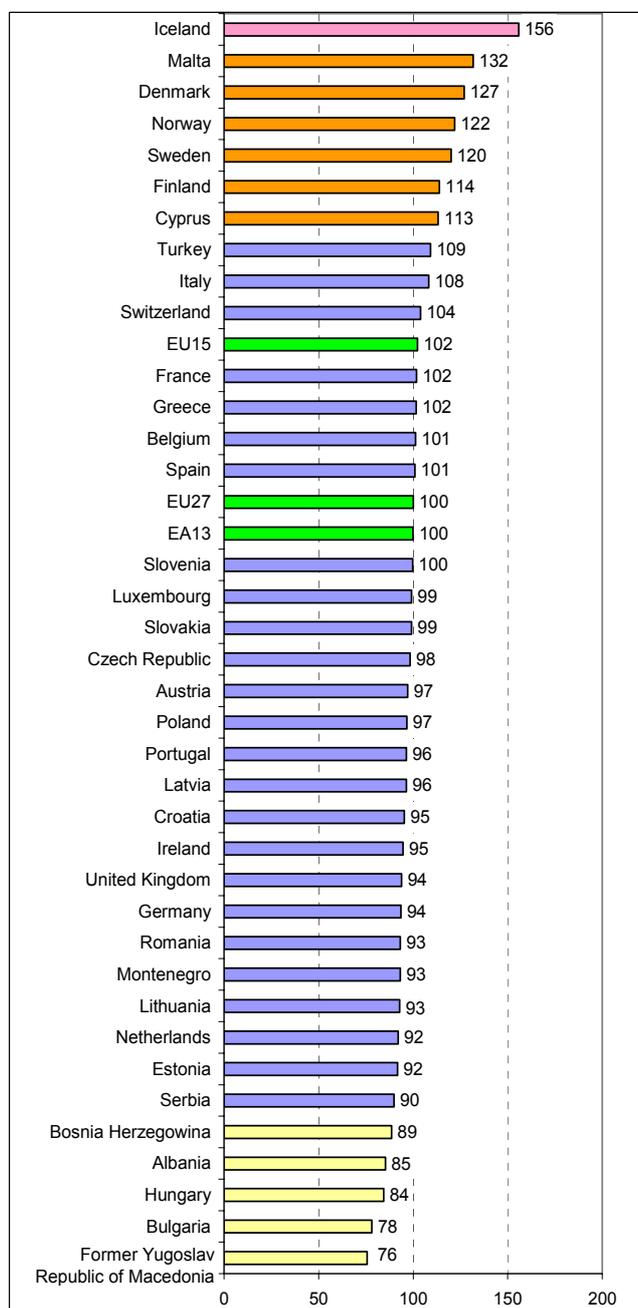
**Group III** ( $\geq 90\%$  and  $< 110\%$  of the EU average): Belgium, Czech Republic, Germany, Estonia, Ireland, Greece, Spain, France, Italy, Latvia, Lithuania, Luxembourg, the Netherlands, Austria, Poland, Portugal, Romania, Slovenia, Slovakia, United Kingdom, Croatia, Turkey, Switzerland, Montenegro and Serbia;

**Group IV** ( $< 90\%$  of the EU average): Bulgaria, Hungary, the Former Yugoslav Republic of Macedonia, Albania and Bosnia-Herzegovina.

**Chart 2** shows for all participating countries the comparative PLIs.

For household appliances, price level indices also lie remarkably close together. Looking at all countries, for **25 out of 37 countries, PLIs are situated between 90 and 110**, meaning that price levels for these products are very similar across countries. The “outlier” is Iceland, showing a PLI of 156. Different VAT rates among countries as well as the island situation of Iceland, Malta and Cyprus, implying high transport costs, contribute to differences in PLI levels.

**Chart 2: Price level index for household appliances 2007, EU27=100**



## METHODOLOGICAL NOTES

### What are purchasing power parities (PPPs) and price level indices (PLIs)?

The indices in this publication are produced by the European Comparison Programme (ECP). The full methodology used in this programme is described in the [Eurostat-OECD Methodological manual on purchasing power parities](#) which is available free of charge from the Eurostat website.

In their simplest form PPPs are nothing more than price relatives showing the ratio of prices in national currencies for an identical or comparable good or service in different countries. For example, if the price of a hamburger in Austria is 1.80 Euros and in Croatia it is 10 Kunas (HRK), the PPP for hamburgers between Austria and Croatia is 1.80 EUR to 10 HRK or 0.18 Euros to the Kuna. In other words, for every Kuna spent on hamburgers in Croatia, 0.18 Euros would have to be spent in Austria to obtain the same quantity and quality (or volume) of hamburgers. At the aggregate level, PPPs refer to comprehensive and representative baskets of goods and services.

Price level indices as presented in this publication are the ratios of PPPs to exchange rates. PLIs provide a measure of the differences in price levels between countries by indicating for a

given product group the number of units of the common currency needed to buy the same volume of the product group in each country. PLIs are not intended to rank countries strictly since they are statistical constructs rather than precise measures. Like all statistics, they are point estimates with a certain "error margin". It is, therefore, preferable to use PLIs to identify clusters of countries having a comparable price level, like it is done in this publication.

### What is the European Comparison Programme (ECP) and how are consumer price surveys organised?

The ECP provides annual price and volume comparisons of final expenditure on GDP for the European Union's Member States, Acceding and Candidate Countries and EFTA associates. For the purposes of the collection of consumer prices, the 37 countries currently participating in the group co-ordinated by Eurostat are divided into four sub-groups with one of the participating countries acting as group leader: the Northern Group (group leader Finland), the Central Group (group leader Austria), the Southern Group (group leader Portugal) and the Western Balkan Group (logistically attached to the Central Group, group leader Slovenia). Each group has group-specific product lists for the consumer price surveys which are organised in a rolling cycle over three years.

## Further information

---

Data: [Eurostat Website: http://ec.europa.eu/eurostat](http://ec.europa.eu/eurostat)

Select your theme on the left side of the homepage and then 'Data' from the menu.

### Key indicators on EU policy (predefined tables)

#### Economy and finance

#### Prices (prc)

#### Purchasing power parities (prc\_ppp)

 Purchasing power parities (PPP) and comparative price level indices for the ESA95 aggregates (prc\_ppp\_ind)

 Price convergence indicator (coefficient of variation of comparative price level index for final household consumption in %) (prc\_ppp\_conv)

---

### Journalists can contact the media support service:

Bech Building Office A4/125 L - 2920 Luxembourg

Tel. (352) 4301 33408 Fax (352) 4301 35349

E-mail: [eurostat-mediasupport@ec.europa.eu](mailto:eurostat-mediasupport@ec.europa.eu)

---

### European Statistical Data Support:

Eurostat set up with the members of the 'European statistical system' a network of support centres, which will exist in nearly all Member States as well as in some EFTA countries.

Their mission is to provide help and guidance to Internet users of European statistical data.

Contact details for this support network can be found on our Internet site:

<http://ec.europa.eu/eurostat/>

---

A list of worldwide sales outlets is available at the:

### Office for Official Publications of the European Communities.

2, rue Mercier

L - 2985 Luxembourg

URL: <http://publications.europa.eu>

E-mail: [info@publications.europa.eu](mailto:info@publications.europa.eu)

---

Manuscript completed on: 25.06.2008

Data extracted on: 26.05.2008

ISSN 1977-0316

Catalogue number: KS-SF-08-063-EN-N

© European Communities, 2008