

Clothing and footwear - comparative price levels in EU, EFTA¹ and Candidate Countries for 2003

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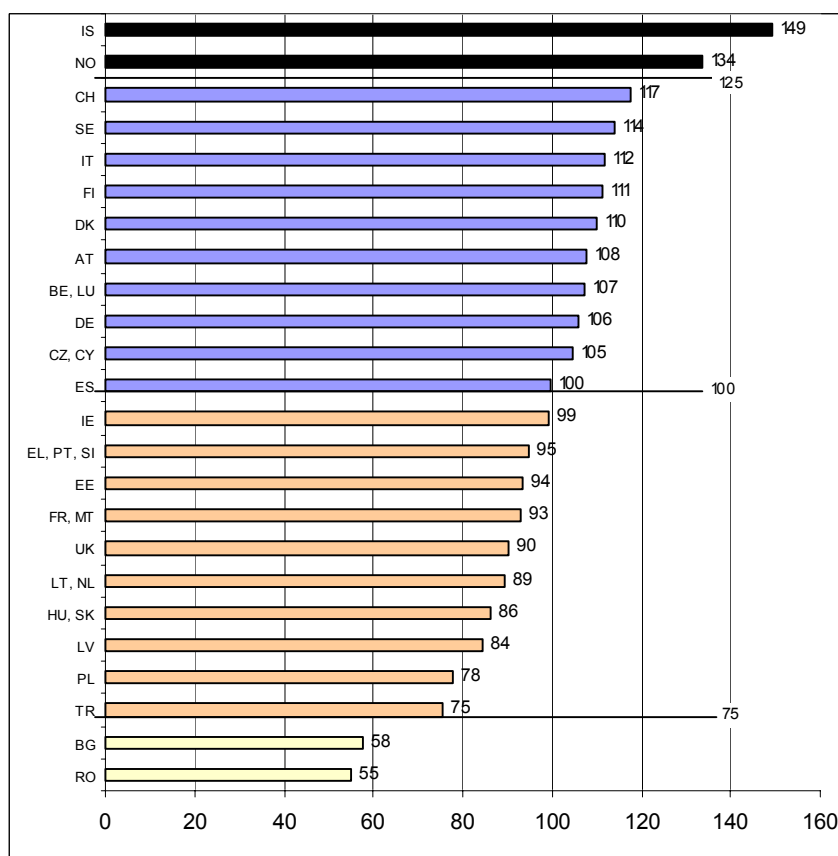
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In the framework of the European Comparison Programme (ECP) – in which Eurostat closely co-operates with the OECD - surveys on prices of household goods and services are carried out by National Statistical Institutes (NSIs). 31 countries are currently participating in the surveys co-ordinated by Eurostat: the 25 EU Member States, three Candidate Countries and three EFTA countries, Iceland, Norway and Switzerland. OECD co-ordinates the surveys for the non-European OECD Member States. These price surveys are the cornerstones of the work resulting in annual volume comparisons of the main National Accounts aggregates, namely Gross Domestic Product (GDP) and its components in Purchasing Power Standards².

Each survey relates to a particular group of products. The results presented in this article refer to the survey on Personal appearance carried out in autumn 2003 in the 31 participating countries. This survey covered a total of approximately 440 comparable products (of which 285 products for clothing and footwear goods), enabling all countries to price a sufficient number of products representative of their consumption pattern.

Chart 1: Price level index for Clothing and footwear, EU25=100



¹ Excluding Liechtenstein

² See methodological notes



Box 1: International price and volume comparisons

Eurostat participates in the "International Comparison Programme" (ICP), which has been running for 30 years. In Europe, Eurostat and the OECD co-operate within the framework of the "European comparison programme" (ECP), in which Eurostat annually establishes PPPs for the 25 EU Member States, the three EU Candidate Countries and three EFTA countries, Norway, Iceland and Switzerland. A rolling 3-year survey cycle is used for consumer prices. About one third of consumer goods and services are surveyed every year, and for the remaining two thirds, suitable consumer price indices are used for extrapolation in the intervening years. Rents and GDP weights are collected annually, as well as salaries in the government sector, which are used as proxy-PPPs for the respective part of this sector. Capital goods prices are collected every second year. For the remaining OECD member countries, the OECD follows the Eurostat survey cycle for consumer prices, whereas a benchmark-extrapolation approach is used for the other components, with PPP calculations every third year.

Price level indices for 2003 – a comparison between EU, EFTA and EU Candidate Countries

Price level indices resulting from the 2003 survey on Personal appearance for clothing and footwear goods are presented in **Chart 1**, highlighting the following country groups:

- **Group I** ($\geq 125\%$ of the EU average): Iceland and Norway;
- **Group II** ($\geq 100\%$ and $< 125\%$ of the EU average): Switzerland, Sweden, Italy, Finland, Denmark, Austria, Belgium, Luxembourg, Germany, the Czech Republic, Cyprus and Spain;
- **Group III** ($\geq 75\%$ and $< 100\%$ of the EU average): Ireland, Greece, Portugal, Slovenia, Estonia, France, Malta, the United Kingdom, Latvia, the Netherlands, Hungary, Slovakia, Latvia, Poland and Turkey;
- **Group IV** ($< 75\%$ of the EU average): Bulgaria and Romania.

Chart 1 shows that disparities in the price level index between countries were remarkable and PLIs lied between 55 (Romania) and 149 (Iceland) at total level of clothing and footwear goods.

This means that a comparable basket of clothing and footwear goods in the most expensive country, Iceland, cost about 2.7 times more than in the least expensive country, Romania. Iceland was followed by two other EFTA countries: Norway (134) and Switzerland (117).

From Chart 1 it can be also seen that, although more than half of the EU Member States were not far from the EU average (PLIs between 90-110), there were considerable

disparities between the EU Member States ranging from 78 (Poland) to 114 (Sweden).

The following paragraph analyses PLI's by geographical location. In the EU, Southern countries (Cyprus, France, Greece, Italy, Portugal, Spain and Malta) price levels were closest to the EU average and they also had the smallest price disparity within their group. Exceptional in this group was Italy where the PLI was one of the highest in the EU (112). Compared to the Southern countries price dispersions in the groups of Central and Northern countries were higher as economic situation and development in those countries varied a lot. Central countries were having PLIs above (Austria, Belgium, Luxembourg, Germany and the Czech Republic) and below (Slovenia, the Netherlands, Hungary, Slovakia and Poland) the EU average. The group of Northern Countries included countries with high PLIs (Sweden, Finland, Denmark), but also countries with PLIs below the EU average (Ireland, Estonia, the United Kingdom, Latvia and Lithuania).

Most New Member States had price level indices below the EU average, ranging from 78 (Poland) to 105 (the Czech Republic and Cyprus).

Finally, the Candidate Countries, Romania (55), Bulgaria (58) and Turkey (75) had the lowest PLIs and were below any of the EU Member States PLI, but Turkey was close to the lowest EU Member State Poland (78).

Box 1: What are Price level indices?

The indicators analysed in this article are Price level indices (PLIs), calculated as the ratio between Purchasing Power Parities (PPPs) and exchange rates for each country, in relation to the EU average.

These indices 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. Price level indices are not intended to rank countries strictly. In fact, they only provide an indication of the comparative order of magnitude of the price level in one country in relation to others, particularly when countries are clustered around a very narrow range of outcomes. The degree of uncertainty associated with the basic price data and the methods used for compiling PPPs, may affect in such a case the minor differences between the PLIs and result in differences in ranking which are not statistically or economically significant.

It is, therefore, preferable to use these indices to divide countries into groups of a comparable level, as done in this article. It should also be noted that the PLIs in this article have been calculated using 2003 price data, however, preliminary expenditure data had to be applied, as final expenditure data for 2003 will become available in autumn this year. The PLIs may therefore change slightly when the final PPP data 2003 are published in December 2005, based on final 2003 expenditure data.

Table 1: 2003 Comparative price level indices for clothing and footwear goods, EU25=100

	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU	MT	NL	AT	PL	PT	SI	SK	FI	SE	UK	IS	NO	CH	BG	RO	TR
Clothing and footwear	107	105	110	106	94	95	100	93	99	112	105	84	89	107	86	93	89	108	78	95	95	86	111	114	90	149	134	117	58	55	75
Men's clothing and footwear	107	110	115	107	93	89	95	89	99	110	101	87	95	98	87	86	90	104	84	90	90	96	109	112	91	141	131	110	62	60	74
Women's clothing and footwear	106	107	109	104	99	95	99	93	103	112	108	87	94	114	89	98	89	111	78	94	95	89	116	113	92	154	139	122	61	57	78
Children's and infant's clothing and footwear	115	98	104	109	85	106	114	98	94	116	108	76	70	108	81	102	90	108	69	108	106	76	111	119	87	151	129	125	49	47	74
Clothing	107	104	110	106	91	94	100	94	99	112	105	82	87	105	85	91	85	107	76	96	98	83	110	113	90	148	135	118	59	54	74
Men's clothing	107	112	116	107	90	88	94	89	99	111	101	85	95	96	83	83	86	103	82	90	93	95	108	111	91	139	133	108	63	62	73
Women's clothing	105	105	108	105	97	95	100	95	102	112	107	83	91	112	89	96	84	109	74	96	99	83	114	111	91	153	140	124	65	55	77
Children's and infant's clothing	116	101	107	109	82	104	117	99	94	119	117	76	66	105	86	102	88	108	73	109	115	76	109	126	86	150	131	129	49	45	71
Footwear	109	107	109	104	102	99	98	88	101	109	103	93	98	119	91	103	110	113	84	91	84	97	120	117	93	156	128	116	55	59	82
Men's footwear	102	106	112	105	104	94	99	88	99	107	101	92	96	105	104	96	111	106	89	91	83	99	114	116	91	154	124	115	60	53	80
Women's footwear	112	115	114	102	106	97	94	86	108	111	114	102	107	130	93	110	115	123	92	85	84	110	129	126	96	158	133	118	54	65	84
Children's and infant's footwear	113	93	99	110	92	112	106	96	94	111	87	77	81	121	68	103	99	108	62	106	86	76	116	99	90	160	125	118	52	55	83

How to interpret this table?

The prices underlying this table are average annual national prices for the respective product groups. In the rows, the table provides a direct comparison of the price levels for the respective product group across all 31 participating countries. For example, the PLI for Clothing goods is 12% above the EU average in Italy and 10% below the EU average in the United Kingdom. Clothing goods are, therefore, in Italy about 24% more expensive than in the UK ($112/90=1.244$).

By column, the table refers to the PLIs of different product groups within one country and the interpretation is more complicated. All PLIs are expressed relative to the EU average for the respective product groups. For example, for Women's footwear the Portuguese price level is 15% below the EU average and for Children's and infants footwear 6% above the EU average. In relation to the respective EU averages, therefore, Women's footwear is relatively cheaper in Portugal than Children's and infant's footwear. However, the intra-country analysis of PLIs is limited because of the use of different scaling factors per product group and the general non-additivity of the underlying aggregation method. Another difficulty is that the intra-country comparison may not correspond to the opinion of the consumers about price differentials in their country as their daily price comparison may involve different regions within their own or the neighbouring countries (for people living close to the borders), rather than the EU average.

Price level indices and variation coefficients for the main sub-groups of the survey

Table 1 (page 3) shows the comparative PLIs for total clothing and footwear goods and separately for Men, Women and Children and infants. Clothing materials, Other articles of clothing and clothing accessoires, but also Cleaning, repair and hire of clothing and footwear are not included in PLIs presented in table 1. Due to different coverage, PLIs in this table may differ from the data published in New Cronos and OECD publications.

It is particularly interesting to compare in Table 1 the price level difference by product groups for countries having direct land borders with each other. This comparison has its limitations as the underlying prices are national average prices and those are not necessarily the ones consumers pay on both sides of the border.

Let's look at Luxembourg and its surrounding countries as an example. Luxembourg has borders with Belgium, France and Germany. Table 1 shows that price levels in France for all sub-groups of clothing and footwear were lower compared to Belgium, Germany and Luxembourg. Belgium, Germany and Luxembourg had the same price levels for total clothing and footwear, but the picture was different looking at individual product groups. In general, Belgium and Germany had very similar PLIs for all product groups except for Children's and infant's clothing where Belgium was more expensive (116) and Germany and Luxembourg had lower price level (109 and 105 respectively) and for Women's footwear where Germany had the lowest PLI (102) compared to Belgium (112) and Luxembourg (130). Compared to Germany and Belgium, Luxembourg had significantly lower price level for Men's clothing (96), which was closer to the price level in France (89) while women's clothing in Luxembourg had the highest index (112) among the neighbouring countries. Luxembourg was also more expensive for footwear, especially for Women's and Children's and infant's footwear (130 and 121 respectively).

PLIs for different sub-groups of clothing and footwear presented in table 1 show that Iceland had the highest PLIs for all sub-groups and Romania the lowest, except for Women's footwear and Children's and infant's footwear where Bulgaria had the lowest PLIs. Looking at the same indices at the level of the EU25, it can be seen that three Nordic countries – Finland, Sweden and Denmark had the highest price level for most of the sub-groups. Exceptions where Women's footwear and Children's and infant's footwear where Luxembourg had the highest price level, but PLIs for Finland were very close to them. According to the expectations, variation coefficients (shown in table 2) were much higher for all 31 countries as a whole than for the EU25 as the latter does not include countries with highest PLIs (the EFTA countries) and lowest price levels (the EU candidate countries).

Among the New Member States, price level indices were

higher in Czech Republic and Cyprus. For majority of sub-groups Poland had the lowest PLIs. Variation coefficients for the New Member States were very similar to the respective indicators for the EU 25 though for majority product groups the New Member States had slightly smaller values.

Comparing PLIs for sub-groups of clothing and footwear-goods for men, women and children and infant it could be seen that price differences between all 31 countries were highest for Children's and infants clothing, where Iceland (150) is 3.3 times more expensive than Romania (45) and lowest for Men's clothing where prices for the same countries differ 2.2 times. Variation coefficients for all 31 participants showed also that price variation was about 5 percentage points higher for children's and infant's goods compared to the clothing and footwear for adults, which both had very similar variation coefficients.

The same situation as described for 31 countries was characteristic also for the EU 25 where the price disparities were lowest for Men's clothing (1.4 times) and highest for Children's and infant's clothing (1.9 times). Also variation coefficients showed the same tendency as for all 31 countries albeit price variations were lower.

The fact that price dispersion for Children's and infant's clothing was higher compared to others can partly be explained by the fact that countries had different value added tax systems and in some countries lower or zero VAT rate was applied for children's and infant's clothing and footwear.

Table 2: Variation coefficients³ for EU25, New Member States (NMS10) and 31 survey participants by product groups

	EU25	NMS10	All 31
Clothing and footwear	10	9	19
Men's clothing and footwear	9	8	17
Women's clothing and footwear	10	9	19
Children's and infant's clothing and footwear	15	16	23
Clothing	11	10	19
Men's clothing	10	10	17
Women's clothing	11	11	19
Children's and infant's clothing	16	19	24
Footwear	10	8	18
Men's footwear	8	7	18
Women's footwear	12	9	19
Children's and infant's footwear	16	14	23

³ Variation coefficients are calculated dividing standard deviations by the arithmetic mean of price level indices

Box 3: How are consumer price surveys organised?

For the purposes of the collection of consumer prices, the 31 countries currently participating in the group co-ordinated by Eurostat, are divided in three sub-groups that are organised as follows:

- the "Northern" group is composed of Finland, Denmark, Sweden, Iceland, Norway, UK, Ireland, Estonia, Latvia and Lithuania;
- the "Central" group is composed of Austria, Germany, Switzerland, the Netherlands, Belgium, Luxembourg, the Czech Republic, Hungary, Poland, Slovakia and Slovenia;
- the "Southern" group is composed of Portugal, Italy, France, Spain, Greece, Cyprus, Bulgaria, Malta, Romania and Turkey.

Currently Finland, Austria and Portugal are acting as group leaders. The idea behind this approach is to combine countries in a group, which have similar market structures and consumption pattern due to their similar geographical location. Consequently, each group of countries has group-specific product lists. Specific meetings in all three groups and one so-called "overlap" meeting are organised in order to ensure:

- a harmonised approach to the survey concerned in all participating countries,
- the right balance between comparability of products selected for the survey and their representativity of the expenditure pattern in each participating country,
- and sufficient overlap between the three group product lists for the overall European comparison. A particularly difficult problem in this process is a sufficient overlap between participating countries, as the consumption pattern differs still substantially in many countries.

The three group leaders co-ordinate the establishment of the group product lists, including pre-survey work and validate the prices collected in their respective group. Eurostat is responsible for the overall European co-ordination and PPP calculation.

For practical and cost reasons, the consumer price surveys are organised in a rolling cycle over three years, and they are carried out in the countries' capital cities in a specific survey month. Subsequently, the prices are adjusted to annual average prices, using monthly consumer price indices of the survey year and to national average prices, using spatial adjustment factors. Between survey years, benchmark results are extrapolated using annual average CPI. The prices observed are the market prices consumers actually pay, including all taxes and duties.

Publication calendar 2005 for PPP related publications:

During the calendar year 2005 the following further PPP related publications are planned:

June 2005: In the house - comparative price levels 2004

December 2005: Transport, restaurants and hotels – comparative price levels 2004

➤ ESSENTIAL INFORMATION – METHODOLOGICAL NOTES

Use of Purchasing Power Parities

PPP is a concept that is not immediately and easily understood. This has generated misunderstandings as sometimes PPPs are used for purposes for which they are not suited. In essence PPPs are price comparison in space and therefore the most recommended applications are spatial ones – i.e. comparisons of PPP converted indicators across countries at a given point in time. The most common usages of PPPs are to generate comparable volume measures in per capita terms across countries and to calculate general price level indices. They can be also used in other areas such as labour productivity comparisons at GDP level and in measuring the relative size of economies.

The differences in values of GDP between countries, even when revalued in a common currency using exchange rates, do not only correspond to a “volume of goods and services” component but also to a “level of prices” component, which can sometimes assume sizeable proportions. Exchange rates are determined by many factors, which reflect demand and supply on the currency markets, such as international trade and interest rate differentials. In other words, exchange rates usually reflect other elements than price differences alone. To obtain a pure comparison of volumes, it is essential to use special conversion rates (spatial deflators) which remove the effect of price level differences between countries. Purchasing Power Parities (PPPs) are such currency conversion rates that convert economic indicators expressed in national currencies to an artificial common currency, called Purchasing Power Standard (PPS). This conversion equalises the purchasing power of different national currencies.

Despite being designed for spatial comparisons, PPPs and related economic indicators can be used for inter-temporal comparisons but with certain limitations and with necessary care. In addition, the sampling of items and price collection for PPPs are not designed to capture the pure price change over time as in the case of consumer price indices but price differentials over space. In effect, GDPs converted using PPP should be understood more like current price volume series.

Finally, it needs to be underlined that PPP-based indices cannot be used to establish a strict ranking of countries because PPPs are statistical constructs rather than precise measures. They provide only an indication of the relative order of magnitude in a country in relation to others in the comparison. Therefore, these indicators are best used to assign countries to groups as, for example, in all Eurostat and OECD publications on PPP. In Table 4 below the uses of PPP-based data are divided into three groups, “recommended uses”, “uses with limitations” and “non-recommended uses” in a summary form.

Table 4: Uses and limitations of PPP-based data

Recommended uses	<ul style="list-style-type: none"> • Spatial volume comparisons of GDP, GDP per head, GDP per hour worked, size of economies • Grouping of countries by volume index of GDP • Spatial comparisons of relative price levels
Use with limitations	<ul style="list-style-type: none"> • Inter-temporal analysis of relative GDP per capita or relative prices • Analysis of price convergence • Cost of living index across countries • Use of PPP established for expenditure categories for the deflation of other values, as e.g. household income.
Non-recommended uses	<ul style="list-style-type: none"> • As a precision tool to establish rankings between countries • As a way of constructing national growth rates • As a measure to generate output and productivity comparisons by industry (unless there are industry-specific PPPs) • As a measure to undertake price level index comparisons at detailed level. • As an indicator for the over- or undervaluation of a currency • As equilibrium exchange rates

To know more about:

“PPP Methodological Manual” (draft version)

http://forum.europa.eu.int/Public/irc/dsis/palojpi/library?l=/methodological_papers/ppp_manual&vm=detailed&sb=Title

Further information:

➤ **Reference publications**

Purchasing Power Parities and Real Expenditures - 2002 Benchmark Year (2004 Edition)

Published by : OECD Publishing ISBN 9264007512 PRICE 60€

Statistics in Focus 53/2004 - Purchasing Power Parities and related economic indicators for EU, Accessing and Candidate Countries and EFTA. Final results 2002 and preliminary results 2003

Catalogue No KS-NJ-04-053-EN-C

➤ **Databases**

[EUROSTAT Website/Economy and finance/Prices/Purchasing power parities](http://ec.europa.eu/eurostat/Website/Economy_and_finance/Prices/Purchasing_power_parities)

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