### Economy and finance

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# Wide spread in construction prices across Europe in 2007

Price levels for construction in 2007 differed widely across Europe: in Iceland construction prices are 66% higher than the average of the 27 EU Member States, while in the former Yugoslav Republic of Macedonia prices are 66% lower than this average. Among the EU Member States, the most expensive country is Denmark (63% above the average) and the cheapest Bulgaria (58% below the average).

These are the main results of a survey of construction prices in 2007 across 37 European countries. This survey is part of the Eurostat – OECD Purchasing Power Parities (PPP) programme (see methodological notes). The 37 countries that participated in this survey are the 27 Member States, the three Candidate Countries (Croatia, the former Yugoslav Republic of Macedonia and Turkey), three EFTA countries (Iceland, Norway and Switzerland) and four Western Balkan countries (Albania, Bosnia and Herzegovina, Montenegro and Serbia).

The results of the survey are expressed in "Price level indices" (PLIs), which provide a comparison of 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, if the price level index is lower than 100, then the country is relatively cheap compared to the EU average.

Figure 1 shows the 2007 construction PLIs. Northern European countries tend to have the highest prices while the south-eastern European countries have the lowest prices. Southern and central European countries tend to show price levels closer to the EU average.



Figure 1: 2007 Price level indices for construction (EU27 = 100)

\*MK: Provisional code which does not prejudge in any way the definitive nomenclature for this country which will be agreed following the conclusion of negotiations currently taking place on this subject at the UN.



#### 2007 Price level indices for construction

The following groups can be distinguished according to countries' PLIs. They are also shown in Figure 1.

#### Group 1 (>= 140)

Iceland, Denmark, Norway, Sweden and United Kingdom

#### Group 2 (>=110 and <140)

Netherlands, Austria, Switzerland, Finland, Germany and France

#### Group 3 (>=90 and < 110)

Ireland, Luxembourg, Belgium and Latvia

#### Group 4 (>=60 and <90)

Italy, Spain, Estonia, Lithuania, Poland, Greece, Slovenia, Cyprus, Hungary, Slovakia, Portugal, Malta and Czech Republic

#### Group 5 (<60)

Romania, Croatia, Albania, Bulgaria, Turkey, Bosnia and Herzegovina, Montenegro, Serbia and the former Yugoslav Republic of Macedonia

#### **Price dispersion**

	Euro area (EA 15)	EU 15	EU27	All 37	
GFCF	13.7%	14.0%	19.2%	27.0%	
Total construction	23.2%	24.8%	33.0%	43.4%	
Residential buildings	27.3%	26.9%	37.9%	51.3%	
Non-residential buildings	23.7%	24.0%	33.9%	42.0%	
Civil engineering works	18.9%	25.5%	26.4%	36.7%	

#### Table 1: Variation coefficients by sub-groups for 2007

Source: Eurostat

Table 1, which is based on table 2, shows the price dispersion within the euro area (EA15), the EU15, the EU27 and all the 37 countries participating in the PPP programme. This price dispersion is measured, for each sub-group, by the variation coefficient, i.e. the standard deviation expressed as a percentage of the arithmetic mean of the countries' PLIs. The higher the coefficient, the higher is the price dispersion.

Looking at the product sub-groups, residential building is the category that shows the highest dispersion, reaching 51.3% when all countries are included. Civil engineering works show more homogeneous price levels, reaching a figure of 36.7% for the same group of countries.

Looking at groups of countries, the euro area is the most homogeneous group with a coefficient of 23.2% for the total construction category, while the group of 37 countries shows the highest dispersion, with a variation coefficient of 43.4% for total construction.

For reasons of comparison, the table also includes the variation coefficients for gross fixed capital formation (GFCF), one of the main components of GDP. GFCF is composed of construction and other investment goods (machinery, equipment, etc.). Construction constitutes on average about 13% of GDP in the countries included here (and 55% of GFCF). Price dispersion for the other investment goods is generally much lower than for construction, which is due to the higher labour content of construction and the wide spread in the salaries paid in the construction sector in the various countries.

Prices for other investment goods are presented in a separate Statistics in focus publication. 2007 PLIs for Gross fixed capital formation, total construction and sub-groups

Table 2 gives the PLIs for gross fixed capital formation (GFCF), total construction and its subgroups.

Iceland is the most expensive country for residential buildings, with a PLI of 214. This PLI is almost seven times higher than the PLI of the cheapest country for residential buildings, the former Yugoslav Republic of Macedonia, whose PLI is 31. For non-residential buildings, the United Kingdom shows the highest PLI (151) while the cheapest country for this category is again the former Yugoslav Republic of Macedonia (35).

Finally, Sweden is the most expensive country for civil engineering works with a PLI of 189, whereas Bosnia and Herzegovina and the former Yugoslav Republic of Macedonia are the countries that show the lowest price level (43).

			Total	Residential	Non-	Civil				
Country		GFCF	Construction	buildings	residential	enginering				
551.00004				5	buildings	works				
BELGIUM	BE	100	102	103	93	113				
BULGARIA	BG	60	42	40	41	52				
CZECH REPUBLIC	CZ	75	61	52	58	84				
DENMARK	DK	133	163	173	145	164				
GERMANY	DE	107	116	121	115	103				
ESTONIA	EE	84	79	76	72	100				
IRELAND	IR	107	107	101	105	122				
GREECE	EL	87	74	69	73	90				
SPAIN	ES	86	79	75	78	90				
FRANCE	FR	107	112	111	113	115				
ITALY	IT	89	83	91	79	79				
CYPRUS	CY	83	73	69	67	93				
LATVIA	LV	99	98	85	96	127				
LITHUANIA	LT	80	76	76	68	97				
LUXEMBOURG	LU	103	107	108	91	149				
HUNGARY	HU	79	70	60	63	109				
MALTA	MT	76	62	55	58	99				
NETHERLANDS	NL	114	124	127	116	130				
AUSTRIA	AT	109	124	122	122	124				
POLAND	PL	83	75	63	66	125				
PORTUGAL	PT	77	63	54	61	85				
ROMANIA	RO	70	54	43	47	92				
SLOVENIA	SI	82	74	60	70	110				
SLOVAKIA	SK	79	65	62	59	89				
FINLAND	FI	114	119	114	112	147				
SWEDEN	SE	122	151	152	131	189				
UNITED KINGDOM	UK	120	142	122	151	163				
CROATIA	HR	66	53	53	50	62				
The former Yugoslav Republic of Macedonia	МК	51	34	31	35	43				
TURKEY	TR	59	39	34	41	51				
SWITZERLAND	CH	108	123	129	113	132				
ICELAND	IS	147	166	214	133	163				
NORWAY	NO	135	155	164	145	164				
ALBANIA	AL	60	48	44	44	66				
BOSNIA AND		00	-0			00				
HERZEGOVINA	BA	59	39	35	42	43				
MONTENEGRO	MO	57	38	36	37	46				
SERBIA	RS	57	37	35	37	46				
Maximum		147	166	214	151	189				
Minimum		51	34	31	35	43				
Max./Min.		286	480	688	434	445				

Table 2: 2007 PLIs for GFCF, total construction and its components (EU27 = 100)

Source: Eurostat

## **ESSENTIAL INFORMATION – METHODOLOGICAL NOTES**

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

The indices in this publication are produced by the Eurostat-OECD Purchasing Power Parity programme. The full methodology used in this programme is described in the <u>Eurostat-OECD Methodological manual on purchasing power</u> <u>parities</u> 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 France is 2.84 Euros and in the United States it is 2.20 dollars, the PPP for hamburgers between France and the United States is 2.84 Euros to 2.20 dollars or 1.29 Euros to the dollar. In other words, for every dollar spent on hamburgers in the United States, 1.29 Euros would have to be spent in France to obtain the same quantity and quality (or volume) of hamburgers.

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.

## **Further information**

Data: Eurostat Website: http://ec.europa.eu/eurostat

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# What are the main characteristics of the construction survey?

The construction survey is carried out every two years. This 2007 survey, the results of which are published in this SIF, was carried out in April and May 2007.

Countries collect prices for a list of "bills of quantities", which are comparable construction projects such as a detached house, an office building or an asphalt road. Each bill of quantity consists of a number of chapters or major components (like earthworks, concrete, masonry, etc.) which are made up of items or elementary components (like excavation of the terrain, dumpling and compacting of soil, etc.). As it is very difficult to find similar construction project across countries, the bills of quantities provide identical works for countries to price.

The construction projects are divided into 3 sub-groups: residential buildings (comprising 4 bills of quantities: detached house, Portuguese house, Nordic house and apartment building), non-residential buildings (also comprising 4 bills of quantities: factory building, office building, agricultural shed and primary school) and civil engineering works (also 4 bills of quantities: asphalt road, concrete road, bridge and sewer main).

Countries are asked to collect purchasers' prices for the bills of quantities, i.e., prices actually paid in the markets for the elementary components that make up those bills of quantities and the additional expenses incurred that build up to the project total cost paid by the customer.