GDP per capita in purchasing power standards

GDP per capita varied by one to six across the Member States in 2011, while Actual Individual Consumption (AIC) per capita in the Member States ranged from 45% to 140% of the EU27 average.

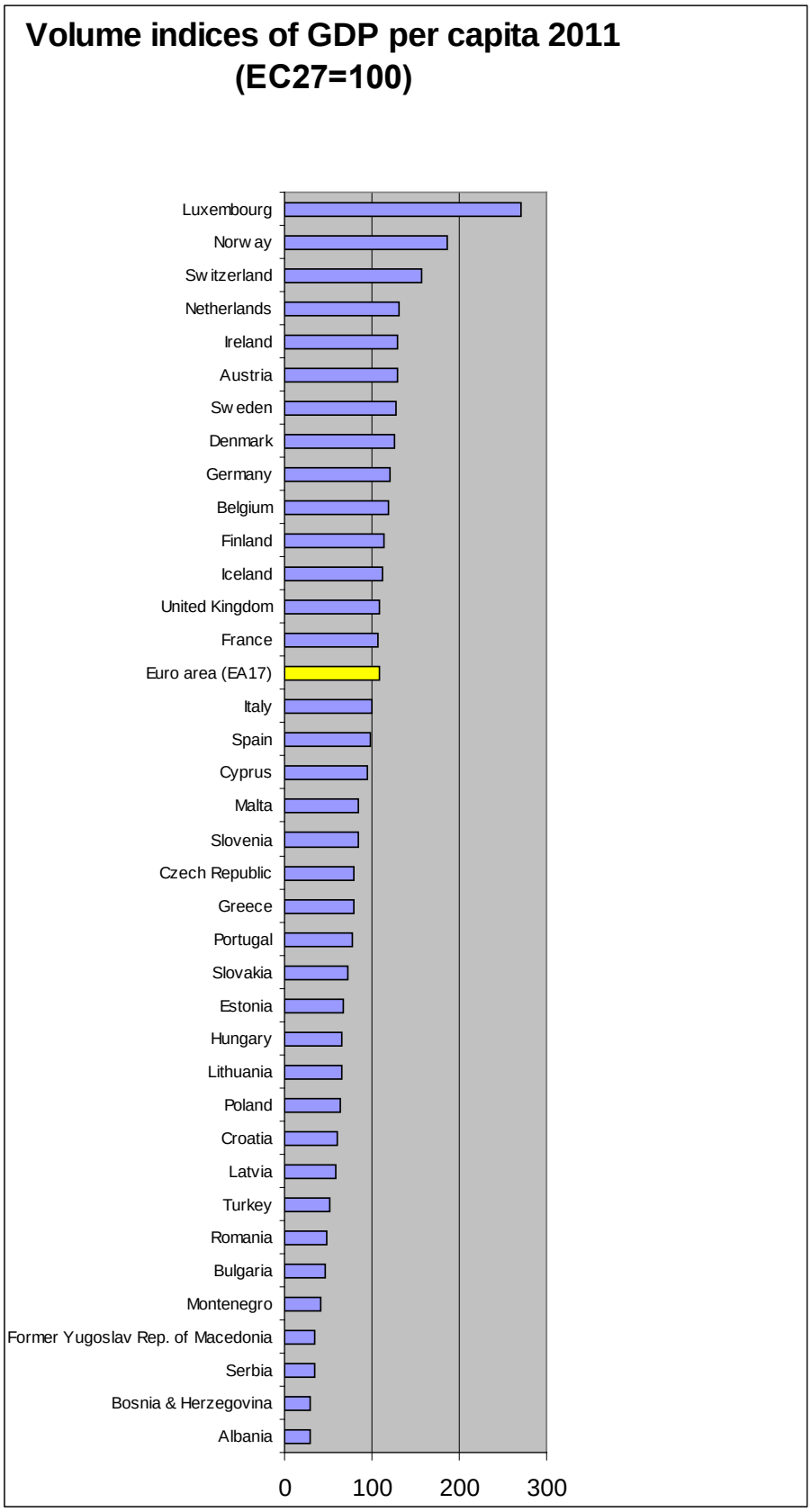
In 2011, the Gross Domestic Product (GDP) per capita in **Luxembourg**[1], expressed in purchasing power standards[2] (PPS), was more than two and a half times the EU27 average. The **Netherlands**, **Ireland**, **Austria**, **Sweden**, **Denmark** and **Germany** were between around 20% and 30% above the EU27 average, while **Belgium** and **Finland** were between 10% and 20% above average. The **United Kingdom** and **France** registered GDP per capita nearly 10% above the EU27 average, while **Italy** and **Spain** were around the average.

Cyprus was around 5% below the EU27 average, while **Malta**, **Slovenia** and the **Czech Republic** were between 15% and 20% lower than the average. **Greece**, **Portugal** and **Slovakia** were between 20% and 30% below the average, while **Estonia**, **Lithuania**, **Hungary** and **Poland** were around one third below. **Latvia** was just over 40% lower, while **Romania** and **Bulgaria** were between 50% and 55% below the average.

In international comparisons of national accounts data, like GDP per capita, it is desirable not only to xpress the figures in a common currency, but also to adjust for differences in price levels. Failing to do so would result in an overestimation of GDP levels for countries with high price levels, relative to countries with lower price levels.

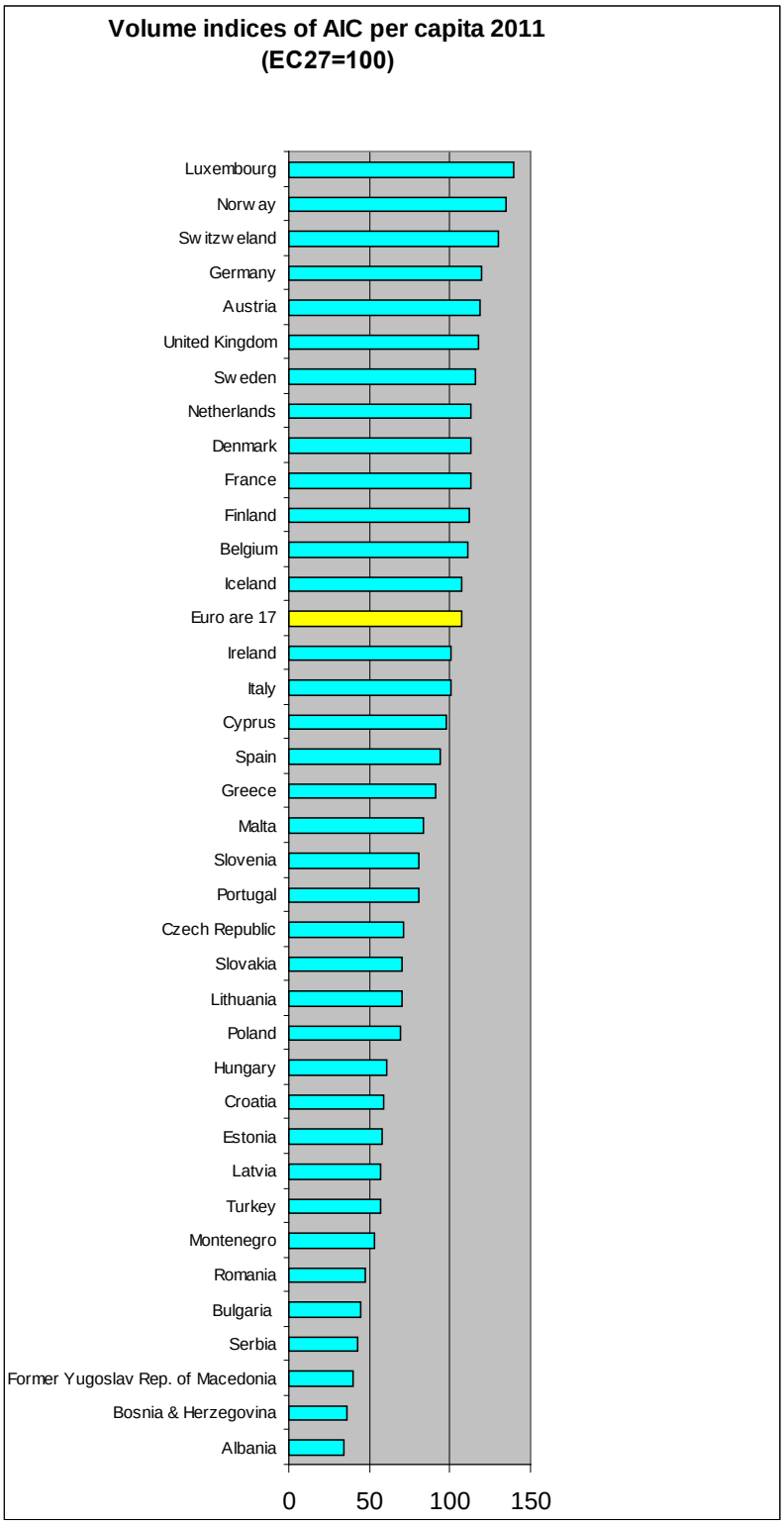
The indices of relative volumes of GDP and AIC per capita published in this report have been adjusted for price level differences, and are expressed in relation to the European Union average (EU27=100). Thus, for instance, if a country's volume index is below 100, that country's level of GDP (or AIC) per capita is lower than for the EU27 as a whole.

These data for 2011, 2010 and 2009, published3 by Eurostat, the statistical office of the European Union, are based on revised4 purchasing power parities, and the latest GDP and population figures. They cover the 27 EU Member States, three EFTA Member States, the acceding state, four candidate countries and two potential candidate countries.


Volume indices of GDP per capita 2011
(EC27=100)
Luxembourg
Norway
Switzerland
Netherlands
Ireland
Austria
Sweden
Denmark
Germany
Belgium
Finland
Iceland
United Kingdom
France
Euro area (EA17)
Italy
Spain
Cyprus
Malta
Slovenia
Czech Republic
Greece
Portugal
Slovakia
Estonia
Hungary
Lithuania
Poland
Croatia
Latvia
Turkey
Romania
Bulgaria
Montenegro
Former Yugoslav Rep. of Macedonia
Serbia
Bosnia & Herzegovina
Albania
0
100
200
300

While GDP per capita is often used as an indicator of countries level of welfare, it is not necessarily a suitable indicator for households actual standard of living. For the latter purpose, a better indicator may be Actual Individual Consumption (AIC) per capita. Generally, levels of AIC per capita are more homogeneous than GDP but still there are substantial differences across the EU Member States.

In 2011, AIC per capita expressed in PPS ranged between 40% above the EU27 average in **Luxembourg** and 55% below average in **Bulgaria**.



Like the relative volumes per capita (Table 1.) the price level indices shown in Table 2 are expressed in relation to the EU27 average (EU27=10).

Table 1. **GDP and AIC per capita in PPS, EU27 = 100**

	GDP per capita			AIC per capita		
	2009	**2010**	**2011**	**2009**	**2010**	**2011**
EU27	**100**	**100**	**100**	**100**	**100**	**100**
Euro area (EA17)[6]	**109**	**108**	**108**	**107**	**107**	**107**
Luxembourg	255	267	271	144	141	140
Netherlands	132	131	131	118	114	113
Ireland	130	129	129	103	103	101
Austria	125	127	129	116	118	119
Sweden	120	124	127	116	114	116
Denmark	123	128	125	116	116	113
Germany	115	119	121	115	117	120
Belgium	118	119	119	109	111	111
Finland	114	113	114	110	111	112
United Kingdom	111	111	109	121	120	118
France	109	108	108	113	113	113
Italy	104	101	100	103	102	101
Spain	103	99	98	96	95	94
Cyprus	100	97	94	102	99	98
Malta	83	85	85	85	83	84
Slovenia	87	84	84	81	80	81
Czech Republic	83	80	80	73	71	71
Greece	94	87	79	104	97	91
Portugal	80	80	77	83	84	81
Slovakia	73	73	73	72	71	70
Estonia	63	63	67	58	56	58
Lithuania *	55	57	66	63	61	70
Hungary	65	65	66	62	60	61
Poland	61	63	64	64	67	69
Latvia	54	54	58	52	53	57
Romania	47	47	49	46	46	47
Bulgaria	44	44	46	43	43	45
Norway	177	181	186	134	136	135
Switzerland	150	154	157	128	129	130
Iceland	120	112	111	111	106	107
Croatia	62	59	61	58	57	59
Turkey	46	50	52	51	54	57
Montenegro	41	42	42	50	52	53
Former Yugoslav	36	36	35	41	40	40
Serbia	36	35	35	44	44	43
Albania **	28	27	30	32	30	34
Bosnia & Herzegovina	31	30	30	37	36	36

Source: **Евростат (online data code : prc_ppp_ind)**

* 2011 population figures adjusted on the basis of the 2011 Census. Therefore the per capita indices for 2011 are not entirely comparable with previous years due to this break in time series.
** Figures for all years based on Eurostat estimate of GDP.

Price levels varied by more than three to one within the EU.

The price level adjustment factors, such as PPPs, can also be applied in an analysis of countries' price levels.

If the GDP or AIC per capita expressed in the national currency of each country participating in the comparison is divided by its PPP, the resulting figures neutralise the effect of differences in price levels and thus indicate the real volume of GDP or AIC at a common price level. When divided by the nominal exchange rate of a given year, the PPP provides an estimate of the price level of a given country relative to, for instance, the EU27 total.
Denmark has the highest price level among the Member States, 47% above the EU27 average. However, two EFTA Member States: Switzerland and Norway, have higher price levels which in 2011 exceeded the overall EU27 price level by more that 60%. The lowest price levels – half the EU average and below – are found in Montenegro, Bosnia and Herzegovina, Serbia, Bulgaria, Albania and the former Yugoslav Republic of Macedonia.

Exchange rates are crucial in determining price levels, and exchange rate movements consequently often have a big impact on the development of price levels over time. In fact, several of the major price level changes observed between 2009 and 2011 can be at least partly explained by fluctuations of country's currencies against the euro. In 2011, the national currencies of Switzerland, Sweden, the Czech Republic and Norway continued to appreciate against the euro. The most significant depreciations were observed in Turkey and Poland. However, these movements have been less substantial between 2010 and 2011 than between 2009 and 2010.The Icelandic króna, for which significant depreciation was reported in recent years, shows currently a relatively stable development.

The last three rows in table 2 show the coefficients of variation of the price levels for three groups of countries: the euro area (EA17), the 27 EU Member States, and the entire group of 37 countries. A time series of these coefficients can be interpreted as a rudimentary price convergence indicator.

These figures tell us that first, and unsurprisingly, the price dispersion is much less pronounced in the euro area than in the EU as a whole and in the 37-country group, which can be partially impacted by the volatility of exchange rates.

Table 2. **Exchange rates and price level indices (EU27 = 100) for AIC**

	Exchange rates			Price level indices		
	2009	**2010**	**2011**	**2009**	**2010**	**2011**
Denmark	7.4462	7.4473	7.4506	148	145	147
Luxembourg	1.0000	1.0000	1.0000	132	134	135
Sweden	10.6191	9.5373	9.0298	112	126	132
Finland	1.0000	1.0000	1.0000	123	124	126
Ireland	1.0000	1.0000	1.0000	130	122	119
Belgium	1.0000	1.0000	1.0000	117	115	115
France	1.0000	1.0000	1.0000	113	112	111
Netherlands	1.0000	1.0000	1.0000	109	110	110
Austria	1.0000	1.0000	1.0000	112	109	110
Italy	1.0000	1.0000	1.0000	106	104	105
Euro area (EA17)[6]	**1.0000**	**1.0000**	**1.0000**	**106**	**105**	**104**
UK	0.8909	0.8578	0.8679	98	102	103

Germany	1.0000	1.0000	1.0000	106	104	102
Spain	1.0000	1.0000	1.0000	97	96	96
Greece	1.0000	1.0000	1.0000	93	93	92
Cyprus	1.0000	1.0000	1.0000	91	91	91
Portugal	1.0000	1.0000	1.0000	87	86	85
Slovenia	1.0000	1.0000	1.0000	86	86	85
Malta	1.0000	1.0000	1.0000	73	73	73
Czech Rep.	26.4350	25.2840	24.5900	68	70	71
Estonia	15.6466	15.6466	1.0000	70	69	71
Latvia	0.7057	0.7087	0.7063	68	66	67
Slovakia	1.0000	1.0000	1.0000	67	66	67
Lithuania	3.4528	3.4528	3.4528	61	59	60
Hungary	280.3300	275.4800	279.3700	58	59	59
Poland	4.3276	3.9947	4.1206	54	56	55
Romania	4.2399	4.2122	4.2391	51	52	53
Bulgaria	**1.9558**	**1.9558**	**1.9558**	**45**	**45**	**44**
Switzerland	1.5100	1.3803	1.2326	140	151	165
Norway	8.7278	8.0043	7.7934	144	156	162
Iceland	172.6700	161.8900	164.4200	99	110	113
Croatia	7.3400	7.2891	7.4390	71	71	69
Turkey	2.1631	1.9965	2.3378	57	63	57
Montenegro	1.0000	1.0000	1.0000	52	51	51
Serbia	93.9366	102.9022	101.9572	49	47	51
Former Yugoslav Rep. of Macedonia	61.2815	61.5192	61.4800	40	40	42
Bosnia&Herzegovina	1.9558	1.9558	1.9558	52	52	51
Albania	132.0400	137.7664	140.9200	43	42	43
Coefficients of variation of PLIs						
EA 17				**0.193**	**0.191**	**0.191**
EU 27				**0.295**	**0.294**	**0.299**
All 37 countries				**0.352**	**0.362**	**0.374**

Source: **Eurostat (online data code : prc_ppp_ind)**

Regular annual PPP revisions at Eurostat

PPPs are established on an annual basis. According to the regular publication calendar, PPPs are released as preliminary estimates 12 months after the end of the reference year and revised after 24 months, while the final results are released 36 months after the end of the reference year. In addition, an early estimate of PPPs, partly based on projections, is published 6 months after the end of the reference year. This regular PPP revision and release calendar is in line with the data delivery timetable for national accounts data as given in the ESA95 regulation(1). Thus, the 2009 results presented in this publication should be regarded as final, while the 2010 and 2011 results are still preliminary.

(1) 95; European System of Accounts 1995, Council Regulation (EC) 2223/1996 of 25 June 1996

1. The high GDP per capita in Luxembourg is partly due to the country's large share of cross-border workers in total employment. While contributing to GDP, these workers are not taken into consideration as part of the resident population which is used to calculate GDP per capita. For comparison, Gross National Income per capita in Luxembourg is around 196% of the EU average.

2. The Purchasing Power Standard (PPS) is an artificial currency unit that eliminates price level differences between countries. Thus one PPS buys the same volume of goods and services in all countries. This unit allows meaningful volume comparisons of economic indicators across countries. Aggregates expressed in PPS are derived by dividing aggregates in current prices and national currency by the respective Purchasing Power Parity (PPP). The level of uncertainty associated with the basic price and national accounts data, and the methods used for compiling PPPs imply that differences between countries that have indices within a close range should not be over-interpreted.

3. **Eurostat**, Statistics in Focus, 47/2012, "**Substantial cross-European differences in GDP per capita**". The publication is available free of charge in PDF format on the Eurostat website.

4. The regular publication schedule of PPPs includes four estimates for a particular year. The first estimate for 2011, based partly on projections, was published in News Release 97/2012 of 20 June 2012. The present News Release corresponds to the second estimate. The 2011 figures will be revised again in December 2013 and finalised in 2014.

5. Indicators reflecting directly the situation of households are more adapted than GDP to reflect welfare. The level of consumption per head is one of these. In national accounts, Household Final Consumption Expenditure (HFCE) denotes expenditure on goods and services that are purchased and paid for by households. Actual Individual Consumption (AIC), on the other hand, consists of goods and services actually consumed by individuals, irrespective of whether these goods and services are purchased and paid for by households, by government, or by non-profit organisations. In international volume comparisons of consumption, AIC is often seen as the preferable measure, since it is not influenced by the fact that the organisation of certain important services consumed by households, like health and education services, differs a lot across countries. For example, if dental services are paid for by the government in one country, and by households in another, an international comparison based on HFCE would not compare like with like, whereas one based on AIC would. The use of AIC as a welfare measure is listed among the recommendations of the Stiglitz-Sen-Fitoussi report.

6. The euro area (EA17) consists of Belgium, Germany, Estonia, Ireland, Greece, Spain, France, Italy, Cyprus, Luxembourg, Malta, the Netherlands, Austria, Portugal, Slovenia, Slovakia and Finland.