

## RATES OF CONVERSION

To compare a single country's real GDP over a period of years, it is necessary to remove any movements that are due to price changes. In the same way, in order to compare the real GDPs of a group of countries at a single point in time, it is necessary to remove any differences in their GDPs that are due to differences in their price levels. Price indices are used to remove the effects of price changes in a single country over time; purchasing power parities (PPP) are used to remove the effects of the different levels of prices within a group of countries at a single point in time.

### Definition

PPPs are currency converters that equalise price levels between countries. The PPPs shown here have been calculated by comparing the prices in OECD countries of a common basket of about 2 500 goods and services. Countries are not required to price all the items in the common basket because some of the items may be hard to find in certain countries, but the common basket has been drawn up in such a way that each country can find prices for a wide range of the goods and services that are representative of their markets.

### Long-term trends

Over the period 1994-2007, movements of PPPs and of exchange rates were rarely similar and even when they moved in the same direction they were not of the same magnitude – see for example Ireland and the Czech Republic in the graph on the opposite page.

Exchange rates are sometimes used to convert the GDPs in different currencies to a common currency. However, comparisons of GDP based on exchange rates do not reflect the real volumes of goods and services in the GDPs of the countries being compared. For many of the low income countries, the differences between GDP converted using exchange rates and real GDP converted using PPPs are considerable. The differences are illustrated in the second graph.

For Turkey and Mexico, for example, the difference between PPP-converted GDP and exchange rate-converted is over 45 per cent. In general, the use of exchange rates understates the real GDP of low-income countries and overstates the real GDP of high-income countries.

The price level indices in the third table are the PPPs divided by exchange rates, with the OECD set to 100. In general, there is a positive correlation between income levels and price levels; Denmark, Iceland, Norway and Switzerland, four high-income countries, had the highest price levels in 2007 while the Czech Republic, Mexico, Poland, the Slovak Republic and Turkey, five of the poorer OECD countries, had price levels around 65 per cent of the OECD average.

The goods and services to be priced cover all those that enter into final expenditure – household consumption, government services, capital formation and net exports. Prices for the different items are weighted by their shares in total final expenditures to obtain the GDP PPPs shown here.

### Comparability

The PPPs shown here have been calculated jointly by the OECD and Eurostat using standard procedures. In consultation with their member countries, OECD and Eurostat keep their methodology under review and improvements are made regularly.

### Source

- OECD (2008), *Purchasing Power Parities and Real Expenditures: 2005 Benchmark Year, 2007 Edition*, OECD, Paris.

### Further information

#### Analytical publications

- Schreyer, P. and F. Koechlin (2002), "Purchasing Power Parities – Measurement and Uses", OECD Statistics Brief, No. 3, March, OECD, Paris, [www.oecd.org/std/statisticsbrief](http://www.oecd.org/std/statisticsbrief).

#### Statistical publications

- OECD (2009), *National Accounts of OECD Countries*, OECD, Paris.
- OECD (2009), *Main Economic Indicators*, OECD, Paris.

#### Websites

- OECD Purchasing Power Parities, [www.oecd.org/std/ppp](http://www.oecd.org/std/ppp).
- Joint World Bank-OECD Seminar on Purchasing Power Parities, 2001, [www.oecd.org/std/ppp/seminar2001](http://www.oecd.org/std/ppp/seminar2001).



**Purchasing power parities**

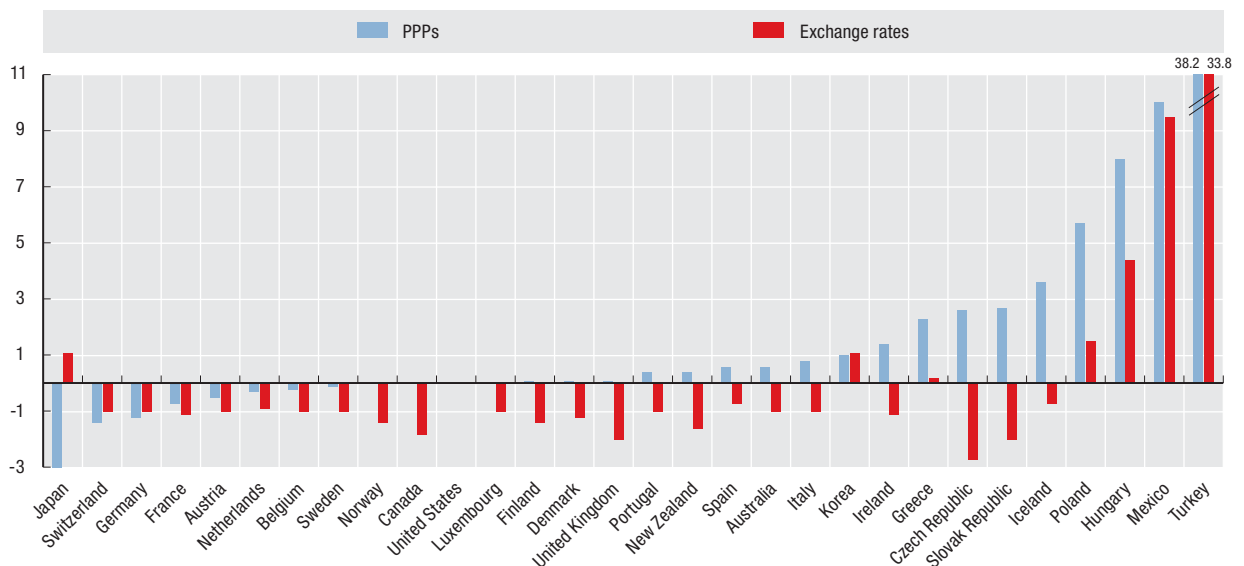
National currency units per US dollar

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Australia	1.32	1.32	1.32	1.32	1.31	1.30	1.31	1.33	1.34	1.35	1.37	1.39	1.41	1.42
Austria	0.934	0.933	0.929	0.924	0.917	0.917	0.901	0.917	0.896	0.885	0.874	0.886	0.881	0.877
Belgium	0.918	0.911	0.911	0.911	0.924	0.921	0.892	0.886	0.865	0.879	0.896	0.900	0.898	0.891
Canada	1.21	1.21	1.21	1.21	1.19	1.19	1.23	1.22	1.23	1.23	1.23	1.21	1.21	1.21
Czech Republic	10.2	11.1	11.9	12.7	13.9	14.1	14.2	14.2	14.3	14.0	14.3	14.3	14.3	14.2
Denmark	8.53	8.46	8.44	8.43	8.39	8.47	8.42	8.47	8.30	8.54	8.40	8.59	8.59	8.60
Finland	0.972	0.998	1.003	0.997	1.003	1.003	0.996	1.012	1.003	1.011	0.975	0.977	0.973	0.979
France	0.999	0.992	0.987	0.974	0.967	0.960	0.940	0.918	0.905	0.938	0.939	0.923	0.921	0.911
Germany	1.006	1.004	0.992	0.990	0.988	0.975	0.968	0.955	0.942	0.917	0.896	0.867	0.858	0.856
Greece	0.532	0.573	0.604	0.629	0.662	0.681	0.679	0.671	0.660	0.689	0.695	0.714	0.716	0.717
Hungary	50	62	73	85	94	101	108	111	115	121	126	129	131	135
Iceland	72.3	73.0	74.9	74.4	77.2	79.7	84.4	88.9	91.3	94.5	94.2	99.1	109.3	115.1
Ireland	0.81	0.82	0.83	0.85	0.88	0.93	0.96	0.99	1.00	1.01	1.01	1.01	1.00	0.97
Italy	0.766	0.788	0.808	0.816	0.808	0.818	0.818	0.808	0.845	0.854	0.872	0.867	0.855	0.852
Japan	179	174	170	168	167	162	155	149	144	140	134	130	124	120
Korea	656	690	712	732	767	755	749	757	770	796	794	789	761	750
Luxembourg	0.94	0.95	0.95	0.96	0.95	0.94	0.94	0.95	0.93	0.94	0.92	0.95	0.95	0.95
Mexico	2.17	2.93	3.76	4.35	4.96	5.63	6.11	6.31	6.55	6.82	7.22	7.13	7.38	7.53
Netherlands	0.914	0.914	0.908	0.910	0.906	0.907	0.894	0.906	0.902	0.927	0.908	0.896	0.890	0.883
New Zealand	1.46	1.46	1.47	1.45	1.45	1.43	1.45	1.47	1.47	1.50	1.51	1.54	1.52	1.55
Norway	9.07	9.16	9.04	9.08	9.38	9.33	9.14	9.18	9.11	9.11	8.98	8.90	8.89	9.05
Poland	0.94	1.18	1.36	1.52	1.66	1.74	1.84	1.86	1.83	1.84	1.86	1.87	1.87	1.92
Portugal	0.639	0.648	0.660	0.672	0.693	0.697	0.701	0.706	0.708	0.706	0.716	0.684	0.678	0.674
Slovak Republic	12.1	13.0	13.3	13.7	14.2	15.1	15.9	15.7	15.9	16.7	17.2	17.1	17.1	17.1
Spain	0.689	0.709	0.717	0.719	0.719	0.733	0.735	0.740	0.733	0.753	0.759	0.765	0.755	0.741
Sweden	9.21	9.36	9.24	9.30	9.37	9.29	9.15	9.35	9.35	9.34	9.10	9.38	9.27	9.14
Switzerland	2.00	1.98	1.94	1.89	1.88	1.87	1.85	1.84	1.77	1.78	1.75	1.74	1.69	1.66
Turkey	0.013	0.024	0.043	0.076	0.131	0.202	0.283	0.428	0.613	0.773	0.812	0.831	0.861	0.892
United Kingdom	0.636	0.640	0.641	0.634	0.645	0.653	0.637	0.627	0.628	0.641	0.632	0.636	0.639	0.646
United States	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Brazil	..	..	..	..	..	..	..	..	..	..	..	1.36	..	1.40
China	..	..	..	..	..	..	..	..	..	..	..	3.45	..	3.54
India	..	..	..	..	..	..	..	..	..	..	..	14.67	..	15.66
Indonesia	..	..	..	..	..	..	..	..	..	..	..	3 934.25	..	4 703.59
Russian Federation	..	..	..	..	..	..	..	..	..	..	..	12.74	..	15.82
South Africa	..	..	..	..	..	..	..	..	..	..	..	3.87	..	4.22

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**Changes in exchange rates and purchasing power parities**

Average annual growth in percentage, 1994-2007



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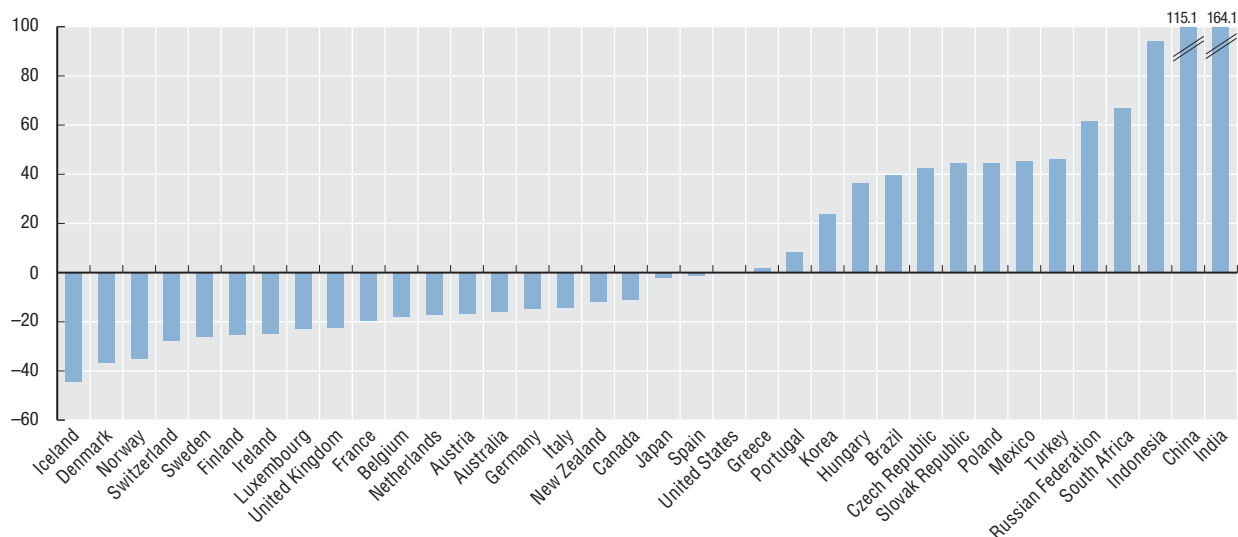
## RATES OF CONVERSION

**Exchange rates**  
 National currency units per US dollar

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Australia	1.368	1.349	1.278	1.347	1.592	1.550	1.725	1.933	1.841	1.542	1.360	1.309	1.328	1.195
Austria	0.830	0.733	0.769	0.887	0.900	0.939	1.085	1.118	1.063	0.886	0.805	0.804	0.797	0.731
Belgium	0.829	0.731	0.768	0.887	0.900	0.939	1.085	1.118	1.063	0.886	0.805	0.804	0.797	0.731
Canada	1.366	1.372	1.363	1.385	1.483	1.486	1.485	1.549	1.569	1.401	1.301	1.212	1.134	1.074
Czech Republic	28.79	26.54	27.14	31.70	32.28	34.57	38.60	38.04	32.74	28.21	25.70	23.96	22.60	20.29
Denmark	6.361	5.602	5.799	6.604	6.701	6.976	8.083	8.323	7.895	6.588	5.991	5.997	5.947	5.444
Finland	0.879	0.734	0.773	0.873	0.899	0.939	1.085	1.118	1.063	0.886	0.805	0.804	0.797	0.731
France	0.846	0.761	0.780	0.890	0.899	0.939	1.085	1.118	1.063	0.886	0.805	0.804	0.797	0.731
Germany	0.830	0.733	0.769	0.887	0.900	0.939	1.085	1.118	1.063	0.886	0.805	0.804	0.797	0.731
Greece	0.712	0.680	0.706	0.801	0.867	0.897	1.072	1.118	1.063	0.886	0.805	0.804	0.797	0.731
Hungary	105.16	125.68	152.65	186.79	214.40	237.15	282.18	286.49	257.89	224.31	202.75	199.58	210.39	183.63
Iceland	69.94	64.69	66.50	70.90	70.96	72.34	78.62	97.42	91.66	76.71	70.19	62.98	70.18	64.06
Ireland	0.849	0.792	0.794	0.838	0.892	0.939	1.085	1.118	1.063	0.886	0.805	0.804	0.797	0.731
Italy	0.833	0.841	0.797	0.880	0.897	0.939	1.085	1.118	1.063	0.886	0.805	0.804	0.797	0.731
Japan	102.21	94.06	108.78	120.99	130.91	113.91	107.77	121.53	125.39	115.93	108.19	110.22	116.30	117.75
Korea	803.45	771.27	804.45	951.29	1 401.44	1 188.82	1 130.96	1 290.99	1 251.09	1 191.61	1 145.32	1 024.12	954.79	929.26
Luxembourg	0.829	0.731	0.768	0.887	0.900	0.939	1.085	1.118	1.063	0.886	0.805	0.804	0.797	0.731
Mexico	3.375	6.419	7.599	7.918	9.136	9.560	9.456	9.342	9.656	10.789	11.286	10.898	10.899	10.928
Netherlands	0.826	0.729	0.765	0.885	0.900	0.939	1.085	1.118	1.063	0.886	0.805	0.804	0.797	0.731
New Zealand	1.687	1.524	1.455	1.512	1.868	1.890	2.201	2.379	2.162	1.722	1.509	1.420	1.542	1.361
Norway	7.058	6.335	6.450	7.073	7.545	7.799	8.802	8.992	7.984	7.080	6.741	6.443	6.413	5.862
Poland	2.272	2.425	2.696	3.279	3.475	3.967	4.346	4.094	4.080	3.889	3.658	3.235	3.103	2.768
Portugal	0.828	0.754	0.769	0.874	0.898	0.939	1.085	1.118	1.063	0.886	0.805	0.804	0.797	0.731
Slovak Republic	32.04	29.71	30.65	33.62	35.23	41.36	46.04	48.35	45.33	36.77	32.26	31.02	29.70	24.69
Spain	0.805	0.749	0.761	0.880	0.898	0.939	1.085	1.118	1.063	0.886	0.805	0.804	0.797	0.731
Sweden	7.716	7.133	6.706	7.635	7.950	8.262	9.162	10.329	9.737	8.086	7.349	7.473	7.378	6.759
Switzerland	1.368	1.182	1.236	1.451	1.450	1.502	1.689	1.688	1.559	1.347	1.244	1.245	1.254	1.200
Turkey	0.030	0.046	0.081	0.152	0.261	0.419	0.625	1.226	1.507	1.501	1.426	1.344	1.428	1.303
United Kingdom	0.653	0.634	0.641	0.611	0.604	0.618	0.661	0.695	0.667	0.612	0.546	0.550	0.543	0.500
United States	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Euro area	..	0.765	0.788	0.882	0.892	0.939	1.085	1.118	1.063	0.886	0.805	0.804	0.797	0.731
Brazil	0.6393	0.9177	1.0051	1.0780	1.1605	1.8139	1.8294	2.3496	2.9204	3.0775	2.9251	2.4344	2.1753	1.9471
China	8.619	8.351	8.314	8.290	8.279	8.278	8.279	8.277	8.277	8.277	8.277	8.194	7.973	7.608
India	31.37	32.43	35.43	36.31	41.26	43.06	44.94	47.19	48.61	46.58	45.32	44.10	45.31	41.35
Indonesia	2 160.8	2 248.6	2 342.3	2 909.4	10 013.6	7 855.2	8 421.8	10 260.9	9 311.2	8 577.1	8 938.9	9 704.7	9 159.3	9 141.0
Russian Federation	2.3915	4.6260	5.1675	5.8375	9.7051	24.6199	28.1292	29.1685	31.3485	30.6920	28.8137	28.2844	27.1910	25.5808
South Africa	3.551	3.627	4.299	4.608	5.528	6.109	6.940	8.609	10.541	7.565	6.460	6.359	6.772	7.045

 StatLink  <http://dx.doi.org/10.1787/542200555741>
**Percentage differences in GDP when converted to US dollars using exchange rates and PPPs**

PPP-based GDP minus exchange rate-based GDP as per cent of exchange rate-based GDP, 2007


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Indices of price levels

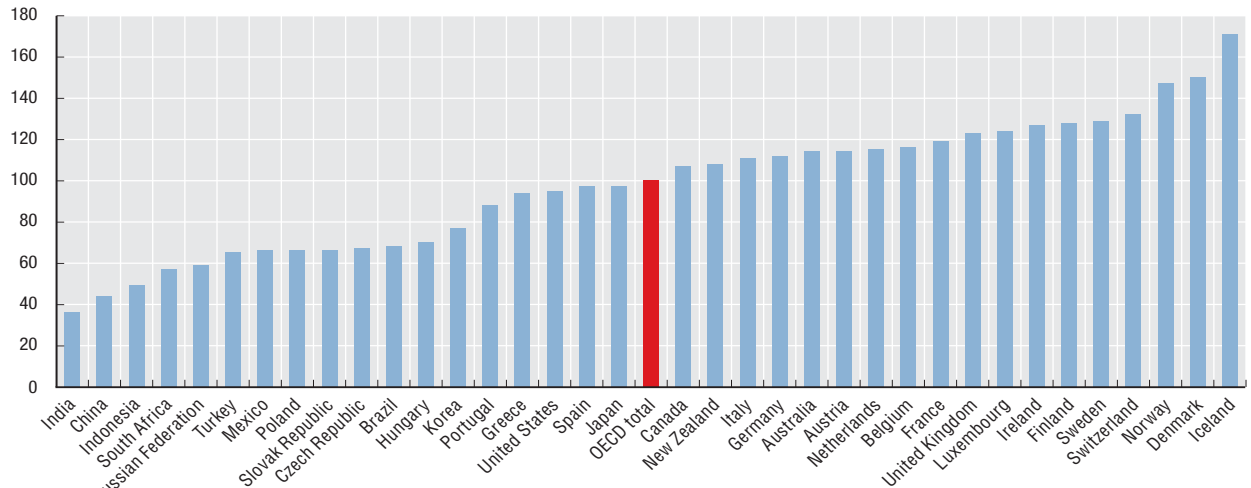
OECD = 100

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Australia	90	86	95	97	84	85	81	77	80	90	98	104	105	114
Austria	104	112	111	103	104	99	88	92	93	102	106	108	109	114
Belgium	102	110	109	102	105	100	88	89	90	101	109	110	111	116
Canada	82	78	82	86	82	81	88	88	87	90	92	98	105	107
Czech Republic	33	37	41	40	44	42	39	42	48	51	54	59	62	67
Denmark	124	133	134	126	128	123	111	114	117	133	137	140	143	150
Finland	102	120	120	113	114	108	98	101	105	117	118	119	121	128
France	109	115	117	108	110	104	92	92	94	108	114	113	114	119
Germany	112	121	119	110	112	105	95	96	98	106	109	106	106	112
Greece	69	74	79	78	78	77	67	67	69	80	84	87	89	94
Hungary	44	43	44	45	45	43	41	43	49	55	61	63	62	70
Iceland	96	100	104	104	111	112	114	102	110	126	131	154	154	171
Ireland	89	92	96	101	101	101	95	99	105	117	122	123	124	127
Italy	85	83	93	92	92	89	80	81	88	99	106	106	106	111
Japan	162	164	144	137	130	144	153	137	127	123	121	115	106	97
Korea	75	79	82	76	56	64	71	66	68	68	68	75	79	77
Luxembourg	105	115	114	107	108	102	92	95	97	109	112	116	117	124
Mexico	59	40	46	54	55	60	69	76	75	65	62	64	67	66
Netherlands	102	111	109	101	103	98	88	91	94	107	110	109	110	115
New Zealand	80	85	93	95	79	77	70	69	75	89	98	106	98	108
Norway	119	128	129	127	127	121	111	114	127	132	130	135	137	147
Poland	38	43	46	46	49	45	45	51	50	48	50	57	60	66
Portugal	71	76	79	76	79	75	69	71	74	82	87	83	84	88
Slovak Republic	35	39	40	40	41	37	37	36	39	47	52	54	57	66
Spain	79	84	87	81	82	79	72	74	77	87	92	93	94	97
Sweden	110	116	127	120	120	114	106	101	106	118	121	123	124	129
Switzerland	135	148	144	129	132	127	117	122	126	135	138	137	133	132
Turkey	42	47	48	49	51	49	48	39	45	53	56	61	60	65
United Kingdom	90	89	92	103	109	107	103	101	104	107	113	113	116	123
United States	92	88	92	99	102	102	107	112	111	102	98	98	99	95
OECD total	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Brazil	..	..	..	..	..	..	..	..	..	..	..	54	..	68
China	..	..	..	..	..	..	..	..	..	..	..	42	..	44
India	..	..	..	..	..	..	..	..	..	..	..	32	..	36
Indonesia	..	..	..	..	..	..	..	..	..	..	..	41	..	49
Russian Federation	..	..	..	..	..	..	..	..	..	..	..	45	..	59
South Africa	..	..	..	..	..	..	..	..	..	..	..	59	..	57

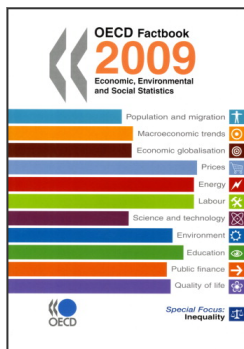
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Indices of price levels

OECD = 100, year 2007



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