

## **Gross Domestic Product (GDP)**

1. Size of GDP
2. GDP growth
3. GDP per capita

# GROSS DOMESTIC PRODUCT (GDP)

## 1. Size of GDP

Gross domestic product (GDP) is the standard measure of the value of final goods and services produced by a country during a period. While GDP is the single most important indicator to capture these economic activities, it is not a good measure of societies' well-being and only a limited measure of people's material living standards. The sections and indicators that follow better address this and other related issues and this is one of the primary purposes of this publication.

Countries calculate GDP in their own currencies. In order to compare across countries these estimates have to be converted into a common currency. Often the conversion is made using current exchange rates but these can give a misleading comparison of the true volumes of final goods and services in GDP. A better approach is to use purchasing power parities (PPPs). PPPs are currency converters that control for differences in the price levels of products between countries and so allow an international comparison of the volumes of GDP and of the size of economies.

### Definition

What does gross domestic product mean? "Gross" signifies that no deduction has been made for the depreciation of machinery, buildings and other capital products used in production. "Domestic" means that it is production by the resident institutional units of the country. The products refer to final goods and services, that is, those that are purchased, imputed or otherwise, as: the final consumption of households, non-profit institutions serving households and government; fixed assets; and exports (minus imports).

GDP at market prices can be measured in three different ways:

- as output less intermediate consumption (i.e. value added) plus taxes on products (such as VAT) less subsidies on products;
- as the income earned from production, equal to the sum of: employee compensation; the gross operating surplus of enterprises and government; the gross mixed income of unincorporated enterprises; and net taxes on production and imports (VAT, payroll tax, import duties, etc., less subsidies);
- or as the expenditure on final goods and services minus imports: final consumption expenditures, gross capital formation, and exports less imports.

### Comparability

All OECD countries now follow the 1993 System of National Accounts, although in some countries, for example in specific areas such as the own account production of software or financial intermediation services (indirectly measured) (FISIM), differences remain, which can impact on comparisons of GDP. The measurement of the non-observed economy (NOE, often referred to as the informal, grey, shadow, economy) can also have an impact on comparability, although for OECD economies, in general, this is not thought to be significant. (See also "Reader's Guide", relating to PPP based comparisons.)

For some countries, the latest year has been estimated by the Secretariat. Historical data have also been estimated for those countries that revise their methodologies but only supply revised data for some years. This estimation process mechanically links the new and old series to preserve growth rates.

### Source

- OECD (2009), *National Accounts of OECD Countries 2009, Volume I, Main Aggregates*, OECD Publishing, [http://dx.doi.org/10.1787/na\\_vol\\_1-2009-en-fr](http://dx.doi.org/10.1787/na_vol_1-2009-en-fr).

### Online database

- OECD (2009), "Aggregate national accounts: gross domestic product", *OECD National Accounts Statistics (database)*, <http://dx.doi.org/10.1787/data-00001-en>.

### Further reading

- Lequiller F., N. Ahmad, S. Varjonen, W. Cave and K.-H. Ahn (2003), *Report of the OECD Task Force on Software Measurement in the National Accounts*, OECD Publishing, <http://dx.doi.org/10.1787/334811030426>.
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- Lequiller F. and D. Blades (2007), *Understanding National Accounts*, OECD Publishing, <http://dx.doi.org/10.1787/9789264027657-en>.
- OECD (2000), *System of National Accounts, 1993 – Glossary*, OECD Publishing, <http://dx.doi.org/10.1787/9789264180871-en>.
- UN, OECD, IMF, Eurostat (eds.) (1993), *System of National Accounts 1993*, United Nations, Geneva, <http://unstats.un.org/unsd/sna1993>.

Table 1.1. **Gross domestic product, current PPPs**

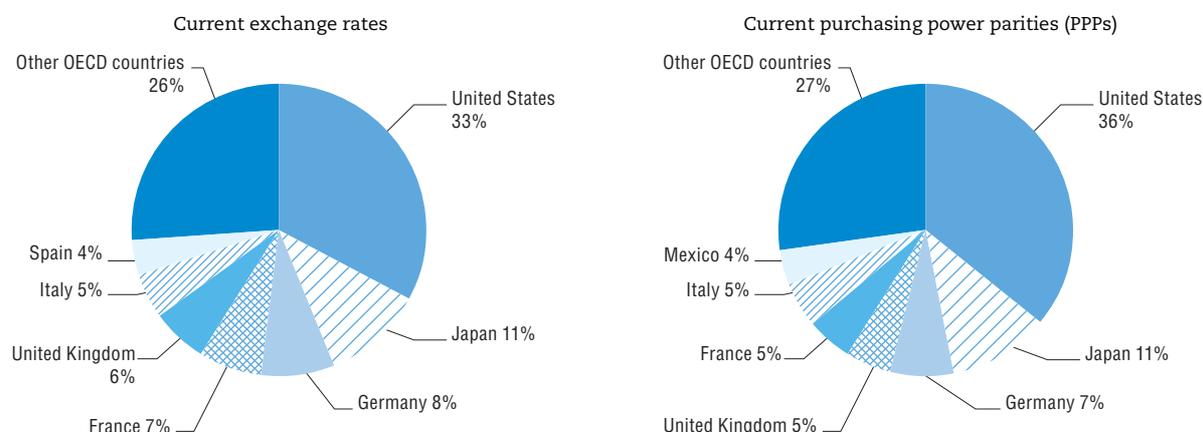
Billion US dollars

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Australia	392	412	437	464	497	525	552	585	622	656	697	743	795	830 e
Austria	187	194	199	208	216	230	232	244	252	266	275	291	309	316
Belgium	228	232	243	248	259	282	292	309	313	323	336	354	376	374
Canada	667	691	732	771	825	873	910	938	990	1 050	1 131	1 204	1 270	1 303 e
Czech Republic	133	141	143	144	147	154	165	172	184	197	208	226	248	257
Denmark	120	127	134	139	143	154	158	165	164	175	180	190	196	200
Finland	96	99	108	117	122	133	138	143	144	156	161	172	184	188
France	1 204	1 243	1 302	1 369	1 425	1 533	1 630	1 711	1 701	1 768	1 869	1 961	2 081	2 115
Germany	1 840	1 892	1 936	1 990	2 064	2 130	2 212	2 275	2 358	2 468	2 587	2 709	2 835	2 928
Greece	156	163	173	179	185	201	218	237	250	267	274	294	316	324
Hungary	93	97	104	111	115	124	138	150	156	165	171	181	189	193
Iceland	6	7	7	8	8	8	9	9	9	10	10	11	11	12
Ireland	65	71	80	89	97	109	118	130	138	148	160	177	195	186
Italy	1 202	1 242	1 285	1 351	1 377	1 456	1 546	1 532	1 564	1 596	1 649	1 737	1 813	1 849
Japan	2 831	2 964	3 061	3 032	3 071	3 246	3 331	3 417	3 510	3 710	3 873	4 081	4 293	4 356 e
Korea	603 e	657 e	699 e	658 e	731 e	806	860	936	964	1 041	1 097	1 195	1 300	1 358
Luxembourg	16	17	17	18	21	23	24	26	27	30	32	36	40	41
Mexico	688 e	737 e	800 e	849 e	894 e	986 e	1 009 e	1 048 e	1 108	1 186	1 294	1 402	1 485	1 537 e
Netherlands	334	352	376	400	426	468	494	516	515	541	573	607	644	681
New Zealand	64	67	70	71	76	80	85	89	93	99	103	109	115	115 e
Norway	103	114	123	122	133	162	167	168	175	194	219	243	252	278
Poland	287	311	340	363	383	404	419	442	458	497	526	566	614	674
Portugal	131	137	146	154	164	175	183	191	196	201	218	229	242	246
Slovak Republic	45	49	52	56	56	59	65	70	73	79	87	97	108	119
Spain	631	661	701	751	792	857	920	994	1 040	1 109	1 188	1 304	1 420	1 447
Sweden	193	200	207	215	229	246	249	259	269	289	292	313	335	344
Switzerland	189	194	203	210	215	228	234	245	246	258	266	290	314	332
Turkey	427 e	467 e	511 e	536	518	589	561	572	588	689	781	881	945	998
United Kingdom	1 146	1 220	1 308	1 363	1 423	1 533	1 631	1 714	1 778	1 900	1 969	2 068	2 167	2 200
United States	7 359	7 784	8 279	8 741	9 301	9 899	10 234	10 590	11 089	11 812	12 580	13 336	14 011	14 369
Euro area	6 178	6 394	6 664	6 978	7 256	7 711	8 131	8 442	8 636	9 021	9 483	10 044	10 644	10 910
OECD-Total	21 438 e	22 541 e	23 775 e	24 724 e	25 914 e	27 671 e	28 784 e	29 879 e	30 977	32 878	34 805	37 004	39 103	40 170 e

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Figure 1.1. **Gross domestic product: current exchange rates and current PPPs**

The seven largest economies in the OECD. Percentage of OECD total, 2008



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# GROSS DOMESTIC PRODUCT (GDP)

## 2. GDP growth

Changes in the size of economies are usually measured by changes in the volume (often referred to as real) of GDP. Real reflects the fact that changes in GDP due to inflation are removed. This provides a measure of changes in the volume of production of an economy.

### Definition

Converting nominal values of GDP to real values requires a set of detailed price indices, implicit or directly collected. When applied to the nominal value of transactions, the corresponding volume changes can be captured. The detailed volume changes for goods and services – typically several hundred – are then aggregated to yield an overall change in the volume of GDP. In the past, most countries used fixed weights for this aggregation and the base year to which weights related was only modified every five to ten years. It is important to recognise that growth rates are not invariant to the choice of this reference period and measures of growth could turn out to be biased for reporting years that were remote from the base year.

Since the 1993 System of National Accounts it has therefore been recommended that weights should be representative of the periods for which growth rates are calculated. This means that new weights should be introduced every year, giving rise to chain-linked (volume) indices (see Comparability, below).

### Comparability

As described in Section 1, comparability of nominal values of GDP across countries is good. There is generally some variability in how countries calculate their volume estimates of GDP, particularly in respect of

government consumption, but this doesn't necessarily mean that growth rates are less comparable.

With the exception of Mexico, all OECD countries derive their annual estimates of real GDP using annually chain-linked volume indices (that is the fixed prices/weights are updated every year). Mexico, like many non-OECD countries, revise their fixed weights less frequently – the last revision occurring after ten years. Such practices however tend to lead to biased growth rates, usually upward.

### Source

- OECD (2009), *National Accounts of OECD Countries 2009, Volume I, Main Aggregates*, OECD Publishing, [http://dx.doi.org/10.1787/na\\_vol\\_1-2009-en-fr](http://dx.doi.org/10.1787/na_vol_1-2009-en-fr).

### Online database

- OECD (2009), "Aggregate national accounts: gross domestic product", *OECD National Accounts Statistics (database)*, <http://dx.doi.org/10.1787/data-00001-en>.

### Further reading

- Ahmad N., F. Lequiller, P. Marianna, D. Pilat, P. Schreyer, A. Wöfl (2003), *Comparing Labour Productivity Growth in the OECD Area: The Role of Measurement*, OECD Publishing, <http://dx.doi.org/10.1787/838342850485>.
- Eurostat (2001), *Handbook on Price and Volume Measures in National Accounts*, Eurostat, Luxembourg.
- Lequiller, F. and D. Blades (2007), *Understanding National Accounts*, OECD Publishing, <http://dx.doi.org/10.1787/9789264027657-en>.
- OECD (2000), *System of National Accounts, 1993 – Glossary*, OECD Publishing, <http://dx.doi.org/10.1787/9789264180871-en>.
- UN, OECD, IMF, Eurostat (eds.) (1993), *System of National Accounts 1993*, United Nations, Geneva, <http://unstats.un.org/unsd/sna1993>.

Table 2.1. **Gross domestic product, volume**

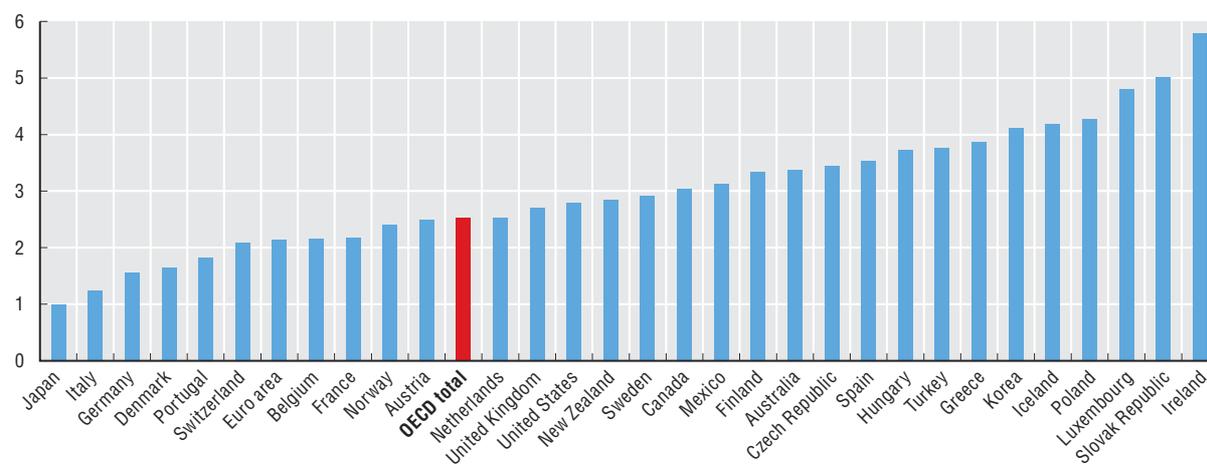
Annual growth rates in percentage

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Australia	4.1	3.9	4.5	5.2	4.0	1.9	3.8	3.2	4.0	2.8	3.0	3.3	3.7	2.3 e
Austria	2.5	2.2	2.1	3.6	3.3	3.7	0.5	1.6	0.8	2.5	2.5	3.5	3.5	2.0
Belgium	2.4	1.2	3.5	1.7	3.4	3.7	0.8	1.5	1.0	3.0	1.8	3.0	2.8	1.1
Canada	2.8	1.6	4.2	4.1	5.5	5.2	1.8	2.9	1.9	3.1	2.9	3.1	2.7	0.4 e
Czech Republic	5.9	4.0	-0.7	-0.8	1.3	3.6	2.5	1.9	3.6	4.5	6.3	6.8	6.1	2.5
Denmark	3.1	2.8	3.2	2.2	2.6	3.5	0.7	0.5	0.4	2.3	2.4	3.3	1.6	-1.2
Finland	3.9	3.7	6.2	5.2	3.9	5.1	2.7	1.6	1.8	3.7	2.8	4.9	4.2	1.0
France	2.1	1.1	2.2	3.5	3.3	3.9	1.9	1.0	1.1	2.5	1.9	2.2	2.3	0.4
Germany	1.9	1.0	1.8	2.0	2.0	3.2	1.2	0.0	-0.2	1.2	0.8	3.2	2.5	1.3
Greece	2.1 e	2.4 e	3.6 e	3.4 e	3.4 e	4.5 e	4.2	3.4	5.9	4.6	2.2	4.5	4.5	2.0
Hungary	1.5	1.0	4.3	5.2	4.2	4.9	4.1	4.4	4.3	4.9	3.5	4.0	1.0	0.6
Iceland	0.1	4.8	4.9	6.3	4.1	4.3	3.9	0.1	2.4	7.7	7.4	4.5	5.5	0.3
Ireland	9.6	8.1	11.5	8.4	10.7	9.4	5.7	6.5	4.4	4.6	6.2	5.4	6.0	-3.0
Italy	2.8	1.1	1.9	1.4	1.5	3.7	1.8	0.5	-0.0	1.5	0.7	2.0	1.6	-1.0
Japan	2.0	2.7	1.6	-2.0	-0.1	2.9	0.2	0.3	1.4	2.7	1.9	2.0	2.4	-0.7 e
Korea	9.2 e	7.0 e	4.7 e	-6.9 e	9.5 e	8.5 e	4.0	7.2	2.8	4.6	4.0	5.2	5.1	2.2
Luxembourg	1.4	1.5	5.9	6.5	8.4	8.4	2.5	4.1	1.5	4.4	5.4	5.6	6.5	0.0
Mexico	-6.2 e	5.2 e	6.8 e	5.0 e	3.8 e	6.6 e	-0.0 e	0.8 e	1.4 e	4.0	3.3	5.0	3.4	1.3 e
Netherlands	3.1	3.4	4.3	3.9	4.7	3.9	1.9	0.1	0.3	2.2	2.0	3.4	3.6	2.0
New Zealand	4.2	3.5	1.7	0.5	5.3	2.4	3.6	4.9	4.3	3.8	3.0	1.8	3.1	-1.1 e
Norway	4.2	5.1	5.4	2.7	2.0	3.3	2.0	1.5	1.0	3.9	2.7	2.3	3.1	2.1
Poland	7.0	6.2	7.1	5.0	4.5	4.3	1.2	1.4	3.9	5.3	3.6	6.2	6.8	5.0
Portugal	4.3	3.6	4.2	4.9	3.8	3.9	2.0	0.8	-0.8	1.5	0.9	1.4	1.9	-0.0
Slovak Republic	5.8	6.9	4.4	4.4	0.0	1.4	3.4	4.8	4.7	5.2	6.5	8.5	10.4	6.4
Spain	2.8	2.4	3.9	4.5	4.7	5.0	3.6	2.7	3.1	3.3	3.6	4.0	3.6	0.9
Sweden	4.0	1.5	2.5	3.8	4.6	4.4	1.1	2.4	1.9	4.1	3.3	4.2	2.6	-0.2
Switzerland	0.4	0.6	2.1	2.6	1.3	3.6	1.2	0.4	-0.2	2.5	2.6	3.6	3.6	1.8
Turkey	7.2 e	7.0 e	7.5 e	3.1	-3.4	6.8	-5.7	6.2	5.3	9.4	8.4	6.9	4.7	0.9
United Kingdom	3.0	2.9	3.3	3.6	3.5	3.9	2.5	2.1	2.8	2.8	2.1	2.8	3.0	0.7
United States	2.5	3.8	4.5	4.4	4.9	4.2	1.1	1.8	2.5	3.6	3.1	2.7	2.1	0.4
Euro area	...	1.6	2.6	2.8	2.9	3.9	1.9	0.9	0.8	2.2	1.7	3.0	2.8	0.7
OECD-Total	2.5 e	3.1 e	3.6 e	2.7 e	3.5 e	4.2 e	1.3 e	1.7 e	2.0 e	3.2	2.7	3.1	2.8	0.6 e

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Figure 2.1. **Gross domestic product, volume**

Average annual growth rates between 1998 and 2008



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# GROSS DOMESTIC PRODUCT (GDP)

## 3. GDP per capita

Gross Domestic Product (GDP) per capita is a core indicator of economic performance and commonly used as a broad measure of average living standards or economic well-being; despite some recognised shortcomings.

For example average GDP per capita gives no indication of how GDP is distributed between citizens. Average GDP per capita may rise for example but more people may be worse off if income inequalities also increase.

Equally, in some countries (see Comparability on the right), there may be a significant number of non-resident border or seasonal workers or indeed inflows and outflows of property income and both phenomena imply that the value of production differs from the income of residents, thereby over or understating their living standards.

A full discussion of these issues can be found in the Stiglitz-Sen-Fitoussi report (see references).

### Definition

The definition for GDP is described in section 1 and population estimates are described in the Reader Notes section.

A focus on per capita GDP is also useful in decomposing drivers of overall GDP growth. For example real GDP can grow without there being any improvement in real GDP per capita. Decomposing per capita growth into two parts, labour productivity growth (measured as GDP per hour worked) and labour utilisation growth (measured as hours worked per capita) is helpful in this context.

### Comparability

Generally, particularly because all countries follow the 1993 *System of National Accounts*, the comparability of population and GDP estimates across countries is good (see Section 1). However, some care is needed in

interpretation, for example Luxembourg and, to a lesser extent, Switzerland have a relatively large number of frontier workers. Such workers contribute to GDP but are excluded from the population figures, which is one of the reasons why cross-country comparisons of income per capita based on gross or net national income (GDI and NNI) are often preferred, see Chapter 2 on Income. (See also “Reader’s Guide”, relating to PPP based comparisons.)

### Source

- OECD (2009), *National Accounts of OECD Countries 2009, Volume I, Main Aggregates*, OECD Publishing, [http://dx.doi.org/10.1787/na\\_vol\\_1-2009-en-fr](http://dx.doi.org/10.1787/na_vol_1-2009-en-fr).

### Online database

- OECD (2009), “Aggregate national accounts: gross domestic product”, *OECD National Accounts Statistics (database)*, <http://dx.doi.org/10.1787/data-00001-en>.

### Further reading

- Report of the Commission on the Measurement of Economic Performance and Social Progress (Stiglitz-Sen-Fitoussi Report), [www.stiglitz-sen-fitoussi.fr](http://www.stiglitz-sen-fitoussi.fr).
- OECD (2002), *Measuring the Non-Observed Economy: A Handbook*, International Labour Office/International Monetary Fund/International Statistical Committee of the Commonwealth of Independent States, OECD Publishing, <http://dx.doi.org/10.1787/9789264175358-en>.
- Lequiller, F. and D. Blades (2007), *Understanding National Accounts*, OECD Publishing, <http://dx.doi.org/10.1787/9789264027657-en>.
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- UN, OECD, IMF, Eurostat (eds.) (1993), *System of National Accounts 1993*, United Nations, Geneva, <http://unstats.un.org/unsd/sna1993>.

Table 3.1. **Gross domestic product per capita, OECD=100**

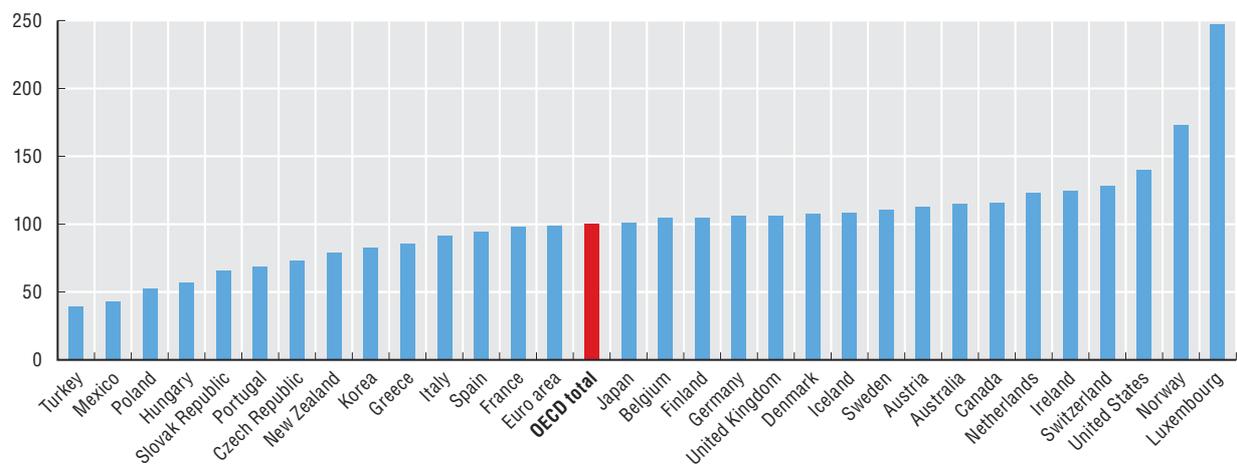
Based on current PPPs

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Australia	110	109	109	111	113	111	112	114	116	115	114	113	114	115 e
Austria	120	119	116	117	117	117	114	116	116	115	112	112	113	113
Belgium	114	111	111	109	109	112	112	115	112	110	108	107	107	105
Canada	116	114	114	115	117	116	116	115	116	116	118	117	117	116 e
Czech Republic	65	67	64	63	62	61	64	65	67	68	68	70	73	73
Denmark	117	117	117	118	116	118	116	118	113	114	112	111	109	108
Finland	96	94	98	102	102	105	105	106	103	106	103	104	105	105
France	103	102	101	103	102	103	105	107	102	100	100	98	99	98
Germany	115	113	110	109	109	106	106	106	107	106	105	105	104	106
Greece	75	74	75	74	74	75	79	83	85	85	83	84	86	86
Hungary	46	46	47	49	49	49	54	57	57	58	57	57	57	57
Iceland	118	118	121	125	124	118	120	119	115	119	118	112	110	108
Ireland	91	95	101	108	112	117	121	127	129	129	130	133	136	125
Italy	108	106	105	107	105	104	107	103	101	97	95	94	93	92
Japan	115	115	113	108	105	104	103	103	102	103	102	102	102	101 e
Korea	68 e	70 e	71 e	64 e	68 e	70	72	75	75	77	77	79	81	83
Luxembourg	198	196	189	194	211	218	213	221	226	230	230	243	250	248
Mexico	38 e	39 e	40 e	40 e	40 e	41 e	40 e	40 e	41	41	42	43	43	43 e
Netherlands	110	110	112	115	116	120	122	123	118	117	118	118	119	123
New Zealand	87	86	85	84	86	84	85	85	85	85	83	82	82	79 e
Norway	120	127	130	123	129	147	147	142	143	149	159	166	162	173
Poland	38	40	41	43	43	43	43	44	45	46	46	47	49	53
Portugal	67	66	67	68	70	70	70	71	70	68	69	69	69	69
Slovak Republic	42	44	45	46	45	45	48	50	51	52	54	57	61	66
Spain	81	82	82	85	86	87	89	92	92	92	92	94	96	94
Sweden	111	110	109	109	111	113	111	111	112	113	109	110	111	111
Switzerland	136	133	132	133	130	129	127	128	124	122	119	122	125	128
Turkey	35 e	36 e	38 e	38	35	36	32	32	31	34	36	38	39	40
United Kingdom	100	102	104	105	105	106	109	111	111	112	110	109	108	107
United States	140	141	141	142	144	143	142	141	142	142	143	142	141	140
Euro area	102	101	100	101	100	100	102	102	101	100	99	99	99	99
OECD-Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100

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Figure 3.1. **Gross domestic product per capita, OECD=100**

Based on current PPPs, 2008



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