

## ◎ PRODUCTION AND PRODUCTIVITY

### PRODUCTION AND INVESTMENT

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## 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 minus the value of imports. While GDP is the single most important indicator to capture economic activity, it should not be looked upon as an all encompassing measure for societies' well-being, as it does not include several aspects of people's material living standards let alone other aspects of people's quality of life.

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.

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.

### 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 relates to the output produced on the economic territory 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 capital formation; and exports (minus imports).

### Overview

Per capita GDP for the OECD as a whole was USD 33 971 in 2010. Five OECD countries had per capita GDP considerably in excess of USD 40 000 in 2010 – Luxembourg, Norway, the United States, Switzerland, and to a lesser extent the Netherlands. Four OECD countries had a per capita GDP just above USD 40 000 in 2010: Australia, Austria, Denmark and Ireland with 13 countries having per capita GDP below USD 30 000: Turkey, Chile and Mexico being at the bottom of the distribution.

While in 2000 per capita GDP for the United States was 44% higher than the OECD average, this has decreased to 37% in 2010. Japanese GDP per capita dropped to just below the OECD average in 2010, whereas it was just above the OECD average in 2000.

The largest decreases in per capita GDP relative to the OECD average between 2000 and 2010 were observed for Israel, Iceland and Italy. On the other hand, the largest increases of relative GDP per capita for this ten year time period are shown for Luxembourg, the Slovak Republic, Norway and Estonia. Also, the countries at the bottom of the distribution (Chile, Mexico and Turkey) showed increases in their relative position of GDP per capita to the OECD average.

### Comparability

All countries compile data according to the 1993 SNA "System of National Accounts, 1993" with the exception of Australia where data are compiled according to the new 2008 SNA. It's important to note however that differences between the 2008 SNA and the 1993 SNA do not have a significant impact of the comparability of the indicators presented here and this implies that data are highly comparable across countries.

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.

For GDP per capita 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.

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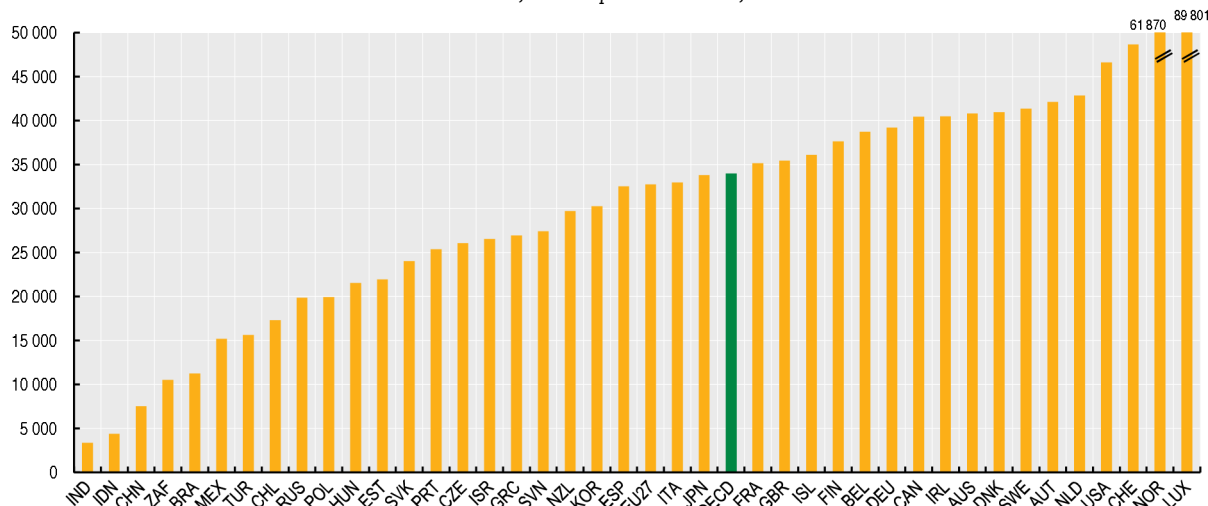
# PRODUCTION AND PRODUCTIVITY • PRODUCTION AND INVESTMENT

## GDP per capita US dollars, current prices and PPPs

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Australia	26 816	27 968	29 077	30 314	31 875	33 306	34 882	36 814	38 744	38 964	39 904	40 790	..
Austria	27 186	28 909	29 025	30 463	31 319	32 856	33 637	36 586	38 073	39 785	39 026	40 065	42 132
Belgium	25 366	27 669	28 524	30 054	30 292	31 190	32 204	34 254	35 667	37 033	36 744	37 728	38 711
Canada	27 138	28 485	29 332	29 911	31 267	32 837	35 106	36 863	38 350	38 985	37 842	39 050	40 440
Chile	9 088	9 572	10 004	10 272	10 784	11 736	12 690	13 734	14 628	15 328	15 201	16 156	17 312
Czech Republic	14 782	15 549	16 833	17 578	18 768	20 081	21 268	23 268	25 457	25 872	25 617	25 258	26 054
Denmark	26 926	28 831	29 432	30 756	30 430	32 290	33 196	36 048	37 723	39 841	38 303	40 190	40 929
Estonia	8 752	9 865	10 691	11 967	13 371	14 753	16 531	19 146	21 583	22 155	19 791	20 393	21 938
Finland	23 613	25 674	26 531	27 531	27 616	29 863	30 708	33 140	36 167	38 080	35 655	36 307	37 642
France	23 612	25 249	26 611	27 676	27 283	28 185	29 554	31 426	33 144	34 167	33 676	34 256	35 133
Germany	24 994	25 768	26 707	27 446	28 354	29 684	31 117	33 552	35 559	37 115	36 052	37 430	39 187
Greece	16 877	18 249	19 744	21 401	22 497	23 861	24 348	26 803	27 709	29 569	29 384	28 444	26 934
Hungary	11 059	11 884	13 394	14 669	15 344	16 188	16 975	18 299	18 933	20 432	20 157	20 556	21 547
Iceland	28 632	28 849	30 438	31 084	30 776	33 731	34 992	35 831	37 171	39 521	36 666	35 593	36 084
Ireland	26 176	28 932	30 776	33 274	34 768	36 796	38 896	42 522	45 418	42 575	39 754	40 478	..
Israel	21 333	23 487	23 400	23 468	22 195	23 497	23 256	23 872	25 449	25 481	25 479	26 531	..
Italy	24 345	25 758	27 276	26 942	27 271	27 528	28 280	30 399	32 056	33 372	32 250	31 911	32 939
Japan	24 600	25 958	26 567	27 233	27 966	29 327	30 443	31 796	33 370	33 592	32 119	33 785	..
Korea	15 601	17 197	18 151	19 656	20 180	21 624	22 783	24 247	26 102	26 689	26 931	28 797	30 254
Luxembourg	49 072	53 662	53 923	57 559	60 728	64 998	68 372	78 573	84 559	89 156	82 981	86 269	89 801
Mexico	9 259	10 042	10 134	10 396	10 882	11 529	12 461	13 741	14 486	15 267	14 343	15 195	..
Netherlands	26 933	29 414	30 783	31 943	31 705	33 197	35 111	38 088	40 736	42 929	41 094	42 196	42 847
New Zealand	20 165	21 036	22 017	22 775	23 433	24 498	25 219	27 020	28 600	29 077	29 386	29 711	..
Norway	29 800	36 137	37 085	37 052	38 262	42 479	47 640	53 846	55 874	61 332	54 713	57 259	61 870
Poland	9 996	10 570	10 948	11 563	11 986	13 010	13 786	15 077	16 759	18 024	18 926	19 908	..
Portugal	16 744	17 797	18 507	19 146	19 456	19 854	21 369	22 967	24 201	24 939	24 938	25 444	25 352
Slovak Republic	10 407	10 983	12 069	12 966	13 599	14 654	16 175	18 383	20 876	23 214	22 583	23 264	24 018
Slovenia	16 707	17 554	18 438	19 759	20 516	22 268	23 472	25 444	27 218	29 065	27 153	26 941	27 402
Spain	19 824	21 314	22 578	24 068	24 755	25 956	27 392	30 406	32 233	33 130	32 150	31 904	32 501
Sweden	25 976	27 957	28 226	29 278	30 420	32 494	32 701	35 703	38 478	39 613	37 339	39 346	41 348
Switzerland	30 626	32 403	33 062	34 354	34 245	35 593	36 648	40 537	44 362	47 552	46 343	48 657	..
Turkey	8 171	9 172	8 612	8 667	8 791	10 162	11 391	12 895	13 894	15 025	14 443	15 604	..
United Kingdom	24 253	26 072	27 568	28 884	29 845	31 766	32 732	34 999	35 736	35 882	34 487	35 687	35 441
United States	33 298	35 050	35 866	36 755	38 128	40 197	42 414	44 522	46 227	46 647	45 087	46 588	..
EU27	20 607	21 912	23 045	23 968	24 521	25 707	26 868	29 070	30 770	31 976	31 142	31 784	32 721
OECD	23 002	24 404	25 185	25 958	26 715	28 135	29 573	31 517	33 087	33 882	32 860	33 971	..
Brazil	6 861	7 204	7 354	7 560	7 698	8 231	8 603	9 166	9 900	10 528	10 453	11 239	..
China	2 163	2 378	2 615	2 881	3 217	3 614	4 102	4 749	5 554	6 189	6 786	7 519	..
India	1 447	1 518	1 585	1 657	1 779	1 942	2 153	2 402	2 677	2 862	3 039	3 339	..
Indonesia	2 243	2 441	2 552	2 674	2 825	3 005	3 207	3 449	3 727	3 987	4 155	4 394	..
Russian Federation	5 895	6 798	7 336	8 010	9 231	10 228	11 826	14 923	16 729	20 268	18 892	19 833	..
South Africa	6 322	6 640	6 897	7 184	7 478	8 000	8 654	9 336	10 049	10 453	10 238	10 498	..

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## GDP per capita US dollars, current prices and PPPs, 2011



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## EVOLUTION OF GDP

Changes in the size of economies are usually measured by changes in the volume (often referred to as real) levels 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, implicitly 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 categories - 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.

### Comparability

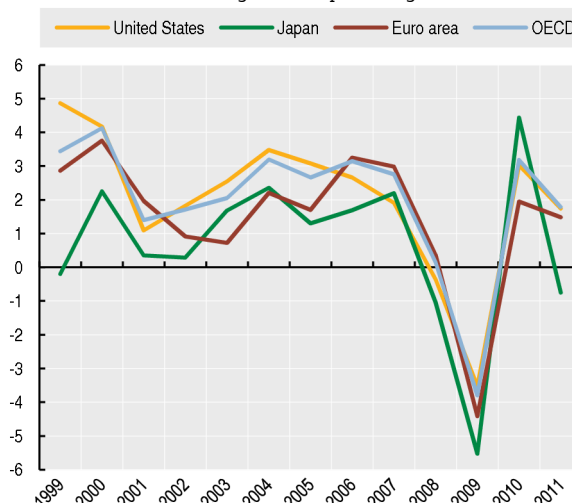
All countries compile data according to the 1993 SNA "System of National Accounts, 1993" with the exception of Australia where data are compiled according to the new 2008 SNA. It's important to note however that differences between the 2008 SNA and the 1993 SNA do not have a significant impact of the comparability of the indicators presented here and this implies that data are highly comparable across countries. However, there is generally some variability in how countries calculate their volume estimates of GDP, particularly in respect of services produced by government such as health and education.

With the exception of Mexico, all OECD countries derive their annual estimates of real GDP using annually chain-

linked volume indices (that is the weights are updated every year). Mexico, like many non-OECD countries, revise their weights less frequently.

### Real GDP growth

Annual growth in percentage



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### Overview

The average annual rate of volume GDP growth for the OECD total in the three years to 2011 was 0.3%. This mainly reflects the strong fall of 3.8% in 2009 at the height of the recent economic crisis. This compares to significantly higher GDP growth rates in India, Indonesia, and China, which all had average annual growth of 5% or more over the period. Greece, Iceland, Slovenia and Ireland, which contracted between 2 and 5%, recorded the lowest average annual GDP growth rates between 2008 and 2011. Overall, 16 OECD countries showed a negative average annual growth rate in this period, showing that these countries still haven't managed to regain the losses in economic activity due to the crisis, and to arrive at pre-crisis levels of GDP.

Looking at 2011 more specifically, the OECD growth rate was 1.8%. Chile (6.0%), Estonia (7.6%) and Turkey (8.5%) showed the highest growth rates. On the other hand, economic activity fell by 6.9% in Greece. Also Portugal (minus 1.6%), Japan (minus 0.7%) and Slovenia (minus 0.2%) contracted in 2011.

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### Real GDP growth

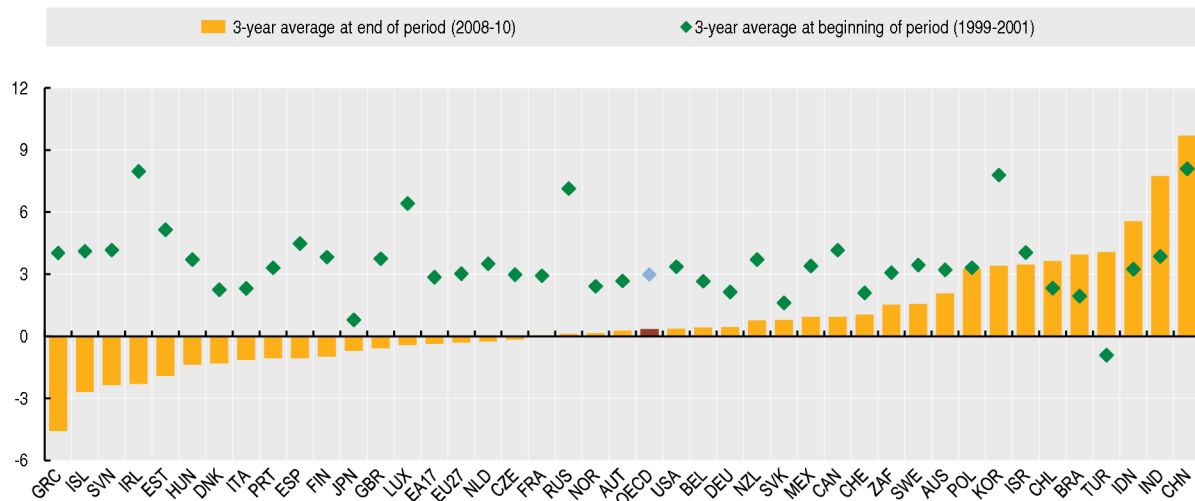
Annual growth in percentage

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Australia	3.8	1.9	3.9	3.2	4.1	3.2	3.0	3.8	3.8	1.4	2.3	2.1	1.8
Austria	3.5	3.7	0.9	1.7	0.9	2.6	2.4	3.7	3.7	1.4	-3.8	2.1	2.7
Belgium	3.5	3.7	0.8	1.4	0.8	3.3	1.8	2.7	2.9	1.0	-2.8	2.2	1.9
Canada	5.5	5.2	1.8	2.9	1.9	3.1	3.0	2.8	2.2	0.7	-2.8	3.2	2.5
Chile	-0.7	4.5	3.3	2.2	4.0	7.0	6.2	5.7	5.2	3.3	-1.0	6.1	6.0
Czech Republic	1.7	4.2	3.1	2.1	3.8	4.7	6.8	7.0	5.7	3.1	-4.7	2.7	1.7
Denmark	2.6	3.5	0.7	0.5	0.4	2.3	2.4	3.4	1.6	-0.8	-5.8	1.3	0.8
Estonia	-0.3	9.7	6.3	6.6	7.8	6.3	8.9	10.1	7.5	-3.7	-14.3	2.3	7.6
Finland	3.9	5.3	2.3	1.8	2.0	4.1	2.9	4.4	5.3	0.3	-8.5	3.3	2.7
France	3.3	3.7	1.8	0.9	0.9	2.5	1.8	2.5	2.3	-0.1	-3.1	1.7	1.7
Germany	1.9	3.1	1.5	0.0	-0.4	1.2	0.7	3.7	3.3	1.1	-5.1	3.7	3.0
Greece	3.4	4.5	4.2	3.4	5.9	4.4	2.3	5.5	3.0	-0.2	-3.2	-3.5	-6.9
Hungary	3.2	4.2	3.7	4.5	3.9	4.8	4.0	3.9	0.1	0.9	-6.8	1.3	1.6
Iceland	4.1	4.3	3.9	0.1	2.4	7.8	7.2	4.7	6.0	1.3	-6.8	-4.0	3.1
Ireland	9.9	9.3	4.8	5.9	4.2	4.5	5.3	5.3	5.2	-3.0	-7.0	-0.4	0.7
Israel	3.4	9.3	-0.2	-0.6	1.5	4.8	4.9	5.6	5.5	4.0	0.8	4.8	4.8
Italy	1.5	3.7	1.9	0.5	0.0	1.7	0.9	2.2	1.7	-1.2	-5.5	1.8	0.4
Japan	-0.2	2.3	0.4	0.3	1.7	2.4	1.3	1.7	2.2	-1.0	-5.5	4.4	-0.7
Korea	10.7	8.8	4.0	7.2	2.8	4.6	4.0	5.2	5.1	2.3	0.3	6.3	3.6
Luxembourg	8.4	8.4	2.5	4.1	1.5	4.4	5.4	5.0	6.6	0.8	-5.3	2.7	1.6
Mexico	3.8	6.6	0.0	0.8	1.4	4.1	3.3	5.1	3.4	1.2	-6.3	5.6	3.9
Netherlands	4.7	3.9	1.9	0.1	0.3	2.2	2.0	3.4	3.9	1.8	-3.5	1.7	1.2
New Zealand	5.2	2.5	3.5	4.9	3.9	3.6	3.2	2.2	2.9	-1.1	0.8	1.2	0.3
Norway	2.0	3.3	2.0	1.5	1.0	4.0	2.6	2.5	2.7	0.0	-1.7	0.7	1.4
Poland	4.5	4.3	1.2	1.4	3.9	5.3	3.6	6.2	6.8	5.1	1.6	3.9	4.3
Portugal	4.1	3.9	2.0	0.8	-0.9	1.6	0.8	1.4	2.4	0.0	-2.9	1.4	-1.6
Slovak Republic	0.0	1.4	3.5	4.6	4.8	5.1	6.7	8.3	10.5	5.8	-4.9	4.2	3.3
Slovenia	5.3	4.3	2.9	3.8	2.9	4.4	4.0	5.8	6.9	3.6	-8.0	1.4	-0.2
Spain	4.7	5.0	3.7	2.7	3.1	3.3	3.6	4.1	3.5	0.9	-3.7	-0.1	0.7
Sweden	4.7	4.5	1.3	2.5	2.3	4.2	3.2	4.3	3.3	-0.6	-5.0	6.2	3.9
Switzerland	1.4	3.7	1.2	0.2	0.0	2.4	2.7	3.8	3.8	2.2	-1.9	3.0	2.1
Turkey	-3.4	6.8	-5.7	6.2	5.3	9.4	8.4	6.9	4.7	0.7	-4.8	9.2	8.5
United Kingdom	3.2	4.2	2.9	2.4	3.8	2.9	2.8	2.6	3.6	-1.0	-4.0	1.8	0.8
United States	4.9	4.2	1.1	1.8	2.6	3.5	3.1	2.7	1.9	-0.4	-3.5	3.0	1.7
Euro area	2.9	3.8	2.0	0.9	0.7	2.2	1.7	3.3	3.0	0.4	-4.4	2.0	1.5
EU27	3.0	3.9	2.2	1.3	1.4	2.5	2.0	3.3	3.2	0.3	-4.4	2.1	1.5
OECD	3.4	4.1	1.4	1.7	2.1	3.2	2.7	3.2	2.8	0.1	-3.8	3.2	1.8
Brazil	0.3	4.3	1.3	2.7	1.1	5.7	3.2	4.0	6.1	5.2	-0.6	7.5	..
China	7.6	8.4	8.3	9.1	10.0	10.1	11.3	12.7	14.2	9.6	9.2	10.3	..
India	3.3	4.4	3.9	4.6	6.9	8.1	9.2	9.7	9.9	6.2	6.8	10.4	..
Indonesia	0.8	5.4	3.6	4.5	4.8	5.0	5.7	5.5	6.3	6.0	4.6	6.1	..
Russian Federation	6.4	10.0	5.1	4.7	7.3	7.2	6.4	8.2	8.5	5.2	-7.8	4.3	4.3
South Africa	2.4	4.2	2.7	3.7	2.9	4.6	5.3	5.6	5.6	3.6	-1.7	2.8	..

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### Real GDP growth

Average annual growth in percentage


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## GDP BY REGION

Disparities in economic performance across OECD countries are often smaller than those prevailing among regions of the same country. Further, these regional disparities have persisted over time, even when economic disparities among countries were falling.

### Definition

Regional inequalities in economic performance are here measured by regional GDP per capita or GDP per worker. The GDP of a country or a region is measured according to the definitions of the 1993 *System of National Accounts* and divided by the population living there (GDP per capita) or the total employed of the country or region (GDP per worker).

The Gini index is a measure of inequality among all regions of a given country. The index takes on values between 0 and 1, with zero interpreted as no disparity. It assigns equal weight to each region regardless of its size; therefore differences in the values of the index among countries may be partially due to differences in the average size of regions in each country.

While in the study of income inequality individuals are the obvious unit of analysis, there is no such straightforward parallel in regional economics. The size of regions varies significantly both within and between countries so that the degree of geographic concentration and territorial disparity depends on the very definition of a region. Typically, as the size of a region increases, territorial differences tend to be averaged out and disparities to decrease.

### Comparability

As for the other regional statistics, comparability is affected by differences in the meaning of the word “region”. The word “region” can mean very different things both within and among countries, with significant differences in terms of area and population. To address

this issue, the OECD has classified regions within each member country based on two levels: territorial level 2 (TL2, large regions) and territorial level 3 (TL3, small regions). All the data shown here refer to small regions with the exception of Australia, Brazil, Canada, Chile, China, India, Mexico, the Russian Federation, South Africa, Turkey and the United States.

For the large part, economic output differences are attributed to disparities in productivity and in the utilization of the available labour force. Regional differences in labour productivity are measured by the range in regional GDP per worker, a preferable measure to GDP per capita whose differences within a country could be due to commuting, which tends to increase GDP per capita in those regions where people are employed and reduce the GDP per capita of those regions where commuters reside. The regional GDP per worker is a measure of labour productivity.

“2009 or latest available year” refers to 2009 in all countries except Chile (2007), Norway (2007), Sweden (2007) and Turkey (2008). “1995-2009 or latest available period” refers to data from 1995 to 2009 in all countries except Estonia (1996-2009), Norway (1997-2007), Poland (1999-2009), Turkey (2004-08), China (2004-08), India (2000-08), the Russian Federation (2005-08) and Sweden (1995-2007).

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### Overview

Regional disparities in productivity within countries are often substantial. Large differences are found in Chile, Turkey, the United Kingdom and France.

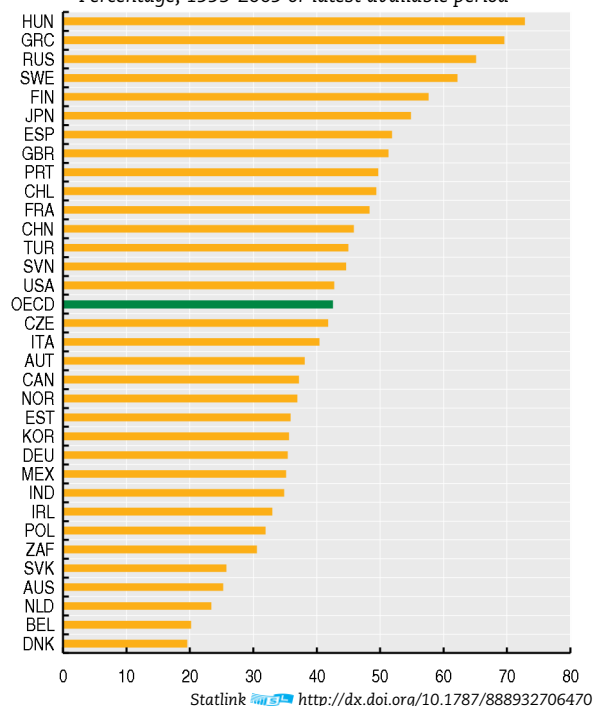
Typically a small number of regions account for a large part of national GDP growth. On average, 42% of OECD growth was accounted for by just 10% of regions over the period 1995-2009. At country level, the regional contribution to growth was very concentrated in Hungary, Greece, Sweden, Finland, Japan, Spain and the United Kingdom, and the Russian Federation among the non-OECD countries. In the above mentioned countries 10% of regions with the highest GDP increase were responsible for more than half of the national growth in 1995-2009.

The Gini index is a measure of inequality which assigns equal weight to each region of a country regardless of its size, while the number of people living in regions with low GDP per capita (under the national median), provide an indication of the different economic implications of disparities within a country. For example, while regional disparities as measured by the Gini index in GDP per capita are of the same magnitude in the Slovak Republic, Chile, Turkey and Estonia, the percentage of national population living in regions with low GDP per capita varies from almost 54% in the Slovak Republic to 23% in Estonia.



### Share of GDP increase of each country due to the 10% of most dynamic regions

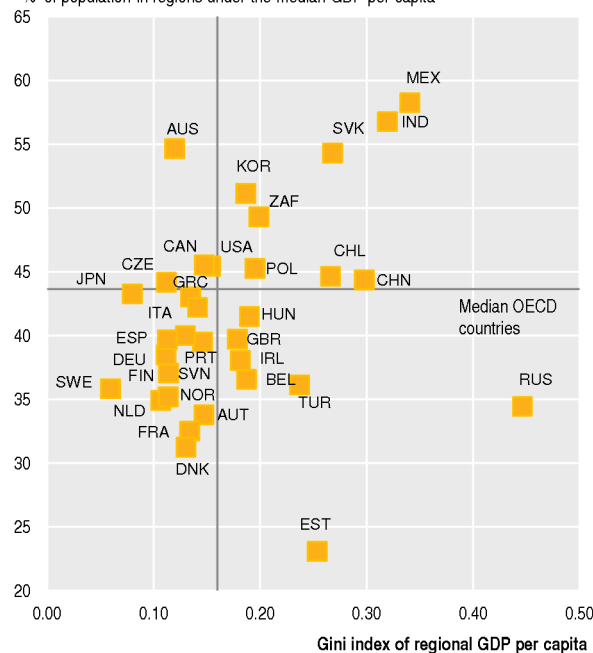
Percentage, 1995-2009 or latest available period



### Gini index of regional GDP per capita and share of the population in regions with low GDP per capita

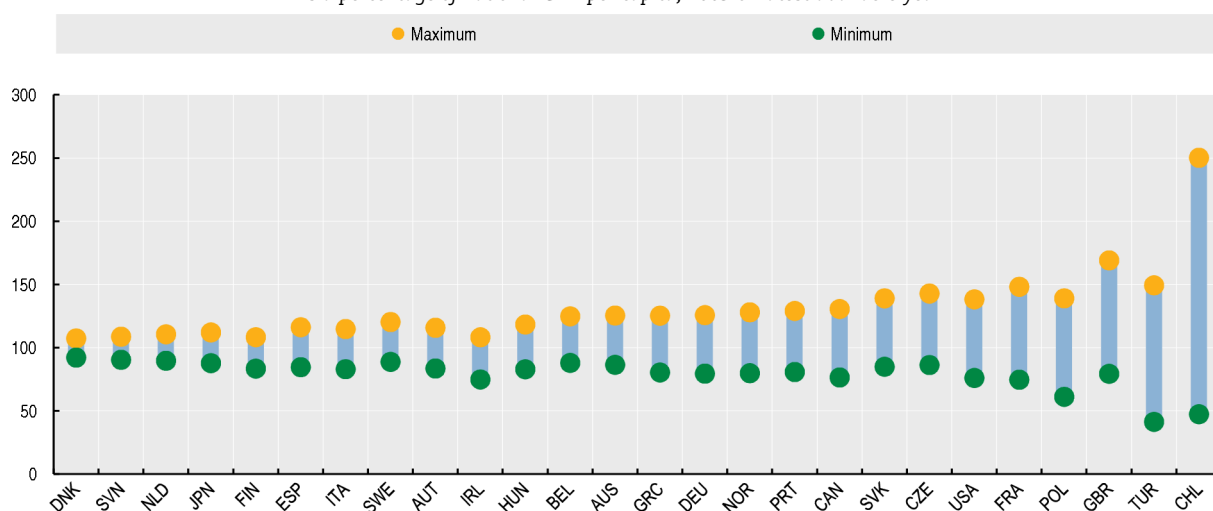
2009 or latest available year

% of population in regions under the median GDP per capita



### Range in regional GDP per capita

As a percentage of national GDP per capita, 2009 or latest available year



## INVESTMENT RATES

Investment, or to be more precise, gross fixed capital formation, is an important determinant of future economic growth and an essential variable in economic analyses, such as analyses of demand and productivity.

### Definition

Gross fixed capital formation (GFCF) is defined in the national accounts as acquisition less disposals of produced fixed assets. The relevant assets relate to products that are intended for use in the production of other goods and services for a period of more than a year.

Acquisition includes both purchases of assets (new or second-hand) and the construction of assets by producers for their own use.

The term produced assets signifies that only those assets that come into existence as a result of a production process recognised in the national accounts are included. The national accounts also record transactions in non-produced assets such as land, oil and mineral reserves for example; which are recorded as (acquisitions less disposals of) non-produced assets in the capital account and the balance sheet.

Acquisition prices of capital goods include transport and installation charges, as well as all specific taxes associated with purchase.

### Comparability

When the *System of National Accounts* (SNA) was revised in 1993, the scope of GFCF was widened to include mineral exploration and computer software, as well as literary and artistic originals. Comparability of these items has improved in recent years but the coverage of the various items differs across countries. This applies particularly in the case of own-account production of software.

The scope of assets has been widened in the 2008 SNA to include Research and Development and military weapons systems but the figures contained here do not reflect these additions (except for Australia which follows the 2008 *System of National Accounts*).

### Overview

Investment over the period 2008-10 fell on average by 4.2% per year for the OECD as a whole, largely reflecting the retrenchment in investment that occurred at the height of the recent crisis, with investment volumes falling by more than 12% in 2009. Australia was the only country in the OECD to record investment growth (3%) in 2009. Ireland, Iceland and Greece all recorded annual average falls in investment of around 20% in the period 2008-10. As a consequence, the levels of investments in 2010 were less than half of the 2007 levels in these countries.

In 2011, investment growth rates were highest in Estonia (26.8%), Turkey (18.3%), Chile (17.6%) and Iceland (13.4%), as a consequence of which Estonia and Iceland managed to regain some of the dramatic drop in investment in the previous three year period. On the other hand, investment contracted by more than 10% in Portugal and Slovenia in 2011, and by more 20% in Greece. In the latter country, the investment level in 2011 is little more than half of the 2007 level.

### Sources

- OECD (2012), *National Accounts of OECD Countries*, OECD Publishing.
- For Brazil: National sources and OECD (2011), *Main Economic Indicators*, OECD Publishing.

### Further information

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- OECD (2012), *OECD Economic Outlook*, OECD Publishing.
- OECD (2012), *OECD Investment Policy Reviews*, OECD Publishing.

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#### Methodological publications

- Ahmad, N. (2004), "Towards More Harmonised Estimates of Investment in Software", *OECD Economic Studies*, No. 37, 2003/2.
- OECD (2000), *System of National Accounts, 1993 – Glossary*, OECD Publishing.
- United Nations, OECD, International Monetary Fund and Eurostat (eds.) (2010), *System of National Accounts 2008*, United Nations, Geneva.

### Websites

- OECD Economic Outlook – Sources and Methods, [www.oecd.org/eco/sources-and-methods](http://www.oecd.org/eco/sources-and-methods).



# Gross fixed capital formation

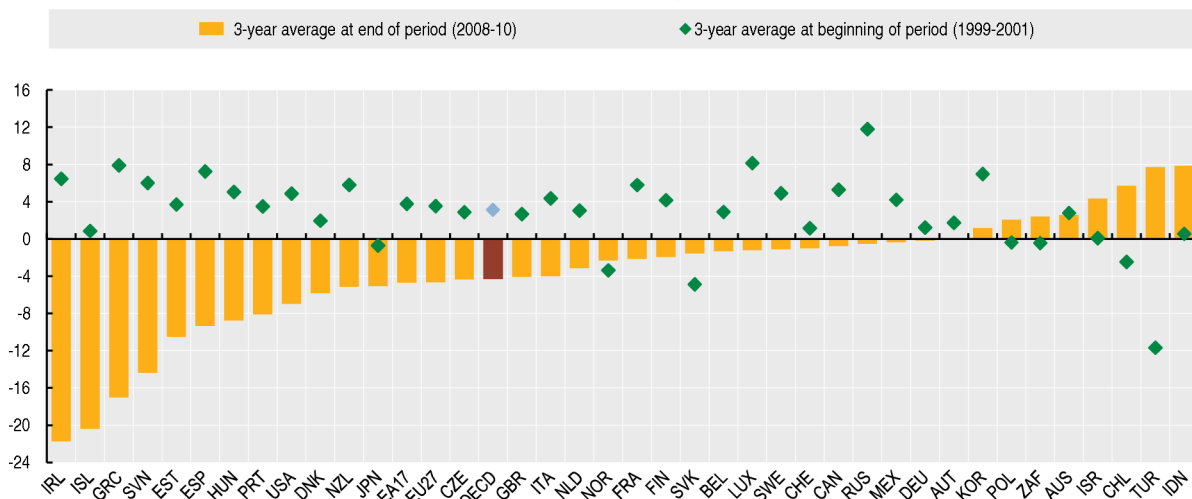
Annual growth in percentage

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Australia	8.2	-7.9	9.0	12.7	9.0	6.9	9.3	5.1	9.6	1.4	2.3	4.1	..
Austria	1.2	5.2	-1.0	-4.0	4.8	0.6	0.6	0.5	3.6	0.7	-7.8	0.8	7.3
Belgium	2.6	5.1	1.0	-4.5	0.1	7.8	6.4	2.5	6.3	1.9	-7.9	-0.8	5.2
Canada	7.3	4.7	4.0	1.6	6.2	7.8	9.3	7.1	3.5	2.0	-13.0	10.0	..
Chile	-18.2	8.9	4.3	1.5	5.7	11.4	23.5	4.3	10.8	17.9	-12.1	14.3	17.6
Czech Republic	-2.1	6.5	4.5	3.8	0.6	3.0	6.0	5.8	13.2	4.1	-11.5	0.1	-1.2
Denmark	-0.1	7.6	-1.4	0.1	-0.2	3.9	4.7	14.3	0.4	-4.2	-13.4	-3.8	0.2
Estonia	-15.5	16.7	13.1	24.2	16.7	6.0	15.2	23.0	9.3	-15.1	-37.9	-9.1	26.8
Finland	3.3	6.4	2.9	-3.7	3.0	4.9	3.6	1.9	10.7	-0.6	-13.2	1.9	6.8
France	8.5	6.8	2.2	-1.9	2.2	3.4	4.4	4.0	6.3	0.3	-10.6	1.2	3.5
Germany	4.5	2.6	-3.3	-6.1	-1.2	-0.2	0.8	8.2	4.7	1.7	-11.4	5.5	6.4
Greece	11.0	8.0	4.8	9.5	11.8	0.4	-6.3	20.4	5.4	-6.7	-15.2	-15.0	-20.7
Hungary	7.4	6.0	1.9	7.4	1.5	7.2	4.5	-2.7	3.8	2.9	-11.0	-9.7	-5.5
Iceland	-4.1	11.8	-4.3	-14.0	11.1	28.7	34.4	24.4	-12.2	-20.0	-51.6	-8.1	13.4
Ireland	13.4	6.2	0.2	2.5	6.5	9.5	14.7	4.4	2.3	-10.1	-28.8	-25.1	..
Israel	0.4	3.4	-3.4	-6.7	-4.1	0.0	3.5	13.1	14.6	4.2	-4.1	13.6	..
Italy	4.0	6.4	2.7	3.4	-1.3	2.0	1.3	3.4	1.8	-3.7	-11.7	2.1	-1.9
Japan	-0.6	0.7	-2.1	-4.9	0.2	0.4	0.8	1.5	0.3	-4.1	-10.6	-0.2	..
Korea	8.7	12.3	0.3	7.1	4.4	2.1	1.9	3.4	4.2	-1.9	-1.0	5.8	-1.1
Luxembourg	22.0	-4.7	8.8	5.5	6.3	2.7	2.5	3.8	17.9	3.2	-13.0	3.0	7.7
Mexico	7.7	11.4	-5.6	-0.6	0.4	8.0	7.5	9.9	6.9	5.5	-11.8	6.4	..
Netherlands	8.7	0.6	0.2	-4.5	-1.5	-1.6	3.7	7.5	5.5	4.5	-10.2	-4.4	5.8
New Zealand	10.6	0.4	6.8	7.8	12.9	7.6	5.2	-2.3	4.7	-5.2	-12.0	2.2	..
Norway	-5.4	-3.5	-1.1	-1.1	0.8	11.1	13.5	9.8	11.4	0.2	-7.5	-5.2	6.4
Poland	6.6	2.7	-9.7	-6.3	-0.1	6.4	6.5	14.9	17.6	9.6	-1.2	-0.4	8.1
Portugal	6.0	3.9	0.6	-3.2	-7.1	0.0	-0.5	-1.3	2.6	-0.3	-8.6	-4.1	-11.4
Slovak Republic	-15.7	-9.6	12.9	0.2	-2.7	4.8	17.5	9.3	9.1	1.0	-19.7	12.4	5.7
Slovenia	14.7	2.6	1.3	0.3	7.6	5.0	3.0	10.4	13.3	7.8	-23.3	-8.3	-10.7
Spain	10.4	6.6	4.8	3.4	5.9	5.1	7.1	7.1	4.5	-4.7	-16.6	-6.3	..
Sweden	8.7	5.7	0.5	-1.3	1.6	5.7	8.1	9.2	8.9	1.4	-15.5	7.7	6.2
Switzerland	2.3	4.7	-3.3	-1.0	-2.0	4.2	4.1	5.3	5.4	0.7	-8.0	4.8	..
Turkey	-16.2	17.5	-30.0	14.7	14.2	28.4	17.4	13.3	3.1	-6.2	-19.0	30.5	18.3
United Kingdom	2.8	2.6	2.7	3.6	1.1	5.1	2.4	6.4	8.1	-4.8	-13.4	3.1	-1.2
United States	9.1	6.9	-1.1	-3.0	3.2	6.2	5.3	2.3	-1.6	-5.8	-16.0	1.8	..
Euro area	6.0	4.7	0.7	-1.5	1.1	2.2	3.2	5.7	4.7	-1.1	-12.4	0.0	1.4
EU27	5.4	4.5	0.8	-0.7	1.1	3.0	3.5	6.4	5.9	-0.9	-12.7	0.2	1.4
OECD	5.2	5.2	-0.9	-1.0	2.4	4.6	4.6	4.6	2.8	-2.5	-12.3	2.5	..
Brazil	..	..	..	..	..	..	..	..	..	..	..	..	..
China	..	..	..	..	..	..	..	..	..	..	..	..	..
India	..	..	..	..	..	..	..	..	..	..	..	..	..
Indonesia	-18.2	16.7	6.5	4.7	0.6	14.7	10.9	2.6	9.3	11.9	3.3	8.5	..
Russian Federation	8.1	16.6	10.9	3.1	13.9	12.0	10.2	17.9	21.1	9.7	-14.7	6.4	8.4
South Africa	-7.6	3.9	2.8	3.5	10.2	12.9	11.0	12.1	14.0	14.1	-2.2	-3.7	..

Statlink <http://dx.doi.org/10.1787/888932706508>

# Gross fixed capital formation

Average annual growth in percentage



Statlink <http://dx.doi.org/10.1787/888932706527>

## LABOUR PRODUCTIVITY LEVELS

Productivity is a measure of the efficiency with which available resources are used in production. Labour productivity, together with use of labour resources, is one of the main determinants of living standards.

### Definition

Labour productivity is measured as GDP per hour worked. GDP data at current prices are from the *OECD Annual National Accounts*. For international comparisons and to obtain a volume or “real” measure of GDP, data are converted to a common currency using the OECD Purchasing Power Parities (PPPs) for the year 2011. Hours worked data are derived from two sources, the *OECD Annual National Accounts* and the *OECD Employment Outlook*.

The indicator hereafter shows labour productivity and income levels in each country with respect to the labour productivity and income levels of the United States. Differences in GDP per capita levels with respect to the United States can be decomposed into differences in labour productivity levels and differences in the extent of labour utilisation, measured as the number of hours worked per capita.

### Overview

In 2011, Norway and Luxembourg had the highest levels of labour productivity, followed by Ireland. Norway's level of productivity (GDP per hour worked) was roughly five times that of Mexico's. Countries with low labour productivity levels in 2011, such as Mexico and Chile, often record the highest average working time (well above 2 000 hours annually) among the countries presented.

In the same year, differences in per capita GDP with respect to the United States varied a lot across countries. Much of the differences observed in GDP per capita reflect differences in labour productivity, with gaps relative to the United States ranging between 65 percentage points or more in Chile and Mexico, to 15 percentage points or less in Austria, Ireland, the Netherlands and several European countries. In 2011, like in 2010, Norway and Luxembourg maintained substantial positive gaps in GDP per capita and in GDP per hour worked relative to the United States.

Cross-country differences in labour utilisation reflect high unemployment and low participation rates of the working age population, on the one hand, and lower working hours among employed people, on the other hand. Labour utilisation cross-country differences relative to the United States were significantly smaller than in the case of GDP per capita and per hour worked. In Belgium, France and Ireland, lower labour utilisation accounted for 92%, 88% and 159%, respectively, of the gap in GDP per capita relative to the US (i.e. for Belgium 18 points out of the 19 points gap in GDP per capita; for France, 23 points out of 27; for Ireland 21 points out of 13). In 2011, the contribution of lower labour utilisation in Turkey was about 34%.

Among the countries presented, 17 (the majority being non-EU countries) had higher labour utilisation levels than that of the United States, therefore contributing to narrow their gap in GDP per capita. This was notably the case of Australia, Canada, Iceland, Japan, Korea, Mexico, New Zealand, the Russian Federation and Switzerland.

### Comparability

Comparisons of productivity and income levels across countries first require comparable data on output. All OECD countries have implemented the 1993 *System of National Accounts*, except Australia that has already implemented the 2008 SNA. Second, in a number of countries, employment data are derived from labour force surveys that may not be entirely consistent with national account concepts; this reduces the comparability of labour utilisation across countries. Third, the measure of labour inputs also requires hours worked data, which are derived either from labour force surveys or from business surveys. Several OECD countries estimate hours worked from a combination of these sources or integrate these sources in a system of labour accounts, which is comparable to the national accounts. The *OECD Productivity Statistics* database uses consistent estimates of employment and hours worked. Nonetheless, the cross-country comparability of hours worked remains limited, generating a margin of uncertainty in estimates of productivity levels.

A final problem relates to the conversion of output from national currency into a common unit. Market exchange rates cannot be used directly, as they are volatile and reflect a range of factors. The preferred alternative is to use PPPs, which measure the prices of the same basket of consumption goods in different countries.

### Sources

- OECD (2012), *OECD National Accounts Statistics* (database).
- OECD (2012), *OECD Productivity Statistics* (database).

### Further information

#### Analytical publications

- OECD (2011), *OECD Reviews of Labour Market and Social Policies*, OECD Publishing.

#### Methodological publications

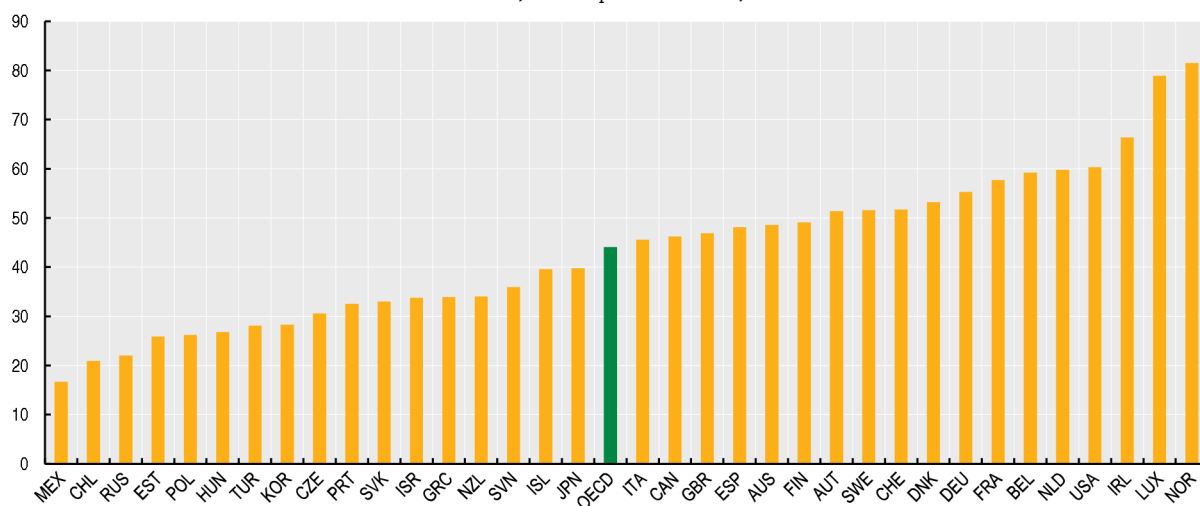
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### Websites

- OECD Compendium of Productivity Indicators, [www.oecd.org/statistics/productivity/compendium](http://www.oecd.org/statistics/productivity/compendium).
- OECD Productivity, [www.oecd.org/statistics/productivity](http://www.oecd.org/statistics/productivity).

### GDP per hour worked

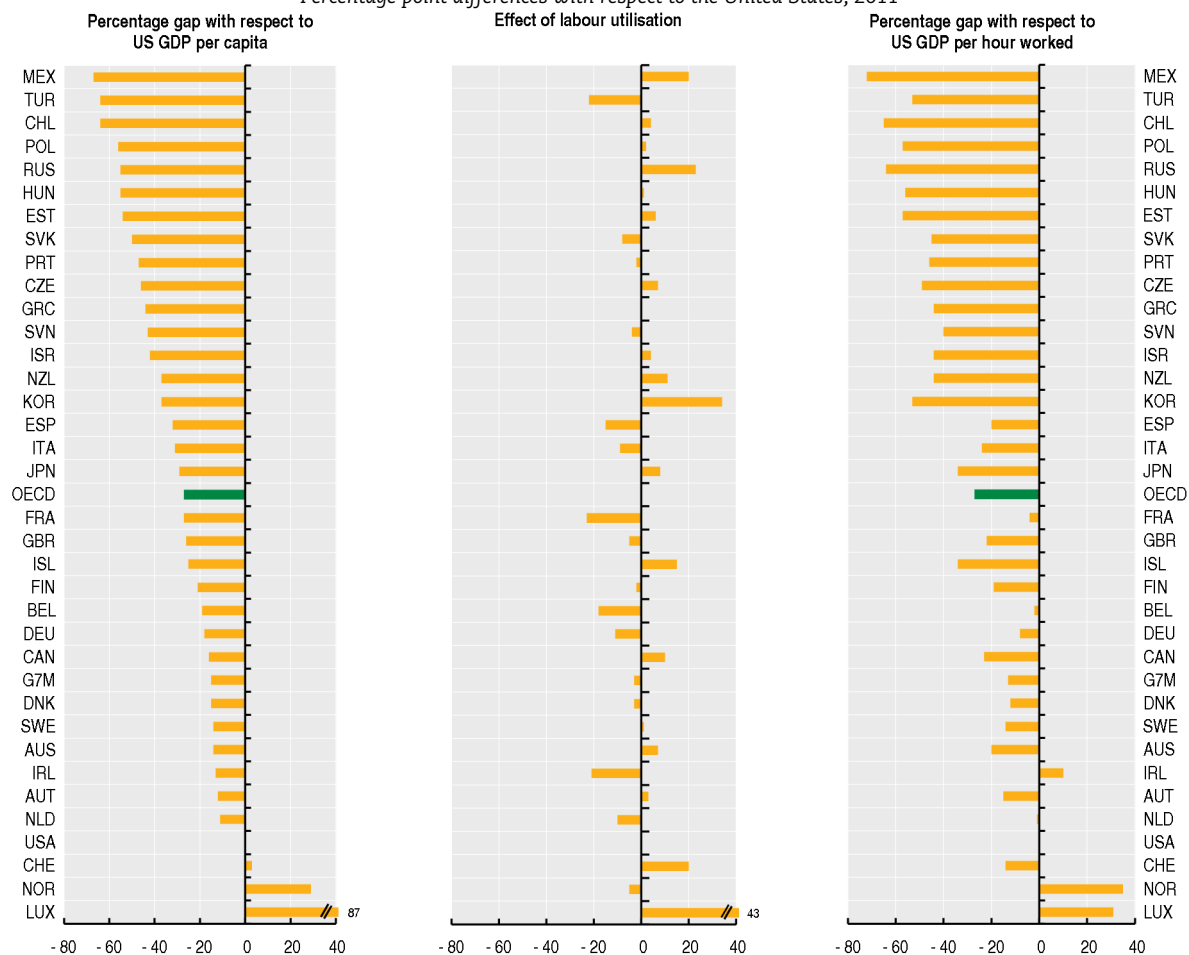
US dollars, current prices and PPPs, 2011



Statlink <http://dx.doi.org/10.1787/888932706546>

### Levels of GDP per capita and labour productivity

Percentage point differences with respect to the United States, 2011



Statlink <http://dx.doi.org/10.1787/888932706546>

## LABOUR PRODUCTIVITY GROWTH

Labour productivity growth is a key dimension of economic performance and an essential driver of changes in living standards.

### Definition

Labour productivity is defined as GDP per hour worked. Growth in per capita GDP is broken down into the contribution of labour productivity growth, on one side, and changes in labour utilisation (measured as hours worked per capita), on the other. Changes in living standards can result from changes in labour productivity and in labour utilisation. High labour productivity growth can reflect greater use of capital, falling employment of low-productivity workers or general efficiency gains and innovation.

The indicators shown here are based on measures of GDP and population coming from the *OECD Annual National Accounts*. Actual hours worked are derived from either the *OECD Annual National Accounts* or the *OECD Employment Outlook*. Hours worked reflect regular hours worked by full-time and part-time workers, paid and unpaid overtime, hours worked in additional jobs, and time not worked because of public holidays, annual paid leaves, strikes and labour disputes, bad weather, economic conditions and other reasons.

For zone aggregates, GDP estimates have been converted to constant US dollars using 2005 constant Purchasing Power Parities (PPPs).

### Comparability

Although national accounts data are based on common definitions, methods used by countries may differ in some respects. In particular, data on hours worked are based on a range of primary sources. In most countries, the data are drawn from labour force surveys, but other countries rely upon establishment surveys, administrative sources or a combination of both. Annual

working hours for non-European countries are provided by national statistics offices. In general, these data are most suited for comparing changes rather than levels of hours worked across countries.

The estimates shown here are not adjusted for differences in the business cycle; cyclically adjusted estimates might show different patterns.

### Sources

- OECD (2012), *OECD Productivity Statistics* (database).

### Further information

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- OECD Productivity, [www.oecd.org/statistics/productivity](http://www.oecd.org/statistics/productivity).

### Overview

Over the period 2009 to 2011, average growth in GDP per capita was rather contrasted across countries. Highest growth was recorded in Turkey, followed by Chile, Estonia, the Russian Federation and Korea, whilst the greatest decrease occurred in Greece. Growth in income over the same period was essentially driven by growth in labour productivity.

The economic downturn following the global financial crisis of 2007 was reflected in most countries recording negative GDP per capita growth in the 2007-09 period. In some cases like Estonia, Iceland and Ireland, this led to a significant decline in labour utilisation. However, from 2009 to 2011, Estonia and, to a lesser extent, Iceland have shown evidence of a strong rebound in their labour utilisation rates; Ireland still lags behind.

Between 2009 and 2011, nearly all countries experienced increases in labour productivity growth. In some countries, the turnaround in labour productivity growth between 2007-09 and 2009-11 was high, notably this was the case for Luxembourg, Slovenia, Finland and Turkey. For other countries however, comparing labour productivity growth between the two periods of 2007-09 and 2009-11 revealed a different pattern. Growth in GDP per hour worked decreased in Australia, Iceland, Greece and New Zealand, whilst it saw a moderate upturn in Canada, Ireland, Spain and the United States.

# PRODUCTION AND PRODUCTIVITY • PRODUCTIVITY

## Contribution of labour productivity and labour utilisation to GDP per capita

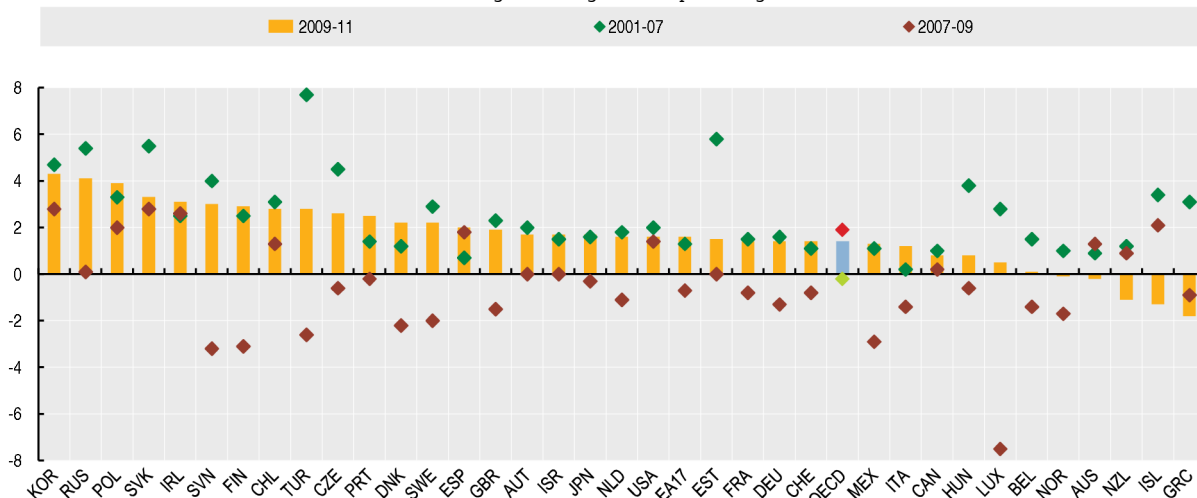
Percentage change, annual rate

	GDP per capita			GDP per hour worked			Labour utilisation		
	2001-07	2007-09	2009-11	2001-07	2007-09	2009-11	2001-07	2007-09	2009-11
Australia	2.0	-0.2	0.7	1.0	1.1	-0.1	1.0	-1.3	0.8
Austria	1.9	-1.6	2.3	2.0	0.0	1.7	-0.1	-1.6	0.6
Belgium	1.6	-1.7	1.2	1.5	-1.4	0.1	0.1	-0.3	1.1
Canada	1.6	-2.2	1.7	1.0	0.2	0.8	0.6	-2.4	0.9
Chile	3.9	0.1	5.0	3.1	1.3	2.8	0.8	-1.2	2.2
Czech Republic	4.8	-1.7	1.9	4.5	-0.6	2.6	0.4	-1.1	-0.7
Denmark	1.4	-3.9	0.6	1.2	-2.2	2.2	0.2	-1.7	-1.6
Estonia	8.2	-9.1	4.9	5.8	0.0	1.5	2.4	-9.0	3.4
Finland	3.1	-4.6	2.8	2.5	-3.1	2.9	0.5	-1.6	-0.1
France	1.1	-2.2	1.1	1.5	-0.8	1.4	-0.4	-1.4	-0.2
Germany	1.4	-1.8	3.4	1.6	-1.3	1.4	-0.2	-0.5	2.0
Greece	3.7	-2.1	-5.3	3.1	-0.9	-1.8	0.6	-1.2	-3.5
Hungary	3.7	-2.9	1.7	3.8	-0.6	0.8	0.0	-2.3	0.8
Iceland	3.2	-4.1	-0.5	3.4	2.1	-1.3	-0.2	-6.1	0.8
Ireland	2.9	-6.1	-0.1	2.5	2.6	3.1	0.4	-8.7	-3.2
Israel	1.7	0.5	3.0	1.5	0.0	1.7	0.2	0.6	1.3
Italy	0.5	-4.0	0.7	0.2	-1.4	1.2	0.3	-2.6	-0.6
Japan	1.5	-3.2	1.3	1.6	-0.3	1.7	-0.1	-2.9	-0.4
Korea	4.3	0.7	4.3	4.7	2.8	4.3	-0.4	-2.1	0.1
Luxembourg	3.1	-4.1	0.0	2.8	-7.5	0.5	0.2	3.5	-0.5
Mexico	2.0	-3.4	3.8	1.1	-2.9	1.3	0.8	-0.5	2.4
Netherlands	1.6	-1.3	0.9	1.8	-1.1	1.6	-0.1	-0.2	-0.7
New Zealand	2.0	-1.2	-0.3	1.2	0.9	-1.1	0.8	-2.0	0.8
Norway	1.6	-2.1	-0.2	1.0	-1.7	-0.1	0.7	-0.4	-0.1
Poland	4.6	3.3	4.0	3.3	2.0	3.9	1.3	1.3	0.2
Portugal	0.5	-1.6	-0.2	1.4	-0.2	2.5	-0.9	-1.4	-2.7
Slovak Republic	6.6	0.1	3.5	5.5	0.0	3.3	1.0	0.1	0.3
Slovenia	4.4	-2.9	0.3	4.0	-3.2	3.0	0.4	0.3	-2.7
Spain	1.7	-2.6	0.1	0.7	1.8	2.0	1.0	-4.4	-1.9
Sweden	2.8	-3.6	4.2	2.9	-2.0	2.2	0.0	-1.7	1.9
Switzerland	1.3	-1.1	2.0	1.1	-0.8	1.4	0.2	-0.3	0.5
Turkey	5.4	-3.2	7.4	7.7	-2.6	2.8	-2.3	-0.7	4.6
United Kingdom	2.3	-3.4	0.6	2.3	-1.5	1.9	0.1	-1.9	-1.2
United States	1.6	-2.8	1.5	2.0	1.4	1.9	-0.4	-4.2	-0.4
EU27	..	..	..	..	..	..	..	..	..
OECD	1.9	-2.5	1.8	1.9	-0.2	1.4	0.0	-2.3	0.4
Brazil	..	..	..	..	..	..	..	..	..
China	..	..	..	..	..	..	..	..	..
India	..	..	..	..	..	..	..	..	..
Indonesia	..	..	..	..	..	..	..	..	..
Russian Federation	7.5	-1.4	4.8	5.4	0.1	4.1	2.1	-1.5	0.7
South Africa	..	..	..	..	..	..	..	..	..

Statlink <http://dx.doi.org/10.1787/888932706584>

## Growth in GDP per hour worked

Average annual growth in percentage



Statlink <http://dx.doi.org/10.1787/888932706603>

## PRODUCTIVITY AND GROWTH ACCOUNTING

Economic growth can be increased either by raising the labour and capital inputs used in production, or by greater overall efficiency in how these inputs are used together, i.e. higher multi-factor productivity (MFP). Growth accounting involves breaking down GDP growth into the contribution of labour inputs, capital inputs and MFP growth.

### Definition

Growth accounting explains output growth by the rates of change of labour and capital inputs and by MFP growth, computed as a residual. In these calculations, the contribution of labour (capital) to GDP growth is measured as the speed with which labour (capital) input grows, multiplied by the share of labour (capital) in total costs.

In the tables and graphs, the contribution of capital to GDP growth is broken down into Information and Communication Technologies (ICT) capital (which includes hardware, communication and software) and non-ICT capital (transport equipment and non-residential construction; products of agriculture, metal products and machinery other than hardware and communication equipment; and other products of non-residential gross fixed capital formation).

### Comparability

The appropriate measure for capital input in the growth accounting framework is the flow of productive services that can be drawn from the cumulative stock of past investments in capital assets. These services are estimated by the OECD using the rate of change of the “productive capital stock”. This measure takes into account wear and tear and retirements, i.e., reductions in the productive capacity of the fixed assets. The price of capital services for each type of asset is measured as their rental price. In principle, the latter could be directly observed if markets existed for capital services. In practice, however, rental prices have to be imputed for most assets, using the implicit rent that capital goods’ owners “pay” themselves (or “user costs of capital”).

### Overview

From 1985 to 2010, GDP growth in most OECD countries was for a large part driven by growth in capital and MFP. In many countries, growth in capital input accounted for around one third of GDP growth from 1985 to 2010. ICT capital services represented between 0.2 and 0.6 percentage points of growth in GDP, with largest contribution in Sweden, Denmark, the United Kingdom, Australia and the United States, and smallest in Ireland and Finland. Growth in labour input was important for a few countries over 1985-2010, notably Australia, Spain, and Canada, while Japan, Finland and Germany experienced negative GDP contributions from labour inputs. Over the same period, MFP growth was a significant source of GDP growth in Korea, Ireland and Finland, while MFP growth was very weak in Italy, Canada and Spain.

Averages for the period 1985-2010 mask volatility in growth drivers over time, though. For instance, the contribution of ICT capital slowed in the 2000s compared to the 1990s in all countries for which data are available, and MFP growth also slowed in most countries, with the Austria, Belgium, Japan, the Netherlands, Sweden, and the United States being noticeable exceptions.

Accurate price indices in measuring volume investment, capital services and user costs should be constant quality deflators that reflect price changes for a given performance of the ICT investment goods. There are differences in how countries deal with quality adjustment with possible consequences for the international comparability of price and volume measures of ICT investment. The OECD uses a set of “harmonised” deflators assuming that the ratios between ICT and non-ICT asset prices evolve in a similar manner across countries, using the United States as the benchmark.

The measure of total hours worked is an incomplete measure of labour input because it does not account for changes in the skill composition of workers over time, such as those due to higher educational attainment and work experience. Adjustment for such attributes would provide a more accurate indication of the contribution of labour to production. In the absence of these adjustments, as is the case in the series shown here, more rapid output growth due to a rise in skills of the labour force are captured by the MFP residual, rather than being attributed to labour.

Note: 1985-2007 for Denmark, Netherlands and United Kingdom, 1985-2008 for Australia and Japan, 1985-2009 for France and Sweden, 1991-2010 for Germany, 1995-2010 for Switzerland, 1995-2007 for Austria.

### Sources

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- OECD Productivity, [www.oecd.org/statistics/productivity](http://www.oecd.org/statistics/productivity).




# PRODUCTION AND PRODUCTIVITY • PRODUCTIVITY

## Contributions to GDP growth

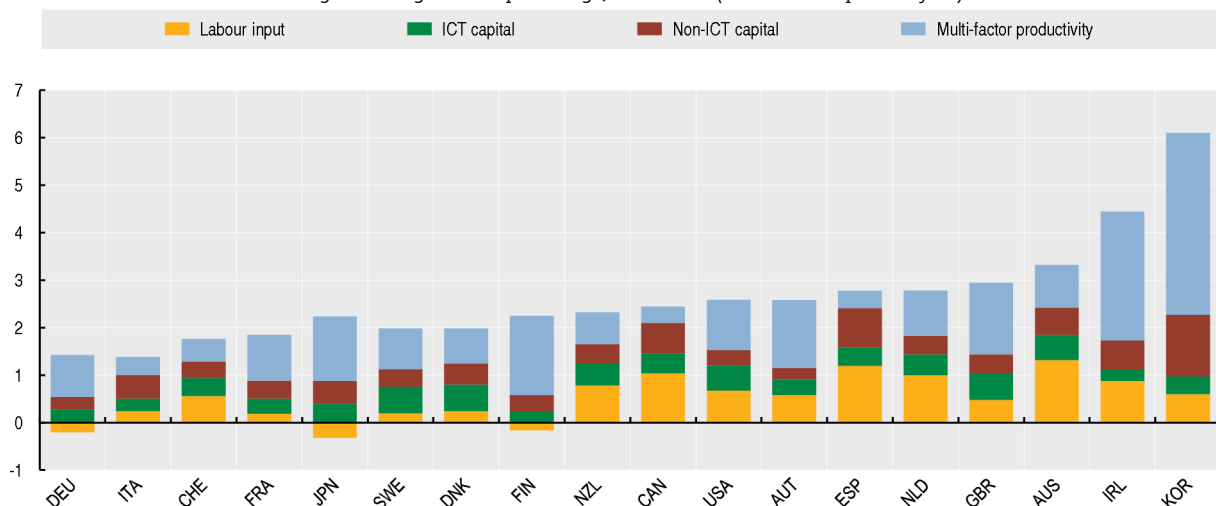
Average annual growth in percentage, 1985-2010 (or closest comparable year)

	Labour input		ICT capital		Non-ICT capital		Multi-factor productivity	GDP growth
	IT equipment	Communication equipment	Software	Total				
Australia	1.35	0.30	0.09	0.14	0.53	0.57	0.87	3.33
Austria	0.58	0.19	0.04	0.10	0.33	0.25	1.43	2.59
Belgium	..	..	..	..	..	..	..	..
Canada	1.04	0.21	0.07	0.13	0.42	0.65	0.35	2.44
Chile	..	..	..	..	..	..	..	..
Czech Republic	..	..	..	..	..	..	..	..
Denmark	0.24	0.35	0.02	0.19	0.56	0.43	0.74	1.99
Estonia	..	..	..	..	..	..	..	..
Finland	-0.17	0.07	0.04	0.13	0.24	0.33	1.67	2.06
France	0.19	0.11	0.05	0.16	0.32	0.38	0.97	1.85
Germany	-0.20	0.15	0.05	0.07	0.27	0.27	0.89	1.22
Greece	..	..	..	..	..	..	..	..
Hungary	..	..	..	..	..	..	..	..
Iceland	..	..	..	..	..	..	..	..
Ireland	0.87	0.12	0.05	0.06	0.23	0.62	2.72	4.43
Israel	..	..	..	..	..	..	..	..
Italy	0.24	0.01	0.18	0.09	0.28	0.50	0.36	1.38
Japan	-0.32	0.22	0.05	0.13	0.40	0.48	1.36	1.91
Korea	0.60	0.11	0.11	0.15	0.37	1.30	3.83	6.07
Luxembourg	..	..	..	..	..	..	..	..
Mexico	..	..	..	..	..	..	..	..
Netherlands	1.00	0.23	0.07	0.14	0.44	0.39	0.95	2.78
New Zealand	0.78	0.19	0.14	0.14	0.48	0.40	0.67	2.32
Norway	..	..	..	..	..	..	..	..
Poland	..	..	..	..	..	..	..	..
Portugal	..	..	..	..	..	..	..	..
Slovak Republic	..	..	..	..	..	..	..	..
Slovenia	..	..	..	..	..	..	..	..
Spain	1.20	0.16	0.11	0.12	0.39	0.82	0.36	2.78
Sweden	0.19	0.28	0.04	0.24	0.56	0.37	0.86	1.98
Switzerland	0.56	0.15	0.08	0.15	0.38	0.34	0.48	1.76
Turkey	..	..	..	..	..	..	..	..
United Kingdom	0.47	0.29	0.07	0.20	0.56	0.40	1.51	2.95
United States	0.67	0.25	0.10	0.19	0.53	0.32	1.06	2.58
EU27	..	..	..	..	..	..	..	..
OECD	..	..	..	..	..	..	..	..
Brazil	..	..	..	..	..	..	..	..
China	..	..	..	..	..	..	..	..
India	..	..	..	..	..	..	..	..
Indonesia	..	..	..	..	..	..	..	..
Russian Federation	..	..	..	..	..	..	..	..
South Africa	..	..	..	..	..	..	..	..

Statlink  <http://dx.doi.org/10.1787/888932706622>

## Contributions to GDP growth

Average annual growth in percentage, 1985-2010 (or closest comparable year)



Statlink  <http://dx.doi.org/10.1787/888932706641>

## UNIT LABOUR COSTS

Unit labour costs (ULC) is the most commonly used indicator of competitiveness of the productive system of a country. Unit labour costs reflect the combined evolution of total labour costs per unit of labour input and of labour productivity, and can be an indicator of producer inflationary pressures.

### Definition

Unit labour costs measure the average cost of labour per unit of output produced. They are calculated as the ratio of total labour costs to real output. Equivalently, they may be expressed as the ratio of total labour costs per hour worked to output per hour worked. Alternatively if information on total hours worked are not available, proxies such as employees and counterpart labour compensation data (compensation of employees) or the numbers of persons employed may be used. It can be shown therefore that labour productivity estimates are produced as a by-product of calculating unit labour costs. Data are presented as annual growth rates in unit labour costs for the economy as a whole.

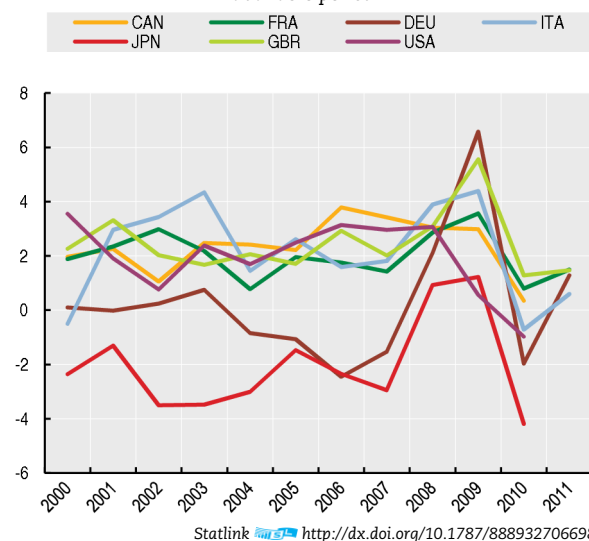
### Comparability

These indicators are compiled according to a common methodological framework so as to ensure comparability across countries. The primary data source for these indicators is the *OECD Annual National Accounts*, where available, and where data are compiled on a similar basis across countries according to the 1993 System of National Accounts.

The use of different labour input measures (hours worked or number of employees depending on data availability) may reduce comparability across countries and time however.

### Unit labour costs, total economy

Average annual growth in percentage, 2000-10 or latest available period



### Overview

Unit labour costs in the total economy increased at an annual average rate of 2.0% for the OECD area as a whole over the past decade. G7 countries and most of the early members of the Euro area have been able to increase their competitiveness vis-à-vis the OECD average, as reflected in lower growth in ULCs relative to other countries. The opposite is notably true for countries with relatively lower competitiveness such as Turkey, Mexico, and South Africa, as well as Estonia, Iceland, Hungary and Norway. Within Europe, some adjustment in competitiveness has occurred since the recent financial crisis in Ireland, Spain, Portugal and Greece, with temporary declines in ULCs witnessed in France and Italy. In Germany, improvements in competitiveness during the first half of the 2000s shows signs of being reversed in the second half of 2000s.

Comparing the data for ULC with those for labour productivity growth can provide some information on the sources for changes in competitiveness. For instance, over the past ten years, some countries, notably those countries with relatively low growth in ULCs, such as Germany, Israel, Korea, Poland and Sweden, displayed stronger growth in labour productivity than in ULCs. In these countries, high productivity growth coincided with wage moderation. In contrast, most of those countries for which one can observe a relative deterioration in competitiveness displayed weak growth in labour productivity.

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- OECD Productivity, [www.oecd.org/statistics/productivity](http://www.oecd.org/statistics/productivity).

# PRODUCTION AND PRODUCTIVITY • PRODUCTIVITY

## Unit labour costs, total economy

Annual growth in percentage

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Australia	3.0	2.1	1.3	3.2	2.0	3.9	3.4	4.6	4.5	2.5	0.2	5.6	..
Austria	0.3	-0.1	0.6	0.2	1.2	-0.8	0.5	0.7	0.6	3.1	5.3	-0.6	0.7
Belgium	1.6	0.6	3.7	2.4	0.9	-0.1	1.4	2.0	2.2	3.8	4.0	-0.1	2.3
Canada	-0.4	2.0	2.3	1.1	2.5	2.4	2.2	3.8	3.4	3.0	3.0	0.4	..
Chile	..	..	..	..	..	..	..	..	..	..	..	..	..
Czech Republic	1.6	2.7	5.5	5.9	4.1	2.5	-1.4	-0.4	2.2	2.7	2.7	-1.2	0.3
Denmark	1.6	0.2	4.2	3.7	2.2	1.1	2.8	2.3	4.5	5.3	5.4	-0.6	0.5
Estonia	3.5	2.5	3.7	4.5	4.4	5.9	3.5	9.7	17.5	13.0	2.1	-5.9	1.2
Finland	0.5	0.0	3.5	1.2	1.6	0.0	2.3	0.5	-0.2	6.7	9.7	-1.5	2.4
France	0.8	1.9	2.3	3.0	2.2	0.8	2.0	1.8	1.4	2.9	3.6	0.8	1.5
Germany	0.9	0.1	0.0	0.2	0.8	-0.8	-1.1	-2.5	-1.5	2.1	6.6	-2.0	1.3
Greece	4.2	1.5	-0.1	9.2	1.2	1.3	3.5	-1.9	3.9	6.5	6.2	-1.0	-4.1
Hungary	6.2	11.4	11.1	8.6	5.9	4.2	2.5	2.0	6.4	4.5	3.0	-3.8	3.5
Iceland	6.3	4.5	6.4	7.8	1.4	2.1	4.6	10.5	7.9	5.6	0.8	..	..
Ireland	1.3	5.0	5.1	1.3	5.0	3.8	7.1	4.3	4.0	6.3	-5.6	-7.2	..
Israel	6.6	0.8	3.9	1.1	-2.5	-2.4	1.1	4.0	0.7	2.1	0.3	..	..
Italy	1.4	-0.5	3.0	3.4	4.3	1.4	2.6	1.6	1.8	3.9	4.4	-0.7	0.6
Japan	-2.7	-2.4	-1.3	-3.5	-3.5	-3.0	-1.5	-2.3	-2.9	0.9	1.2	-4.2	..
Korea	-6.3	-0.2	5.5	1.2	5.3	1.1	2.4	0.2	0.7	2.2	0.7	-1.4	2.5
Luxembourg	1.0	3.4	5.7	2.3	1.5	1.6	1.9	0.8	1.4	6.2	8.5	1.5	..
Mexico	17.6	11.1	10.6	6.8	6.1	2.1	3.2	2.5	3.2	4.6	9.0	..	..
Netherlands	2.0	3.1	4.7	4.5	2.3	0.3	-0.3	0.7	1.6	2.3	4.7	-0.9	..
New Zealand	-2.5	0.3	3.1	2.0	3.2	4.7	4.5	4.5	4.3	6.6	2.1	..	..
Norway	4.3	2.0	4.3	3.5	2.0	0.9	3.3	6.9	8.3	9.2	4.4	3.5	4.6
Poland	3.9	5.4	3.2	-1.8	-2.8	-2.0	0.6	-0.7	2.6	7.8	1.9	1.2	..
Portugal	2.9	4.5	3.5	3.1	3.5	0.8	3.7	0.6	0.8	3.1	2.4	-1.5	..
Slovak Republic	4.2	11.0	0.9	4.3	8.0	3.4	4.4	0.5	0.8	3.7	7.1	-1.7	-0.4
Slovenia	5.2	6.9	8.4	5.4	4.3	3.5	1.6	0.8	2.5	6.5	8.7	0.0	0.3
Spain	2.0	2.7	3.0	3.0	3.1	2.6	3.6	3.1	3.9	4.7	1.0	-2.6	-1.9
Sweden	-1.2	4.5	5.3	0.6	0.4	-1.2	0.6	-0.7	4.1	2.6	4.9	-2.4	-1.3
Switzerland	1.2	1.0	4.7	2.1	0.4	-2.3	1.1	0.6	1.6	2.8	4.5	-2.0	..
Turkey	82.4	33.1	49.9	30.0	21.2	2.2	0.9	4.9	..	..	..	..	..
United Kingdom	2.8	2.3	3.3	2.0	1.7	2.1	1.7	2.9	2.0	3.1	5.6	1.3	1.5
United States	1.2	3.6	1.9	0.8	2.4	1.7	2.5	3.1	3.0	3.1	0.6	-1.0	..
EU27	1.6	2.4	3.1	2.5	2.3	0.9	1.8	1.0	1.7	3.6	4.4	-0.7	0.7
OECD	3.1	2.8	3.2	1.7	2.1	0.8	1.6	1.7	1.7	3.1	2.6	-1.1	..
Brazil	..	..	..	..	..	..	..	..	..	..	..	..	..
China	..	..	..	..	..	..	..	..	..	..	..	..	..
India	..	..	..	..	..	..	..	..	..	..	..	..	..
Indonesia	..	..	..	..	..	..	..	..	..	..	..	..	..
Russian Federation	..	..	..	..	..	..	..	..	..	..	..	..	..
South Africa	..	..	..	3.5	5.3	5.3	5.4	6.5	4.9	6.0	9.3	8.7	..

Statlink  <http://dx.doi.org/10.1787/888932706660>

## Unit labour costs and labour productivity, total economy

Average annual growth in percentage, 2000-11 or latest available period



Statlink  <http://dx.doi.org/10.1787/888932706669>

## LABOUR COMPENSATION

Labour compensation per unit of labour input shows the average remuneration received by employed persons in the economy. This item is closely linked with the indicators unit labour costs, productivity and GDP per capita.

### Definition

Labour compensation per unit of labour input is defined as total compensation of employed persons divided by total hours worked. For all countries, for which data on hours worked are not available, labour input is approximated using compensation of employees and number of employee data. Compensation of employed persons is the sum of gross wages and salaries and of employers' social security contributions. Data refer to the total economy.

The annual measures of labour compensation shown here provide one of the building blocks for international comparisons of competitiveness elaborated by the OECD.

### Comparability

The primary data source for constructing the indicator of total compensation per unit of labour is the *OECD Annual National Accounts*, where data are compiled on a similar basis across countries according to the 1993 System of National Accounts. This assures a fairly good degree of comparability across countries despite differences in the ways in which countries may implement international guidelines in this field.

In order to derive the measure of total compensation of all employed persons, and not only of employees, an adjustment is made for self-employment, assuming that labour compensation per hour worked is equivalent for self-employed and employees. The validity of this assumption will vary across different countries, economic activities and over time, potentially affecting the comparability of the estimates.

For Poland, there is a break in the hours worked data in 2000-01; from 2001, hours worked for Poland are fully consistent with the 1993 System of National Accounts.

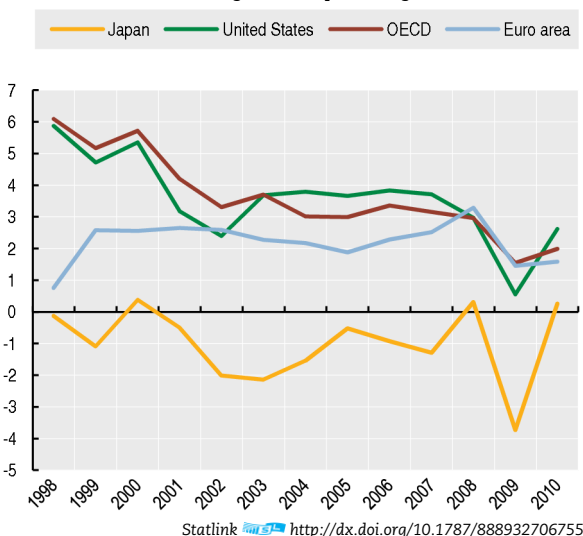
### Overview

Labour compensation per unit of labour input grew by 3.3% on average for the OECD area as a whole in the period from 2000 to 2010, and by 3.2% for EU27 (2000 to 2011). About three-quarters of all OECD countries recorded annual growth rates of less than 5%. In 2010 and, in part in 2011, following the financial and the Euro area crises, average remuneration fell in Estonia, Germany, Greece, Hungary, Ireland and Spain.

With the exception of Australia, Japan, Poland, Spain and the United Kingdom, the average growth in hourly labour compensation has trended downwards over the last ten years. On average across the OECD, annual growth of labour compensation per unit of labour input declined from 5.2% in 2001 to 2.0% in 2010, the decline being most marked in Hungary and Turkey.

## Labour compensation per unit labour input, total economy

Annual growth in percentage



### Sources

- OECD (2012), *Main Economic Indicators*, OECD Publishing.

### Further information

#### Analytical publications

- OECD (2011), *OECD Reviews of Labour Market and Social Policies*, OECD Publishing.

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- OECD Productivity, [www.oecd.org/statistics/productivity](http://www.oecd.org/statistics/productivity).

# PRODUCTION AND PRODUCTIVITY • PRODUCTIVITY

## Labour compensation per unit labour input, total economy

Annual growth in percentage

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Australia	3.5	4.2	5.4	3.4	4.4	4.8	4.3	5.6	5.4	3.0	2.6	4.7	..
Austria	1.8	2.5	1.7	2.2	2.1	0.9	2.9	4.4	2.9	3.8	4.6	1.7	1.6
Belgium	3.5	2.1	3.7	3.8	1.9	1.6	1.7	3.6	3.4	3.6	1.2	1.4	3.1
Canada	2.6	5.4	3.2	2.4	3.1	2.9	4.8	5.0	3.5	2.7	3.2	2.0	..
Chile	..	..	..	..	..	..	..	..	..	..	..	..	..
Czech Republic	5.0	7.9	13.8	8.2	8.8	7.0	3.4	7.0	6.5	4.0	0.4	2.2	2.7
Denmark	2.9	3.0	3.7	4.5	3.9	3.1	3.3	3.0	4.3	3.1	3.7	2.6	1.5
Estonia	8.5	14.6	9.6	9.1	10.9	11.3	9.7	14.7	24.9	11.3	3.8	-1.1	-0.8
Finland	2.1	3.8	4.6	1.7	2.7	3.7	3.7	2.9	3.7	4.4	2.3	1.8	3.4
France	2.4	5.2	3.2	6.0	3.0	1.4	3.4	4.7	1.6	2.0	3.2	2.0	2.9
Germany	1.6	3.2	2.8	1.9	1.8	0.5	0.3	1.2	0.7	2.1	3.4	-0.2	2.8
Greece	4.1	5.5	3.3	11.8	6.8	4.9	4.9	2.2	5.8	5.3	6.8	-3.8	-4.7
Hungary	5.6	15.4	17.6	13.0	11.7	9.5	6.8	5.7	6.6	6.5	-0.5	-2.3	4.1
Iceland	..	..	..	..	..	..	..	..	..	..	..	..	..
Ireland	5.1	8.2	8.1	6.3	6.9	5.8	5.4	5.2	6.6	6.4	0.8	-3.1	..
Israel	6.6	5.5	4.4	0.0	-1.0	1.9	2.9	6.8	0.6	2.4	0.2	4.3	..
Italy	1.7	2.2	3.8	2.8	2.9	2.8	3.5	2.1	2.3	3.2	2.0	1.9	0.9
Japan	-1.1	0.4	-0.5	-2.0	-2.1	-1.5	-0.5	-0.9	-1.3	0.3	-3.7	0.3	..
Korea	1.2	3.3	8.1	7.4	10.0	5.6	6.9	4.3	6.6	7.0	2.2	5.4	9.0
Luxembourg	4.0	5.3	3.5	3.1	1.1	3.3	4.6	2.6	3.7	2.2	1.8	2.6	..
Mexico	16.7	19.7	12.1	3.0	9.6	3.8	1.9	5.5	5.6	4.4	8.2	..	..
Netherlands	4.2	5.1	5.3	5.3	3.8	3.7	1.7	2.5	3.2	2.7	2.9	1.4	..
New Zealand	-0.6	3.3	4.2	3.8	4.6	5.3	3.7	3.1	6.5	2.9	2.9	..	..
Norway	5.5	6.1	7.6	5.4	5.1	2.8	4.3	5.6	5.7	5.8	4.4	3.0	4.3
Poland	11.3	12.2	-14.7	2.9	1.7	1.8	1.9	1.9	4.9	9.3	4.3	4.7	..
Portugal	5.1	6.3	4.0	3.4	3.5	2.6	4.7	1.8	3.6	3.0	2.8	1.4	..
Slovak Republic	7.3	13.4	6.8	11.9	13.4	5.5	7.0	7.9	8.2	6.8	4.8	2.4	1.6
Slovenia	8.6	10.5	11.8	8.2	7.8	7.7	6.0	5.4	6.2	7.2	1.8	4.3	2.0
Spain	1.9	2.8	3.1	3.3	3.5	2.9	3.9	4.1	5.6	5.7	4.0	-0.3	-0.3
Sweden	0.8	8.6	5.8	4.5	4.3	2.4	3.4	2.2	4.4	0.9	2.1	0.7	0.7
Switzerland	..	..	..	..	..	..	..	..	..	..	..	..	..
Turkey	74.8	44.9	43.6	37.8	27.9	20.7	7.1	10.8	..	..	..	..	..
United Kingdom	4.7	5.4	4.8	3.5	4.5	3.7	3.4	4.4	5.1	1.9	3.0	3.8	2.0
United States	4.7	5.4	3.2	2.4	3.7	3.8	3.7	3.8	3.7	3.0	0.6	2.6	..
EU27	3.1	4.6	3.4	4.0	3.8	2.7	3.3	3.5	3.5	3.4	3.1	1.4	1.8
OECD	5.2	5.7	4.2	3.3	3.7	3.0	3.0	3.4	3.2	3.0	1.5	2.0	..
Brazil	..	..	..	..	..	..	..	..	..	..	..	..	..
China	..	..	..	..	..	..	..	..	..	..	..	..	..
India	..	..	..	..	..	..	..	..	..	..	..	..	..
Indonesia	..	..	..	..	..	..	..	..	..	..	..	..	..
Russian Federation	..	..	..	..	..	..	..	..	..	..	..	..	..
South Africa	..	..	..	..	..	..	..	..	..	..	..	..	..

Statlink  <http://dx.doi.org/10.1787/888932706717>

## Labour compensation per unit labour input, total economy

Average annual growth in percentage, 2000-11 or latest available period



Statlink  <http://dx.doi.org/10.1787/888932706736>

## VALUE ADDED BY ACTIVITY

Value added reflects the contribution of labour and capital to production. **The sum of value added in the economy equals GDP**, so value added is also a measure of output and frequently used in productivity and structural analysis.

One of the major advantages of value added is that it avoids problems inherent in the measurement of gross output - gross in the sense that it counts the output of all production units including those that produce intermediate inputs for other units. Countries with fragmented production networks therefore will have, all other things equal, higher output than those with more consolidated networks, complicating international comparisons. This is also a temporal problem as production networks can become more or less consolidated (through outsourcing for example) within a country from one year to another. Indeed production networks have become increasingly globalised in recent years, further affecting temporal and cross-country comparability. Value added avoids these problems by measuring the value that a resident unit adds to that of the units that supply its inputs.

### Definition

**Value added at basic prices can be simply defined as the difference between gross output (at basic prices) and intermediate consumption (at purchasers prices) and can be decomposed into the following components: Compensation of employees; Gross operating surplus; Mixed income; and Other taxes on production less Subsidies on production.**

The 1993 System of National Accounts recommends the basic price valuation for value added but it can also be measured on different price bases such as producers prices and at factor cost.

### Comparability

All countries compile data according to the **1993 SNA** with the exception of Australia where data are compiled according to the new 2008 SNA. It's important to note

however that differences between the 2008 SNA and the 1993 SNA do not have a significant impact of the comparability of the indicators presented here and this implies that data are highly comparable across countries.

However, not all countries produce value added on the basis of basic prices. Japan uses approximately market prices. New Zealand uses producer prices, and Iceland and the United States use factor costs.

The tables and figures showing breakdowns by activity are based on the ISIC Rev. 4 industrial classification system except for Canada, Israel, Japan, Luxembourg, Mexico, New Zealand, Turkey, the United States, India, Indonesia, the Russian Federation and South Africa which are based on ISIC Rev.3. Countries generally collect information using their own industrial classification systems. The conversion from a national classification system to ISIC may create some comparability issues. For example, for Japan, Hotels (which form approximately 2.8-3.0% of value added) are included in Other services not wholesale, retail, etc. That said, for most countries the activities presented here are generally comparable.

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- OECD National Accounts Archive, [www.oecd.org/std/national-accounts/papers](http://www.oecd.org/std/national-accounts/papers).

### Overview

The share of agriculture in total value added within the OECD fell by approximately 0.5% between 2000 and 2011 continuing its long term decline. In only four countries (Turkey, Hungary, Iceland and New Zealand) agriculture accounts for more than 5% of total value added. The share of industry in total value added has also continued its decline in recent decades. However, among the countries for which data are available, especially the Czech Republic, Estonia, Hungary, Iceland, Korea and Poland and the Slovak Republic experienced rises over the period. The share of industry also fell in non-member countries but remains at considerably higher levels than in most OECD countries, with the share for China and Indonesia remaining close to 40%. Norway, where mining and quarrying are large contributors to activity, come closest to these rates in the OECD.

**Conversely the share of financial intermediation, real estate, renting and business activities increased over the period 2000-11. The share of these activities nowadays ranges from a low of just over 15% in the Slovak Republic to close to 50% in Luxembourg.** Also the share of other service activities, among which health and education, show an upward trend in most countries.



# PRODUCTION AND PRODUCTIVITY • ECONOMIC STRUCTURE

## Value added by activity

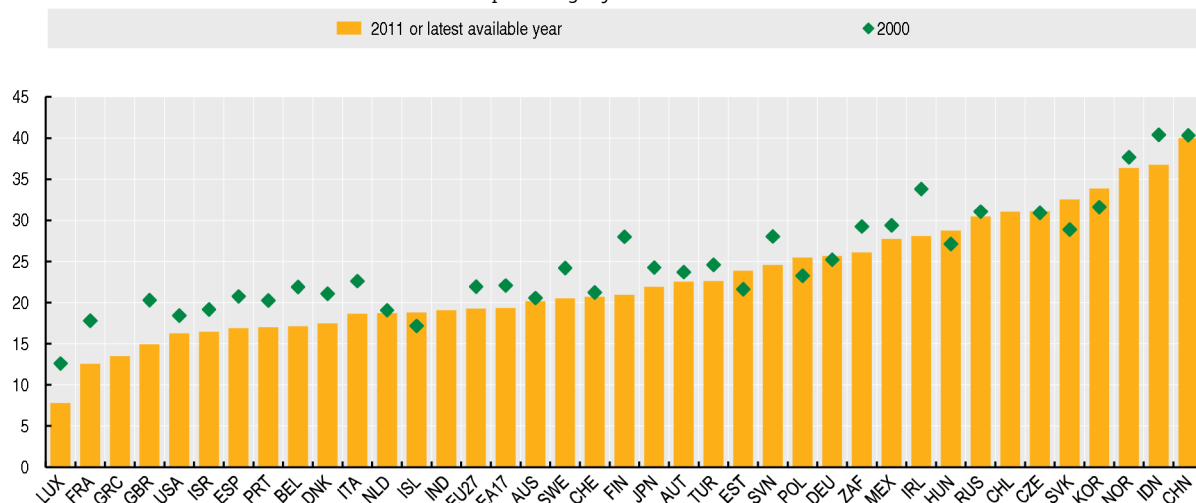
As a percentage of total value added

	Agriculture, hunting, forestry, fishing		Industry, including energy		Construction		Trade, transport; accommodation; restaurants; communication		Financial and insurance; real estate; business services		Other service activities	
	2000	2011 or latest available year	2000	2011 or latest available year	2000	2011 or latest available year	2000	2011 or latest available year	2000	2011 or latest available year	2000	2011 or latest available year
Australia	3.8	2.8	20.6	20.1	5.6	7.7	22.5	20.2	28.1	30.4	19.4	18.8
Austria	1.9	1.6	23.7	22.5	7.7	6.8	26.2	25.4	20.7	23.5	19.8	20.1
Belgium	1.3	0.6	21.9	17.1	5.2	5.8	23.1	24.4	26.6	27.8	21.8	24.3
Canada	2.3	..	28.2	..	5.0	..	20.3	..	25.0	..	19.2	..
Chile	..	3.4	..	31.0	..	8.1	..	16.9	..	18.8	..	21.8
Czech Republic	3.6	2.1	30.9	31.1	6.6	6.7	27.1	23.8	15.0	18.5	16.8	17.9
Denmark	2.5	1.4	21.1	17.5	5.5	4.8	24.4	23.6	21.1	25.0	25.4	27.8
Estonia	4.8	3.6	21.6	23.9	5.9	6.3	29.4	26.5	21.6	22.1	16.7	17.6
Finland	3.5	2.9	28.0	20.9	6.3	6.8	21.9	22.3	19.6	22.7	20.6	24.4
France	2.5	1.8	17.8	12.6	5.0	6.2	23.1	23.4	27.5	30.1	24.1	26.0
Germany	1.1	1.0	25.2	25.7	5.3	4.4	20.3	19.1	26.2	27.4	21.9	22.5
Greece	..	3.1	..	13.5	..	4.5	..	31.4	..	23.5	..	24.0
Hungary	5.9	5.4	27.1	28.7	5.3	3.8	21.5	22.0	19.2	20.5	21.0	19.5
Iceland	8.5	7.8	17.2	18.8	9.3	4.5	24.8	20.0	18.5	24.5	21.8	24.6
Ireland	3.4	1.7	33.8	28.1	7.0	2.8	19.0	18.6	20.4	26.1	16.4	22.7
Israel	1.7	2.1	19.2	16.5	5.8	4.9	18.2	16.8	30.5	36.5	24.6	23.3
Italy	2.8	2.0	22.6	18.6	5.1	6.0	26.1	25.0	24.4	27.8	18.9	20.6
Japan	1.5	1.2	24.3	21.9	7.0	5.6	20.7	23.9	15.9	16.9	30.7	30.6
Korea	4.6	2.7	31.6	33.8	6.9	5.9	21.6	18.8	19.3	19.3	15.9	19.5
Luxembourg	0.7	0.3	12.6	7.8	5.7	5.6	21.8	19.8	43.8	49.7	15.4	16.9
Mexico	4.2	3.5	29.4	27.7	6.4	6.6	29.8	28.6	19.0	19.7	12.7	13.8
Netherlands	2.5	1.7	19.1	18.7	5.7	5.5	26.1	23.8	25.6	25.7	21.0	24.6
New Zealand	8.5	..	19.9	..	4.4	..	21.8	..	27.8	..	17.6	..
Norway	2.1	1.5	37.7	36.4	4.0	5.9	21.0	16.0	15.3	18.6	20.0	21.6
Poland	4.9	3.6	23.3	25.5	7.8	7.9	29.2	29.8	18.0	16.4	16.8	16.8
Portugal	3.6	2.1	20.3	17.0	8.2	6.3	26.7	28.5	19.2	22.2	22.0	23.8
Slovak Republic	4.5	3.2	28.9	32.5	7.2	9.4	26.3	22.7	16.6	15.4	16.6	16.8
Slovenia	3.4	2.5	28.1	24.5	6.7	5.2	22.6	25.0	19.8	21.9	19.4	20.9
Spain	4.2	2.6	20.8	16.9	10.3	11.5	28.1	28.4	16.9	19.2	19.6	21.4
Sweden	2.0	1.7	24.2	20.5	4.3	5.8	22.2	23.6	22.5	22.2	24.7	26.2
Switzerland	1.3	0.8	21.2	20.7	5.2	5.4	25.7	27.3	21.3	20.1	25.1	25.7
Turkey	10.8	9.2	24.6	22.6	5.4	5.0	29.1	30.9	19.5	20.2	10.6	12.1
United Kingdom	1.0	0.6	20.3	14.9	6.5	6.9	27.0	24.4	24.7	29.8	20.5	23.4
United States	1.2	1.2	18.4	16.2	5.0	3.7	20.0	18.2	31.7	33.5	23.7	27.1
Euro area	2.4	1.7	22.1	19.3	5.9	6.2	23.7	23.4	24.6	26.5	21.3	22.9
EU27	2.3	1.7	22.0	19.3	6.0	6.3	24.4	23.8	24.2	26.1	21.2	22.8
OECD	..	..	..	..	..	..	..	..	..	..	..	..
Brazil	..	..	..	..	..	..	..	..	..	..	..	..
China	15.1	10.1	40.4	40.0	5.6	6.8	16.6	15.8	8.3	10.7	14.1	16.6
India	..	17.6	..	19.1	..	8.1	..	16.2	..	16.8	..	22.2
Indonesia	15.6	15.3	40.4	36.8	5.5	10.3	20.8	20.2	8.3	7.2	9.3	10.2
Russian Federation	6.4	4.3	31.1	30.5	6.6	6.5	33.1	28.9	4.6	15.9	18.3	14.0
South Africa	3.3	2.4	29.3	26.1	2.5	4.5	24.3	22.7	18.6	21.2	22.0	23.1

Statlink  <http://dx.doi.org/10.1787/888932706794>

## Value added in industry, including energy

As a percentage of total value added



Statlink  <http://dx.doi.org/10.1787/888932706794>

## REAL VALUE ADDED BY ACTIVITY

Like its nominal counterpart, real value added can be derived as the difference between real output and real intermediate consumption, an approach known as double-deflation.

One of the major advantages of value added is that it avoids problems inherent in the measurement of gross output - gross in the sense that it counts the output of all production units including those that produce intermediate inputs for other units. Countries with fragmented production networks therefore will have, all other things equal, higher output than those with more consolidated networks, complicating international comparisons. This is also a temporal problem as production networks can become more or less consolidated (through outsourcing for example) within a country from one year to another. Indeed production networks have become increasingly globalised in recent years, further affecting temporal and cross-country comparability. Value added avoids these problems by measuring the value that a resident unit adds to that of the units that supply its inputs.

### Definition

The growth rates shown here refer to volume estimates of gross value added. **Value added at basic prices can be simply defined as the difference between gross output (at basic prices) and intermediate consumption (at purchasers prices) and can be decomposed into the following components: Compensation of employees; Gross operating surplus; Mixed income; and Other taxes on production less Subsidies on production.**

The 1993 System of National Accounts recommends the basic price valuation for value added but it can also be measured on different price bases such as producers prices and at factor cost.

### Comparability

All countries compile data according to the 1993 SNA with the exception of Australia where data are compiled according to the new 2008 SNA. It's important to note however that differences between 2008 SNA and the 1993 SNA do not have a significant impact of the comparability of the indicators presented here and this implies that data are highly comparable across countries.

### Overview

The table shows how the various economic activities fared in 2011, as the recent crisis still continues to have an impact on the economic circumstances. Hardest hit in 2010 was construction, mainly because of lower investment levels.

In the construction sector for 2011 (or the latest year available), falls in the growth rate greater than 10% were recorded in Greece, Iceland, Ireland and Slovenia. On the other hand, in Chile, Estonia, Poland and Turkey, construction increased by more than 10%. China's construction increased by 13.5%.

Industry (including energy) generally showed positive growth figures, the exceptions being especially Greece (minus 9.1%), New Zealand (minus 4.4%) and Israel (minus 4.1%). Growth in services was generally positive across the OECD countries, although Greece, Iceland, Ireland, Portugal and the Slovak Republic saw service activities going down.

However, not all countries produce value added on the basis of basic prices. Japan uses approximately market prices. New Zealand uses producer prices, and Iceland and the United States use factor costs.

The tables and figures showing breakdowns by activity are based on the ISIC Rev. 4 industrial classification system except for Canada, Israel, Japan, Luxembourg, Mexico, New Zealand, Turkey, the United States, India, Indonesia, the Russian Federation and South Africa which are based on ISIC Rev.3. Countries generally collect information using their own industrial classification systems. The conversion from a national classification system to ISIC may create some comparability issues. For example, for Japan, Hotels (which form approximately 2.8-3.0% of value added) are included in Other services not wholesale, retail, etc. That said, for most countries the activities presented here are generally comparable.

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# PRODUCTION AND PRODUCTIVITY • ECONOMIC STRUCTURE

## Real value added by activity

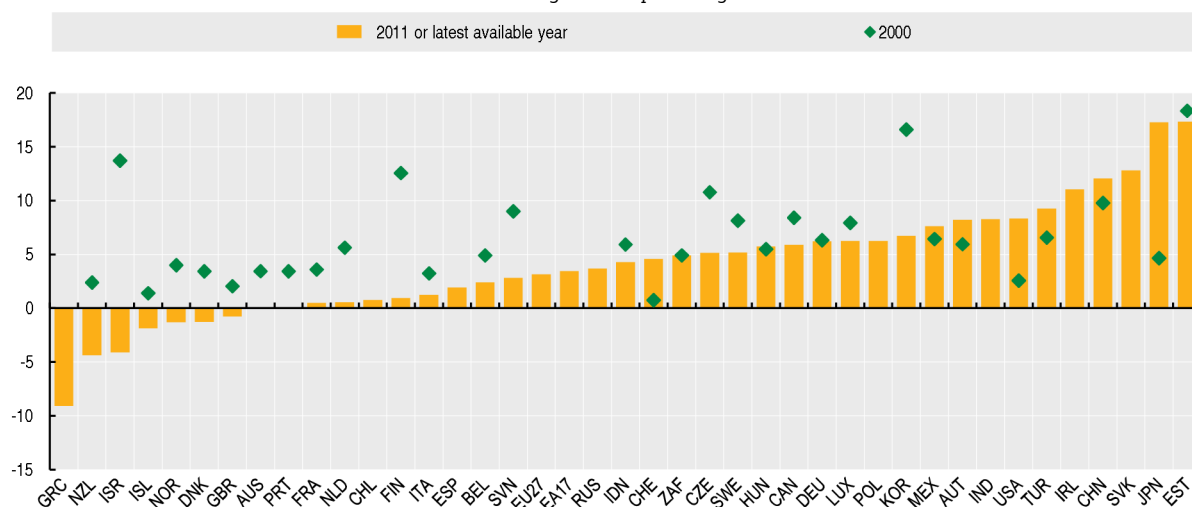
Annual growth in percentage

	Agriculture, hunting, forestry, fishing		Industry, including energy		Construction		Trade, transport; accommodation; restaurants; communication		Financial and insurance; real estate; business services		Other service activities	
	2000	2011 or latest available year	2000	2011 or latest available year	2000	2011 or latest available year	2000	2011 or latest available year	2000	2011 or latest available year	2000	2011 or latest available year
Australia	3.8	9.1	3.5	-0.1	-14.4	6.3	2.5	1.5	4.5	3.3	3.2	1.5
Austria	-3.6	15.3	6.0	8.2	0.6	3.5	3.1	1.0	7.5	2.1	-0.3	0.6
Belgium	5.0	7.9	4.9	2.4	5.5	4.8	1.2	2.7	4.2	1.4	3.4	1.4
Canada	-1.8	1.9	8.4	5.9	5.2	7.8	6.0	3.9	5.2	2.2	2.6	2.1
Chile	..	11.8	..	0.8	..	11.1	..	10.2	..	8.5	..	4.5
Czech Republic	1.4	6.5	10.8	5.1	-8.7	-7.2	5.0	-1.6	2.1	2.0	0.7	2.3
Denmark	7.9	0.5	3.4	-1.3	1.0	2.9	7.6	3.1	5.7	1.8	1.5	-0.8
Estonia	16.9	2.6	18.4	17.3	24.9	17.7	7.4	6.9	7.6	-0.2	1.6	2.7
Finland	8.0	3.2	12.6	0.9	0.4	4.6	5.7	3.3	2.9	2.8	1.8	0.8
France	-1.7	3.9	3.6	0.5	5.4	0.0	4.0	2.8	5.9	2.4	0.1	1.0
Germany	-3.1	-9.2	6.3	6.2	-2.3	4.6	4.3	2.8	2.9	2.1	1.9	0.6
Greece	..	2.5	..	-9.1	..	-17.9	..	-8.0	..	-2.9	..	-5.8
Hungary	-9.6	27.2	5.5	5.7	14.2	-7.8	3.0	0.5	4.7	-2.8	4.6	0.3
Iceland	-2.1	-8.1	1.4	-1.8	14.2	-14.7	9.1	-3.9	10.2	0.6	1.5	-3.2
Ireland	..	0.9	..	11.0	..	-30.1	..	-3.4	..	0.0	..	-5.0
Israel	6.6	9.5	13.7	-4.1	-1.3	-0.9	6.8	-2.1	17.0	2.3	1.4	2.9
Italy	-2.3	-0.5	3.2	1.2	4.7	-3.5	6.1	1.1	4.9	1.2	1.5	0.0
Japan	2.1	-7.4	4.7	17.3	-3.5	-0.9	-0.9	1.7	4.1	1.2	2.1	0.5
Korea	1.1	-2.0	16.6	6.7	-4.4	-4.6	13.0	4.6	4.2	1.7	2.0	1.7
Luxembourg	-13.0	-1.7	7.9	6.3	1.9	3.6	8.1	4.7	11.0	-0.7	0.8	1.9
Mexico	0.4	3.9	6.4	7.6	4.2	0.0	11.1	9.3	5.5	3.5	2.9	1.4
Netherlands	1.8	1.7	5.6	0.5	3.5	4.8	7.0	2.4	2.0	0.4	1.7	1.5
New Zealand	2.7	0.1	2.4	-4.4	-6.5	-7.9	5.0	-2.3	2.2	3.5	3.3	1.7
Norway	-2.7	-0.9	4.0	-1.3	-0.4	3.9	3.9	2.8	6.4	2.4	0.9	2.1
Poland	..	-0.3	..	6.3	..	11.8	..	4.0	..	1.2	..	1.0
Portugal	-4.7	2.8	3.4	0.0	6.0	-9.2	6.1	-1.2	1.8	-0.6	3.8	-1.2
Slovak Republic	..	-20.2	..	12.8	..	2.1	..	-1.7	..	1.5	..	-1.6
Slovenia	1.3	-2.3	9.0	2.8	-1.0	-20.3	4.7	0.7	3.7	0.8	2.4	1.2
Spain	..	0.6	..	1.9	..	-3.8	..	1.4	..	1.2	..	0.5
Sweden	2.6	1.1	8.1	5.2	1.4	8.8	5.2	5.7	6.2	4.8	1.6	1.6
Switzerland	7.8	-3.0	0.8	4.6	-0.1	6.9	6.0	5.6	5.1	0.0	2.1	1.4
Turkey	7.1	5.3	6.6	9.2	4.9	11.2	9.8	10.9	4.2	7.7	1.6	4.1
United Kingdom	..	..	2.1	-0.8	1.1	3.1	6.2	0.6	6.2	1.5	3.2	1.3
United States	12.9	-3.6	2.6	8.3	3.3	-3.3	6.5	6.0	6.1	1.2	1.2	1.6
Euro area	..	1.7	..	3.4	..	-1.0	..	1.7	..	1.4	..	0.5
EU27	..	2.7	..	3.1	..	0.1	..	1.7	..	1.4	..	0.6
OECD	..	..	..	..	..	..	..	..	..	..	..	..
Brazil	..	..	..	..	..	..	..	..	..	..	..	..
China	2.4	4.3	9.8	12.1	5.7	13.5	9.0	12.3	6.8	8.5	13.0	7.9
India	..	0.5	..	8.3	..	7.0	..	6.7	..	9.1	..	13.1
Indonesia	1.9	2.9	5.9	4.3	5.6	7.0	6.6	10.3	4.6	5.7	2.3	6.0
Russian Federation	..	15.7	..	3.7	..	4.7	..	4.2	..	3.6	..	1.7
South Africa	4.7	0.9	4.9	4.9	5.6	1.5	8.1	2.5	3.2	1.9	0.6	2.3

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## Real value added in industry, including energy

Annual growth in percentage



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## SMALL AND MEDIUM-SIZED ENTERPRISES

Small firms, and especially recent start-ups, can be very dynamic and innovative. A few very high-performance new and small firms can make an important contribution to employment creation and economic growth. Although the majority of small firms have more modest economic impacts individually, taken together they make an important contribution.

### Definition

An enterprise is a legal entity possessing the right to conduct business on its own; for example to enter into contracts, own property, incur liabilities and establish bank accounts. It may consist of one or more establishments situated in a geographically separate area. In this section, small enterprises refer to those with less than 20 persons engaged. Data on the number of small enterprises and the number of employees working in them refer to the manufacturing sector.

Employees include all persons covered by a contractual arrangement, working in the enterprise and receiving compensation for their work. They include salaried managers, students who have a formal commitment whereby they contribute to the unit's process of production in return for remuneration and/or education services, and employees engaged under a contract designed to encourage the recruitment of unemployed persons. They also include persons on sick leave, paid leave or vacation, while excluding working proprietors, active business partners, unpaid family workers and home-workers, irrespective of whether or not they are on the payroll.

Number of persons employed is defined as the total number of persons who worked in or for the concerned unit during the reference year. Total employment excludes directors of incorporated enterprises and members of shareholders' committees who are paid solely for their attendance at meetings, labour force made available to the concerned unit by other units and charged for, persons carrying out repair and maintenance work in the unit on the behalf of other units, and home-workers. It also excludes persons on indefinite leave, military leave or those whose only remuneration from the enterprise is by way of a pension.

### Overview

The contribution of small enterprises to employment varies considerably across countries. In most economies, the share of enterprises with less than 20 persons employed exceeds 70% of the total, ranging between 69% in Ireland and above 95% in Greece. Small enterprises account for a smaller share of the total number of employees, ranging between around 9% in the United States and the Czech Republic to around 35% in Greece.

Some larger economies are characterised by a lower proportion of small enterprises, partly reflecting the greater scope for growth in larger markets (due to the existence of a greater pool of workers and larger demand) but also due to a statistical phenomenon, namely, when an enterprise opens a new establishment in the same country within which it is registered, it will move from being a small to a large enterprise. In other words, an enterprise operating in a small country often will grow by creating a new establishment abroad rather than expanding in the internal market.

### Comparability

Most countries present information using the enterprise as the statistical unit. Japan, Korea and Mexico are exceptions, as data refer to establishments. As most enterprises correspond to a single establishment, these differences do not significantly distort comparisons. An area where considerable differences do arise concerns the coverage of data on enterprises/establishments. In many countries, this information is based on business registers, economic censuses or surveys that may have a size cut-off. All countries have thresholds of one sort or another, often depending on tax legislation and legal provisions reducing administrative burdens on small enterprises. For Ireland, only enterprises with three or more persons employed are reflected, while the data for Japan and Korea do not include establishments with fewer than 4 and 5 persons employed respectively. Also, it is typically difficult, if not impossible, to cover enterprises operating in the underground economy. These differences, however, do not prevent meaningful comparisons across countries.

Data refer to 2008 in the case of the Czech Republic, Denmark, the Netherlands, the Slovak Republic, the United Kingdom and Turkey; to 2007 for Greece and Norway; and to 2005 for Iceland. Employment data for Switzerland refer to the total number of persons employed rather than to the number of employees.

Because data do not follow the same enterprise over time, they do not show the contribution that small enterprises make to economic and employment growth as they move from the start-up phase to some optimal size.

### Sources

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### Further information

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# Number of employees and number of enterprises in manufacturing

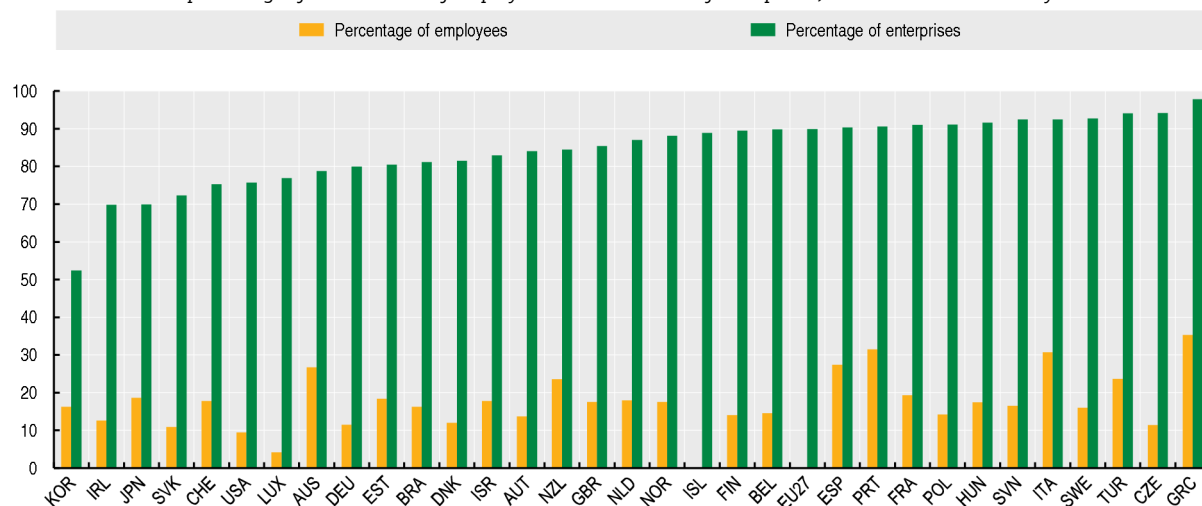
Breakdown by size-class of enterprise, 2009 or latest available year

Number of persons employed	As a percentage of total number of employees in manufacturing					As a percentage of total number of enterprises in manufacturing				
	Less than 10	10-19	20-49	50-249	250 or more	Less than 10	10-19	20-49	50-249	250 or more
Australia	..	..	..	..	..	..	..	..	..	..
Austria	6.9	6.8	11.1	27.3	48.0	71.9	12.1	8.5	5.8	1.8
Belgium	7.5	7.0	13.1	..	..	82.4	7.4	5.9	..	..
Canada	..	..	..	..	..	..	..	..	..	..
Chile	..	..	..	..	..	..	..	..	..	..
Czech Republic	5.9	5.5	10.5	29.8	48.3	90.6	3.5	3.0	2.3	0.6
Denmark	5.6	6.4	14.0	27.7	46.3	70.8	10.7	10.6	6.5	1.4
Estonia	10.1	8.3	16.5	39.6	25.6	69.2	11.2	10.7	7.7	1.1
Finland	7.8	6.2	10.8	23.3	51.9	82.0	7.5	5.8	3.7	1.0
France	12.1	7.2	11.9	22.9	45.9	84.1	6.9	5.2	3.0	0.8
Germany	4.3	7.2	8.1	25.7	54.7	60.5	19.4	8.9	8.9	2.2
Greece	30.4	4.9	12.1	25.6	27.1	96.5	1.2	1.3	0.8	0.2
Hungary	10.4	7.0	11.6	27.1	43.8	85.4	6.2	4.6	3.1	0.7
Iceland	..	..	..	..	..	80.2	8.7	6.7	3.8	0.7
Ireland	5.8	6.8	12.3	30.3	44.9	49.6	20.3	15.8	11.3	3.0
Israel	10.2	7.6	13.0	29.5	39.7	70.8	12.1	9.4	6.5	1.2
Italy	15.6	15.1	17.7	24.8	26.8	81.9	10.6	5.1	2.1	0.3
Japan	8.4	10.2	16.9	31.0	33.5	46.2	23.8	18.1	10.2	1.8
Korea	0.2	16.1	23.5	31.5	28.8	1.1	51.3	32.6	13.6	1.4
Luxembourg	4.1	..	..	..	..	64.1	12.8	11.0	9.2	3.0
Mexico	0.2	..	..	16.8	80.2	1.0	..	..	2.1	95.5
Netherlands	8.8	9.1	16.3	31.6	34.2	77.8	9.2	7.7	4.4	0.9
New Zealand	13.1	10.5	15.2	24.4	36.8	69.4	15.1	9.8	4.8	0.9
Norway	9.3	8.2	14.6	28.2	39.6	79.6	8.6	6.9	4.1	0.9
Poland	10.2	4.0	10.2	31.0	44.5	87.5	3.6	4.4	3.6	0.9
Portugal	19.1	12.4	19.7	30.2	18.6	81.8	8.7	6.1	3.0	0.3
Slovak Republic	3.5	7.5	7.5	26.5	55.1	42.1	30.2	10.6	13.0	4.1
Slovenia	10.2	6.3	10.0	30.3	43.2	87.1	5.4	3.7	3.1	0.7
Spain	15.5	11.9	19.2	24.4	29.0	81.1	9.2	6.6	2.6	0.5
Sweden	9.2	6.8	10.9	24.0	49.1	87.2	5.5	4.0	2.6	0.7
Switzerland	8.8	9.0	13.2	29.6	39.4	56.3	19.0	13.6	9.1	2.1
Turkey	..	..	14.4	26.2	35.8	..	..	3.5	2.0	0.4
United Kingdom	10.5	7.0	12.0	26.8	43.6	74.7	10.7	8.1	5.3	1.3
United States	4.7	4.8	..	..	..	60.2	15.4	..	..	..
EU27	..	..	..	..	..	81.0	8.9	5.9	3.6	0.8
OECD	..	..	..	..	..	..	..	..	..	..
Brazil	..	..	..	..	..	..	..	..	..	..
China	..	..	..	..	..	..	..	..	..	..
India	..	..	..	..	..	..	..	..	..	..
Indonesia	..	..	..	..	..	..	..	..	..	..
Russian Federation	..	..	..	..	..	..	..	..	..	..
South Africa	..	..	..	..	..	..	..	..	..	..

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## Manufacturing enterprises with less than twenty persons employed: number of employees and number of enterprises

As a percentage of total number of employees or total number of enterprises, 2009 or latest available year



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